TELEVISUALITY OF LIVE-STREAMING-VIDEO

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Introduction

The expanding field of online video studies has a few conventional entry points from other established fields — like cinema, video arts, and internet/software studies. As the medium of online video diversifies, the 'digital' umbrella no longer suffices to cover the specificity of each format of online video: Tiktok, Twitch, and Netflix (with, perhaps, the exception of YouTube as it becomes all-encompassing) all have specific content (e.g. amateur or professional), style (e.g. editing), format (e.g. duration), and socio-technological infrastructure (e.g. web versus mobile). In particular, the re-emergence of livestreaming video poses new questions as it also naturally reattaches itself to the old televisual discourse: liveness and flow. The domain names of major livestreaming platforms—Justin.tv, Twitch.tv and Douyu.tv—explicitly suggest a lineage from television since the medium of livestreaming seems to proactively strive for a televisual identity or form.

On the surface level of technological traits, livestreaming platforms have already achieved real-time simultaneity between all participants, temporal co-presence between broadcaster and viewers, and instant verifiability of reality claims via this afforded interactivity — all with high graphic fidelity. However, the anchors of televisuality — liveness and flow — are no longer a rare or extolled quality captured by television studies. Rather, it is a banalized description of being (approximately) fully live. This ubiquity is primarily a result of the technological democratization of live broadcasting (all one needs is a mobile phone and internet connection) and also the socio-economic incentives to practice livestreaming. A speculative question: is the theoretical obsession with liveness and flow — which is regarded as quintessentially televisual or the '*differentia specifica*' of television as a medium — eclipsed by its most banal actuality in livestreaming?[1] In other words, is liveness a defunct theoretical metaphor when its ubiquity and accessibility among today's livestreaming platforms make it no longer desirable?

This discourse of televisuality also revives the old 'internet of the dotcom era versus television' debate but with a twist. Instead of competing for superiority and negotiating convergence, they switch places: television become online videos and online videos

1 Jostein Gripsrud, 'Television, Broadcasting, Flow: Key Metaphors in TV Theory', in Christine Geraghty and David Lusted (eds) The Television Studies Book, London: Arnold, 1998, p. 17.

become televisual. Television rarely practiced its acclaimed essential characteristics, while online video not only deploys them but perfects them in the dotTV era. Netflix is the old television (its commercial model and distribution architecture) masqueraded in the form of online video; Twitch/Douyu is the ideal television (the unfulfilled promise of liveness and communicative feedback) realized in its most vulgar tastes — ordinary people watching other ordinary people doing ordinary (and occasionally absurd) things.

As the history of livestreaming media shows, movements of remediation should not be understood as fixed stages between two adjacent media in a process of linear technological development, but rather fluctuating sporadic movements of both simulating and distinguishing from multiple previous media. Along with the hundreds of cam-sites in the 90s, Jennicam and Anna Voog were among the first wave of livestreaming video and 'reality-as-entertainment' that proclaimed to do better than television in its most regarded trait: liveness as democratic truth.[2] Anna Voog: 'it is going to be a VERY interesting day indeed, when streaming with sound is available to everyone and EVERYONE has a TV show'. Webcam subculture used to be called 'bastard child of TV'.[3] By 2003, as Jennicam and webcam already faded from internet culture, reality TV took off as a mainstream 'reality-as-entertainment' but again 'tainted' by television industry itself. YouTube's arrival in mid-2000 and growth gradually established its position as the total triumph of the user-generated content (and its subsequent subsumption to corporate power). A decade later, livestreaming media returns as reality TV proper, but it no longer needs to be posited against television in order to consolidate its cultural status. Contemporary livestreaming platforms derive from the success of YouTube (and its associated cultures of online video), but they no longer represent the bastardized form of televisuality but televisuality proper.

New Sociotechnics of Liveness

Liveness as a concept is too slippery and rigid because it can sometimes conflate a history of technology with technological traits or even forms of aesthetic, which was how the ontological realness of television was justified. Nick Couldry writes on the technical quality of liveness, 'the decisive of liveness is not factuality of what is transmitted, but the fact of live transmission itself'.[4] If live transmission is simply measured by the time-shift variable or latency, then the technological history of liveness is not a linear process of technological advancement. Strictly speaking, except for the human-imposed factors such as the seven-second profanity delay, analogue television and radio can already be broadcast without perceptible delay in its early days.[5]

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2 Terri Senft, Celebrity & Community in the Age of Social Networks, New York: Peter Lang, 2008, p. 16.
3 Daniel Palmer, 'Webcams: The Aesthetics of Liveness', *Like, Art Magazine*, 2000, pp. 16-22.
4 Nick Couldry, 'Liveness, 'Reality', and the Mediated Habitus from Television to the Mobile Phone', *The Communication Review* 7.4 (2004): 354.
5 The political economy of the broadcasting industry can influence/limit the technical potential of

In the 1990s, streaming a watchable video over 56k modem lines was initially a huge struggle before the advent of broadband internet, RealNetworks, Macromedia, and later Adobe Flash Player. For example, Jennicam was originally a webpage that automatically refreshed every three minutes—that is, one frame per three minutes—to display a picture (without audio) taken by the webcam, which should not count as a livestream *video* but a slide show by contemporary standards. This is in stark contrast to the fact that Twitch streams can be watched in 60 or 30 frames per second and various scaling of video quality.[6]

Under the new climate of solidified platformization and more ubiquitous, better internet infrastructure, the seeking of immediacy is revived in the development of new livestreaming technologies. This striving aims at the 'progressive elimination of any perceptible delay from the time of machine processing' and 'the time of conscious perception'.[7] In the case of livestreaming, this process includes software encoding of the video at the sender end, transmission to the Content Delivery Networks, and streaming the video from the server at the receiver end. In terms of latency, in May 2018, Twitch already achieved a low latency stream with under one second of delay at times.

Technically speaking, immediacy is a question of approximation. This striving to reduce latency in our real-time Web and more recently the technology of livestreaming video cannot be considered in universal applicability, just like how liveness was wrongly extolled as the overall defining quality of television. 'Real-time is not a framework in which media change but is assembled through the *technicity of platform*'.[8] In other words, specific temporalities are produced or 'fabricated' in different platforms and therefore a 'medium-specificity of the real-time experience', according to the specific platform under discussion.[9] This leads to questions of a socio-technological or, even, a political economic nature.

For example, Twitch tends to be explicit and highlight its technological superiority in its implementation of HTML5 in reducing latency while the Chinese platform Douyu tends to downplay this technical aspect in reducing latency. According to an anonymous informant who works in the livestreaming industry in China, the main reason why Douyu still used Adobe Flash Video in early 2018 (instead of updating to HTML5) was not that Douyu did not possess the technology, but because of their reliance on Flash advertisements. HTML5 advertisements have to be reencoded as videos, which can be too resource intensive for Chinese advertisers. Flash advertisement was the industrial standard in 2015 and still was

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television because liveness was regarded potentially dangerous.

6 Due to limited server processing power, Twitch prioritises transcoding services that downscale video quality to only selected channels (e.g. partnered popular channels) while enforcing original video quality on channels with small viewership.

7 Adrian Mackenzie, 'The Mortality of the Virtual: Real-time, Archive and Dead-time in Information Networks', *Convergence* 3.2 (1997): 60.

8 Esther Weltevrede, Anne Helmond, Carolin Gerlitz, 'The Politics of Real-time: A Device Perspective on Social Media Platforms and Search Engines', Theory Culture & Society 31.6 (2014): 127.

9 Ibid, p. 142.

in 2018 (at least on Douyu). Douyu also rarely publicly pronounces its claim to liveness for ideological reasons—unfiltered liveness is considered a threat by Chinese authorities and therefore must be strictly regulated.

A brief history of immediacy in digital broadcasting technologies reveals that liveness is not necessarily a linear process of technological advancement that continuously reduces latency but rather a meandering course, in which there are mutual influences between the analogue and digital. Before the capability to transmit pre-recorded content, liveness was considered a *technological limitation* in the television industry. The subsequent development is in fact one that institutionalized latency rather than reduced it for censorship reasons and reduction of costs. Later, the arrival of Web video did not immediately assume technical superiority over analogue transmission in terms of latency and video quality. In the next step, livestreaming technology presumes this superiority and to a degree extols its socio-technological role in reducing latency.

In a sense, the relationship between live and recorded media has always been entangled. This ambivalently conflictual and mutually benefiting relationship is reconstructed between Video on Demand (hereafter VoD) and livestream videos. However, the major divergence from the comparison between analogue television and film-based cinema is that contemporary streaming VoD and livestreams are both under the rubrics of the 'digital', albeit under different protocols, codecs, server structures, and distribution methods.

Streaming and Flow

Digital streaming—viewing the file while it is still being downloaded (i.e. buffering)—was originally juxtaposed to viewing after downloading the entire file. As Wolfgang Ernst said during an interview,

Technically, when you stream video, the frames are buffered for a micro-moment of time. This means you technically produce a copy, though only for a brief moment. It's very ephemeral, it's the most ephemeral archive or short time memory, but technically, it is still a copy.[10]

This transience of data flow in the act of 'streaming' is therefore not an ontological quality of data transmission that fundamentally distinguishes it from the opposing mode of technical reproduction (i.e. downloading a video before viewing) since there are also copies in streaming, just that they are not intended to be experienced as 'copies'. The video that is being streamed (i.e. VoD) is the live transmission or reproduction of a static, pre-recorded file located on a server, which leaves a web or app cache on the receiving computing device, just not as a complete file. Livestreaming video is a further extension of streaming

10 Ghislain Thibault and Wolfgang Ernst. 'What We Used to Call 'Media History'?' Amodern, 2015, http://amodern.net/article/ernst-media-history/.

video since it is full liveness in the technical sense with no pre-recorded file. The perceived lack of archiving efforts or undesirability of watching an archived livestream video is not a technological limitation but is due to socio-technological practices.[11] Livestreams can be archived both on the origination point via encoder software such as Open Broadcaster Software (the expenses are hard drive and CPU capacity) or the media publisher's own server (the expenses are server space and maintenance costs).

Given the inchoate relationship between streaming and livestreaming, it is critical to reconsider the technological metaphor of streaming from television to streaming media as televisual language such as channels are still in use on livestreaming platforms. Raymond Williams's theory of planned flow has become, quite similar to theories of liveness, central to the televisual theory. To summarize, television industry hides certain operations from its audience and intends to structure the viewing experience, say, of a given evening, as a coherent whole: we usually say 'we watch television' instead of 'we watch news'. A television channel must 'sustain that evening's flow' and deter the viewers from consciously selecting another channel or switching off the TV.[12] 'Flow' here operates *not* as a technological metaphor but rather how television programming is designed to capture audience attention: 'the flow of programming attempts to deter, at all costs, channel surfing'.[13]

Tara McPherson updates Williams' concept of planned flow in the context of the internet and argues that our motive of sticking to the planned flow is no longer 'linear and contiguous' like the experience of watching television but corresponds more to our desires such as navigability and sense of choice in the experience of web browsing.[14] While 'television's much-heralded 'flow' worked to move viewers through segments of televisual time, orchestrating viewership,. . . Web programming could allow for an even more carefully orchestrated movement, all *dressed up in feeling of choice*' (emphasis my own)— 'a volitional mobility' so to speak.[15] This then leads us back to the question of remediation. The 'feeling of choice', or personal control of flow, as promised by internet, is certainly complicated by algorithms— 'the paradigm shift is from user-controlled surfing to algorithm-controlled sorting'.[16] Unlike cinema and television that are 'built on the concept of singular objects.

11 This is highly contextual since each platform has its own accustomed archiving practices afforded by specific technologies provided by the platform itself. For instance, Twitch's unique function of 'clipping'—creating a sharable short (30 seconds at max) video clip of the ongoing livestream—is afforded by its HTML5 video player.

12 Raymond Williams, Television: Technology and Form. London: Routledge, 2003 (1974), p. 94.

13 Ghislain Thibault, 'Streaming: A Media Hydrography of Televisual Flows', VIEW Journal of European Television History and Culture 4.7 (2015): 112.

14 Tara McPherson, 'Reload: Liveness, Mobility and the Web', in Wendy Hui Kyong Chun and Thomas Keenan (eds) New Media, Old Media: A History and Theory Reader, New York: Routledge, 2006, p. 204.

15 Ibid, p.200, 206.

16 Mark Andrejevic, 'The twenty-first-century telescreen', in Graeme Turner and Jinna Jay (eds) Television Studies After TV, London: Routledge, 2009, p. 35.

. . as programmed events, [that] require the reservation of specific time and schedule for viewing', online videos are *on demand* and therefore bounded by a 'structured life'.[17] 'As a jukebox of emotions, feelings, and algorithmic relations as each video suggest others aside', YouTube viewing thus features its own kind of phenomenological experience of flow.[18]

Livestreaming video further disrupts the clear line between televisual flow and the experience of surfing the Web. Although livestreams are structured by schedules of individual channels, these channels can also be browsed through the platform's catalogue/directory, categories, tags, and the customizable tab of followed channels—there is *both* linearity and navigability. Apart from having a long directory of channels sorted according to popularity, most livestreaming platforms still attempt to simulate this experience of sustaining the flow by design of its infrastructure — to encourage inter-channel movement. On Twitch, viewers can track followed channels and games/categories; this can be also orchestrated by broadcasters themselves via hosting another channel while they are offline.

The other issue is duration: what is the optimal duration for 'a flow of undemanding pleasantness'?[19] For Frances Bonner's definitional 'ordinary television', one hour is the 'smallest acceptable unit'.[20] For a Twitch livestream, the duration is highly flexible, but the usual minimal acceptable duration of a live channel is two hours. Most full-time streamers have fairly regular schedules of when they will go live and there is often a public announcement on their social media accounts and notification via the livestreaming app itself. However, part-time or sessional streamers mostly have very erratic schedules and it takes time—often a few hours—before non-regular viewers can discover or come in by chance so the channel chatroom starts to be populated and the conversation starts flowing. As a livestreaming platform becomes too massive to navigate with thousands of concurrently live channels, discovering a new channel relies heavily on registers such as very detailed tags and categories (e.g. a specific activity or videogame), as well as visibility and internet traffic from other social media platform (i.e. preestablished fame somewhere else).

Space-Medium of Livestreaming Video

Online streaming, specifically YouTube and Netflix, remediates televisual forms, industry and practices to the degree that it 'marks the grand return of broadcasting media in digital culture'.[21] Hydrographic metaphors thus play a vital role in remediating the televisual regime—a 'metaphorical disguise'.[22] Television vocabulary such as 'channel' is still in use

17 Andreas Treske, Video Theory: Online Video Aesthetics or the Afterlife of Video, Bielefeld: Transcript, 2015, p. 44, 45.
18 Ibid, p. 44.
19 Frances Bonner, Ordinary Television: Analyzing Popular TV, London: Sage, 2003, p. 38.
20 Ibid, p.38.
21 Ghislain Thibault, 'Streaming', p. 111.
22 Wolfgang Ernst, Digital Memory and the Archive. Minneapolis: University of Minnesota Press, 2013, p. 246.

on YouTube and Twitch and form the basic unit of the larger discourses on livestreaming media.

However, there are some critical divergences between YouTube and Twitch. Jean Burgess and Joshua Green argue that 'YouTube is thus evolving into a massive, heterogeneous, but for the most part accidental and disordered, public archive'.[23] YouTube is thus more like an 'ocean', as Andreas Treske uses the metaphor to describe the sheer number of videos on YouTube, and their atmospheric nature as a space-medium. To extend this metaphoric strategy, if the unruly database of YouTube is the bottomless ocean of videos, the endless pages of livestream channels of Twitch are the river of livestreaming platform. Channels go online and offline, but the collective stream is kept flowing 24/7 with cyclic rhythms of flood (early evening peak hours) and drought (early morning down times) of incoming and returning viewers.

However, for Ghislain Thibault, the fluid analogies that persisted across generations of media from television to digital media today do not capture the specific operation of digital media and hides its technological aspect. He writes,

Analogue television was a true flow, technologically speaking, because it involved transmitting signals of various lengths through the wavelike electromagnetic spectrum. . . In the case of digital television, the code of the data no longer bears an analogical relationship with its referent and its transport within the digital network is not necessarily contiguous.[24]

One issue with Thibault's critique is that ordinary users and viewers often do not necessarily mind the technical accuracy of the metaphors, they are more concerned with how these correspond to their scenarios of use and their imageries based on their practices. In Joost van Loon's words, 'we habitualize technology' to a degree that we '"take technology" for granted in our ordinary everydayness which in turn makes it possible for us to get on with things'.[25] The metaphors used on livestreaming platforms must be understood as not just technological but also experiential. We must recognize the specific experiences of flow afforded by the technology of livestreaming and at the same time, explicate the ethnographic nuances within the historical lineage of different metaphors, say, in different cultural contexts and local socio-technological history.

Chinese analogies of 'channel' have different origins in the media histories of Chinese television and online platforms, which are deeply rooted in the divergent media practices. On television, a channel is called *pingdao*, which literally means 'frequency route'. This analogy

23 Jean Burgess and Joshua Green, YouTube: online video and participatory culture, Malden: Polity Press, 2009, p. 88.

24 Ghislain Thibault, 'Streaming', p. 115.

25 Joost van Loon, 'Modalities of Mediation', In Nick Couldry, Andreas Hepp, Friedrich Krotz (eds) Media Events in a Global Age, 2010, p. 114.

is very similar to the hydrospheric metaphor of 'conduit' in English since frequency refers to electric signal and route implies a cable or road like conductor. While the language of channel persists on video platforms like Twitch and YouTube, the same metaphoric strategy is rarely invoked on contemporary Chinese livestreaming sites; instead, it adopts a spatial metaphor. The word currently in use in Mainland China is *fangjian* or 'room' and a livestreaming channel is called a *zhibojian*, literally 'direct casting room'. The livestreaming video is thus semi-public space that welcomes newcomers. While acknowledging the remediated metaphors, the origin of this *spatial* reference in *fangjian* can be traced to early online sites such as online chatrooms and early forms of Chinese client-based audio/video chatrooms as opposed to television.

Against Ontology

Jane Feuer's famous argument on 'the ideology of liveness' is a criticism of the ontological approach of television studies, in which she proposes that television is often not live in a literal sense and liveness operates as elaborate ideological and institutional mediations.[26] While acknowledging the value in deconstructing liveness as the ideology of television *as an institution* in Feuer's work, Mimi White posits a critique of this preoccupation with liveness as a 'conceptual filter' that eclipsed other 'discursive registers'.[27] Feuer 'ends up elevating it (i.e. liveness) as even more potent force, as the ideological and technological sleight of hand at the heart of the medium's strategies of address'.[28] Derrida and Stiegler's conversation on television also reminds us of the potential dangers of an intellectual deconstruction of liveness: 'while continuing to remind people and to demonstrate that the "live" and "real time" are never pure. . . requisite deconstruction of this *artifactuality* (of liveness) should not be used as an alibi (of the Real)'.[29] The deconstruction of live media often results in the dead-end of 'critical neoidealism' of the default philosophical position: it's all just a performance/simulacrum. When liveness is critiqued as an ideological construct, the argument ends up returning to the loop of ontological liveness versus ontology as ideology debate. It falls exactly into the defense of or attack on the ontological integrity of liveness, which are both affirmations of representational politics that are concerned with whether media distorts reality or not. In this sense, liveness is overrated in media theory but underestimated in its sociotechnical manifestation on contemporary livestreams. My proposal is thus not necessarily abandoning liveness as a defunct concept but examining how experiences of liveness are articulated by contemporary viewers and livestreamers themselves.

26 Jane Feuer, 'The Concept of Live Television: Ontology as Ideology', E. Ann Kaplan (ed.), Regarding Television, Frederick: University Publications of America, 1983, pp. 12-22.

27 Mimi White, 'The attractions of television: Reconsidering liveness', in Anna McCarthy and Nick Couldry (eds), MediaSpace: Place, Scale and Culture in a Media Age, 2003, pp. 75–94.

28 Ibid, p. 80.

29 Jacques Derrida and Bernard Stiegler. Ecographies of Television. trans. Jennifer Bajorek, Cambridge: Polity Press, 2002, p. 5.

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