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EVOLVING PRACTICES OF INFORMAL DISTRIBUTION IN INTERNET TELEVISION

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The last decade has been an especially volatile period in the history of television, with far-reaching changes in technology, business models, and viewing practices. Among the most significant of these changes is the rise of internet distribution (streaming), a development that has transformed both formal and informal television markets. This chapter focuses on one of the side-effects of internet distribution – namely, streaming television piracy via unauthorized set-top boxes and apps. My focus here is on how the technology and business of streaming piracy have changed in recent years, and what this means for the international distribution of television content.

To illustrate the extent of these changes, consider how online television piracy has evolved over the course of a decade. In the mid-to-late 2000s, television buffs flocked to torrent tracker sites such as The Pirate Bay, BTJunkie, and Isohunt to find the latest episodes of their favorite television series. They used torrent clients to download AVI files and discussed their activities in online forums. This was a peer-to-peer (P2P) piracy culture characterized by user-to-user sharing, with its own social norms, archives, and quality control systems (Burkart, 2014; Crisp, 2015; De Kosnik, 2016). Pirate streaming and cloud storage services were still in their infancy, as were social media platforms and apps. File sizes, connection speeds, and encoding standards meant that it was impractical to stream video in real time, so downloads were the preferred option.

Fast forward to the present, and the pirate ecosystem has changed profoundly. Mobile-first youth now prefer illegal streaming sites, apps, and Kodi add-ons for their television fix. Industry anti-piracy campaigns target domain seizures and "fully loaded" streamer boxes – the kind sold online or in grey-market stores, which offer access to hundreds of live international channels, on-demand movies, games, and karaoke apps for a one-off price. The Motion Picture Association now speaks of "Piracy 3.0" and the "challenge of illegal streaming devices" as the next frontier of intellectual property regulation (Ernesto, 2017).

There is, in short, a general trajectory in informal online distribution away from P2P toward streaming. This is not a uniform trend, nor is it irrevocable. Nonetheless, scholars of global television should pay close attention to this structural change, because it presents several implications for how we understand global television and the role of informal distribution within it. This chapter will provide an overview of the recent changes in streaming piracy, including the rise of

Kodi and IPTV piracy; situate these changes with reference to the scholarly research on television distribution; and explore related conceptual problems for global television debates.

Piracy, P2P, and Television Studies

Within television studies and media studies, a small but growing body of research has addressed informal television distribution. Television audience scholars have documented diverse practices of pirating, sharing, and streaming television content (Jenkins, 2006; Leaver, 2008; Gray, 2011; Newman, 2011). Media industry scholars have probed the relationship between informal and formal distribution (Holt and Sanson, 2013; Lobato and Thomas, 2015; Smith and Telang, 2016). Scholars of Asian and diasporic television have documented pirate VCD and VHS networks (Cunningham and Sinclair, 1999; Hu, 2004), cable piracy (Athique, 2008, 2014; Sundaram, 2009), and online piracy (Zhao, 2017; Tse, 2016). Looking back further, there is also a rich vein of work on the VCR as a technology of both formal and informal distribution (Ganley and Ganley, 1985; O'Regan, 1991). These and other studies provide important precedents for understanding the relationship between television distribution, informality, and global media flows.

Scholarship in this area has often tended to focus on P2P sharing of episodes of series television. The idea of a digital TV commons has been debated and theorized (Newman, 2011; Strangelove, 2015). Scholars have examined the proposition that television is becoming shareable, social, and "spreadable" (Jenkins, Ford, and Green, 2012). Piracy in these contexts can be seen as communal activity — a form of engaged sharing conducted by fans for fans. This way of thinking about piracy was reasonable when BitTorrent was the dominant distribution system, roughly between 2005 and 2015.

We must remember, however, that BitTorrent sharing is only one, historically specific form of television piracy. BitTorrent emerged from a particular technocultural context and that has specific affordances and limitations. For example, BitTorrent is a search-based system designed for users who already know what they want to watch: there are no recommendation/browsing capabilities, aside from a "most downloaded" list on some trackers. It is not suited to watching live broadcasts or time-sensitive content such as sports and news.[1]

BitTorrent has always existed alongside and interacted with other informal distribution practices, including optical disc piracy, streaming and direct-download piracy, while remaining the central "engine" in the wider system. However, in recent years a number of factors have combined to reshape how this system works, and to gradually reduce BitTorrent's dominance within it. These factors include:

- a shift from desktop computers to mobile phones as the primary device for accessing the internet, and the corresponding importance of tap-and-swipe interfaces (e.g. embedded media players in websites and apps rather than torrent client interfaces designed for desktop computers);
- increased enforcement of P2P downloads, including high-profile "copyright troll" litigations;[2]
- the appearance of cheap Android streamer boxes and open-source media players (especially Kodi/XBMC), along with popular connected-TV devices such as Amazon Fire TV Sticks and Apple TV that can be "jailbroken", or informally reprogrammed, to enable streaming piracy; and
- the emergence of sophisticated, consumer-ready pirate IPTV subscription services offering live pay-TV channels at relatively low cost.

These factors have collectively worked to swing the pendulum of pirate distribution away from downloads and toward streaming-based viewing, thus mirroring the shift in formal TV consumption toward Netflix and other SVOD services. Indeed, Sandvine estimates that between 2011 to

2015, BitTorrent decreased as a proportion of overall traffic from 20% to 5% in Europe, and from 10% to 2% in the United States.[3] The aforementioned shift in focus of anti-piracy enforcement toward streaming, streamer boxes, and apps is further evidence of changing user behaviors and industry priorities. I will now explain how this shift from P2P to streaming requires the rethinking of widely held assumptions about the nature of online TV piracy and its implications for debates about global television.

The Maturation of Streaming Piracy and Other Structural Changes in the TV Ecology

Table 40.1 lists the key technologies of television piracy and their affordances, as of 2017. Reading down the list, we see a rough trajectory from "residual" through "dominant" to "emergent" phenomena (Williams, 1977; c.f. Lotz, 2017). BitTorrent, now approaching its teenage years, is the most established form of online TV piracy but is no longer on a growth curve; streaming services of various kinds can presently be described as dominant; and Kodi and pirate IPTV subscription services, in particular, are emergent. The power balance among these systems will of course vary geographically according to local custom and infrastructure, so only general observations can be made. Nonetheless, the overall trend here is toward further *fragmentation* of the piracy ecosystem, as more and more technologies become available, combined with deepening *interdependence* between these various technologies. For example, P2P transfer protocols are now subtly integrated into some of the streaming-like services, notably Popcorn Time.

Looking closely at the streaming/hybrid services, we can see pirate streaming now comes in numerous forms. The simplest option are pirate streaming websites such as 123Movie, SolarMovie, Project Free-TV and their various clones. These websites can be viewed in any browser and feature embedded media players that are easy to use. This is an ephemeral scene, characterized by "whack-a-mole" enforcement – domains are seized by the authorities only for the service to reappear with a slightly different URL. Live streaming of channel feeds via Periscope, Facebook Live, and YouTube Live is also emerging as a popular practice for watching major TV events such as pay-per-view boxing matches, sports, and flagship premieres such as *Game of Thrones* (Meese and Podkalicka, 2016; Rowe and Hutchins, 2017).[4] There is also the possibility of watching full TV episodes on YouTube and other UGC sites, though the increasing sophistication of YouTube's content filters has stemmed the flow of unauthorized uploads.

A different kind of distribution model can be seen in Popcorn Time, an app that offers a Netflix-like interface for watching pirated movies and TV episodes.[5] Popcorn Time users can select from hundreds of titles, with many subtitle options. Although its interface looks like a streaming website, Popcorn Time interestingly uses a P2P client to download the content. This activates as soon as the user clicks on the desired title: users download content packets in sequential order, resulting in a near-on-demand experience. Popcorn Time has been extremely popular since its release in 2014 and promotes itself as "an application for those without access to a real Streaming platform and a real catalog, for free, without ads" (Popcorn Time, 2016).

A newer player is Kodi, the popular open-source media player that was originally designed for the Xbox (its original name was Xbox Media Center, or XBMC). Over the years Kodi has evolved into a multi-purpose media center that can be used via remote control and can be installed on almost any device. Importantly, Kodi can be customized as a powerful hub for TV piracy. This is achieved by installing unofficial add-ons such as Exodus and TVAddOns that expand Kodi's capabilities and allow it to access a wide range of TV episodes and movies from cloud storage sites (cyberlockers), and even live channel feeds. Use of these add-ons is discouraged by the Kodi development team but the open-source nature of the platform means such use cannot easily be controlled. These add-ons are very popular among the young gamer

Table 40.1 The ecology of online TV piracy circa 2017

Service	Type	Live TV feeds?	Stream, P2P or direct download	Enforcement risk for viewer	Typical device	Best suited to …	Historical predecessors
Downloading							
Usenet/newsgroups	Bulletin board	No	Direct download	Low	Computer	Any content	BBS
BitTorrent	P2P file-sharing	No	P2P	High	Computer	Any content	Napster, Limewire
Cyberlockers	Cloud storage	No	Direct download	Low	Any device	Any content	BBS
Streaming/hybrid services							
Video-hosting sites (YouTube, Dailymotion, etc.)	Unauthorized uploads to a video-hosting site	No	Stream	Negligible	Any device	Content that can get through platform filters	Video stores, community TV, home video
Pirate streaming websites (123Movie, SolarMovie, etc.)	Pirate website	No	Stream	Low	Computer, phone, tablet	Any content	Video stores
Live streaming platforms (YouTube, Periscope, Facebook Live)	Unauthorized live streaming through a free platform	Yes	Stream	Low	Any device	Sports, major TV events	Community TV, home video
Popcorn Time	BitTorrent client with integrated media player	No	P2P (but with streaming-like interface)	High	Computer	Movies, TV	Video stores
Kodi	Open-source media player (when used with pirate add-ons)	Yes	Stream, P2P, and direct download	Variable	Computer, streamer box, phone, tablet	Movies, TV, porn, live TV	PC software (VLC etc.)
Pirate IPTV services	Illegal online redistribution of live TV feeds	Yes	Stream (sometimes combined with P2P and direct download)	Medium	Computer or streamer box	Linear TV; also: sports, diasporic media	Pay-TV piracy

demographic that is Kodi's main constituency. In the United States, a recent technical study by Sandvine (2017) found that 8.8% of households have a Kodi device installed. The majority of these devices (6%) are configured with pirate add-ons.

Kodi has spawned a fast-changing commercial ecology that includes hardware and software vendors, subscription services, and technical support services. Streamer boxes and other internet-connected TV devices that come "fully loaded" with Kodi add-ons can be purchased online and occasionally in stores, as in Figure 40.1 below (a store in Middlesbrough, United Kingdom). Ambiguity about the legal status of these boxes was clarified somewhat by a 2017 EU Court of Justice ruling that banned the sale of fully loaded boxes. Facebook has also introduced its own ban (Spangler, 2017), and eBay and Amazon conduct periodic surveillance to shut down listings. Nonetheless, enterprising vendors are able to work around these by changing the euphemisms they use to promote their goods (for example, from "fully loaded" to "gift").

Finally, there is also a separate category of geoblocking circumvention devices, such as VPNs (virtual private networks) and DNS (domain name system) proxies, which are used to access out-of-region streaming content. For example, a New Zealander who wishes to watch UK catch-up TV services can, in theory, use a VPN or proxy to get back-door access, by "spoofing" their IP address. (I have written about these technologies in more detail elsewhere [Lobato and Meese, 2016].) Since major streaming services such as Netflix and BBC iPlayer have started introducing VPN detection policies and/or personal login credentials, these tools are now less effective than they used to be. It is also worth emphasizing that these tools enable out-of-region access – a practice akin to parallel importation – rather than piracy per se. For this reason, they are not a key focus of my discussion. Nonetheless, VPNs remain popular as an identity-masking device for BitTorrent users, among other licit and illicit uses. This reflects the growing interdependency of the various technologies in the pirate TV ecology.

Figure 40.1 A store in Middlesbrough, United Kingdom, selling fully loaded Kodi boxes

Source: Screen capture by author

The Rise of IPTV Piracy

Looking ahead, one piracy technology stands out as particularly interesting for scholars of global television studies. IPTV (Internet Protocol Television) piracy involves *live streams/feeds of international TV channels*. The term "IPTV" conventionally refers to pay-TV delivered over managed networks, but since around 2015 IPTV has also become a euphemism for the rebroadcast and viewing of unauthorized live TV feeds. There is now a thriving online scene dedicated to the sale, use, and DIY setup of IPTV services, typically via Android streaming boxes. As a live television rebroadcast service, rather than an on-demand service, IPTV piracy is categorically distinct from other forms of piracy such as BitTorrent; it is closer in nature to satellite TV piracy, but with a much larger range of channels. While the technology of IPTV piracy is consistent, pirate IPTV markets are highly fragmented with quite distinctive dynamics. At the time of writing, there are two main sub-markets associated with this form of streaming piracy: diasporic communities seeking cheap pay-TV from home, and sports fans seeking cheap or free access to pay-TV sport broadcasts.

The experience of using pirate IPTV varies from service to service but typically features an EPG (electronic programme guide) that is navigable through a remote control or channel list, and/or a series of apps. Users can access pirate IPTV services in a few different ways. One option involves purchasing a streamer box (colloquially called a TV box) which can be found in certain electronics shops, grocery stores, street markets, and via specialty online retailers (often advertised through social media). These boxes, which typically use a modified Android operating system, are preconfigured to access a certain provider's pirate IPTV service and have a custom EPG or app system built in. Most offer more than 100 channels and attract a one-off price tag of US-$100–300. The range of channels included in these IPTV boxes varies considerably depending on which wholesaler is used, but as an example, one service targeting South Asians offers "over 100 Indian, Pakistan and Nepal TV channels" (Figure 40.2), while another box targeting Chinese users offers Korean, Japanese, Thai and Chinese channels alongside US, UK, and Canadian channels, plus dedicated apps for karaoke, games, and adult entertainment.

As an alternative to purchasing a fully loaded IPTV box, it is also possible to bring your own device and only pay for the subscription component. The service provider will then provide you with either a custom TV player app and login details or an M3U URL which can be loaded into Kodi or a VLC player, generating a channel list. These basic elements of the IPTV service can be mixed and matched by different vendors, depending on the needs of their customers. For

Figure 40.2 IPTV box offering live channels for the South Asian community – name removed
Source: Screen capture by author

example, some vendors offer a fixed-price "tech support" service and will happily update your existing Kodi setup box to feature the latest add-ons ("send me your machine and I'll send it back").

Like Kodi, IPTV piracy has a complex ecology of its own that includes channel aggregators charging US$10–20 per month for 100+ channel packages; white-label resellers of these same packages; aggregator stores such as IPTVstore.com; and local intermediaries/dealers who supply boxes and/or packages and/or customer service. These intermediaries typically deal in one or two IPTV services that are most relevant to their customers, who are often from diasporic communities. For example, the Modbox IPTV system is used by Israelis; Indians, Bangladeshis, Nepalis, and Sri Lankans prefer RealTV, Jadoo and Maxx; and TVpad and EVpad are popular in the Chinese diaspora.

Chinese entrepreneurs have played an important role in the development of these markets, due to the size of the Chinese diaspora and the historically weak copyright enforcement for PRC-based TV channels. The longest-running services appear to be Chinese in origin, and there is a history of rights-holder enforcement actions against Chinese-language IPTV services stretching back to at least 2012 (Barlass, 2012). Keane (2016) notes the significance of IPTV boxes for the Chinese diaspora, remarking that "the set-top box is now the default technology for accessing Chinese programming overseas":

> Whereas a decade ago people outside China visited video shops in Chinatown areas, brought back DVDs from China to share with friends, or erected satellite dishes on roofs, an array of technological interfaces such as satellite dishes, set-top boxes, and virtual private networks (VPNs) now allow Chinese people around the world to watch and interact with Chinese-produced television shows in real time … For overseas audiences, accessing a diverse buffet of content becomes as simple as purchasing a digital set-top box on Alipay, Alibaba's international e-commerce platform.
>
> *(Keane, 2016, 5428)*

Elaine Zhao has similarly described how "jailbroken" (user-modified) Mi Box streamer boxes have become popular hardware for TV piracy in China, noting that "Many purchase the box simply to root it and install third-party apps on it" (2017, 35). In IPTV piracy, as in live streaming, Chinese markets feature an unusually dense and complex ecology of services. As these observations suggest, IPTV piracy has a cultural history partly embedded in diasporic media. It offers a new kind of long-distance cultural connectivity, mediated through the pivotal figure of the ethnic IPTV entrepreneur who re-connects the community to the homeland TV culture.

Conceptual Implications of the Streaming Turn and IPTV Piracy

As IPTV piracy has developed over the years, its user base has grown to include other kinds of communities aside from diasporic markets. The thriving IPTV community scene concentrated around Reddit (see reddit.com/r/IPTV) includes many sports fans (who want cheap access to UK Premier League matches or Canadian ice hockey games), news junkies (who want international news channels not available in their local cable/satellite systems), and Western expats as well as diasporic viewers. Overall, IPTV piracy seems to be becoming less an "ethnic" media practice and more a "geek" hobby. Kodi has a similar trajectory: once used exclusively by gamers, it has now evolved into a multi-purpose media player used by a wider range of consumers.

Looking ahead, scholars in the field of global television studies need to ask two questions of these emergent practices. What does the growing significance of streaming piracy in general mean for the distribution of international television channels? And what might it mean for how we study and theorize global television?

As I have argued, the new IPTV piracy is a different proposition from BitTorrent file-sharing. IPTV involves a set-top box pulling content from faraway servers via IP protocol and displaying it in a channel list navigable with a remote control. IPTV has a different structure, form, and set of affordances. It is primarily concerned with *live* television feeds, rather than Netflix-like libraries of on-demand content. It is about *channels*, and *linear* television genres, especially sports and news. It is suited to remote controls and armchair viewing.

Another notable feature of IPTV piracy which distinguishes it from other popular forms of internet-distributed television – at least for sports and diasporic markets – is that IPTV piracy seems bound to more *social* rituals of viewing (gathering around the big screen TV for the Premier League game), rather than the more intimate settings envisaged by personalized streaming libraries ("Netflix and chill"). One can similarly argue that IPTV piracy may be a return to a linear model of TV viewing, in contrast to the nonlinearity of on-demand services and the more durable, digital libraries that can be amassed through P2P downloading. To be more precise, it may be a way of remaking linearity and "liveness" (van Es, 2016) for a cord-cutting age.

This fundamentally linear experience seems out of step with the on-demand viewing culture associated with Netflix and SVOD services. But it helps to remind us that television's digital transformations are going to involve the co-existence and interaction of different technologies rather than their sequential replacement. Linear TV is not a phase to be superseded by on-demand viewing but rather a highly durable televisual pleasure that complements on-demand, in both formal and informal distribution settings. Paradoxically, this means that the latest innovations can sometimes work to breathe new life into older modes of television viewing. IPTV piracy ushers in a "global" TV culture that has more in common with satellite TV of the 1990s than the SVOD services of the 2010s. In this sense, it is a compelling example of both change and continuity in global television distribution.

Notes

1 Popular Torrent clients have recently introduced features to let users download packets in sequential order, meaning a kind of near-instantaneous playback experience can be possible if bandwidth conditions and the number of seeders permit.
2 Legal precedent in most nations has treated downloading as copyright violation and unauthorised redistribution (because of the nature of peer-to-peer), whereas streaming has a different technical basis because a user is not redistributing content at the same time. This appears to be slowly changing, however, as more jurisdictions start to deem pirate streaming as infringing (European Audiovisual Observatory 2015).
3 These figures were compiled from the quarterly Sandvine Internet Phenomena reports, 2011 to 2016. These reports are available at www.internetphenomena.com.
4 There is also a history of semi-legal startups operating in this area, notably Barry Diller's Aereo and Alki David's FilmOn (Lobato and Thomas, 2015).
5 Popcorn Time has had a complicated development process, with multiple development teams, forks, and legal challenges along the way. It has proven surprisingly resilient to enforcement efforts, despite its unambiguously illegal nature.

References

Athique, A. (2008) "The Global Dynamics of Indian Media Piracy: Export Markets, Playback Media and the Informal Economy", *Media, Culture and Society* 30 (5): 699–717.
Athique, A. (2014) "Piracy at the Frontier: Uneven Development and the Public Sphere", *Media International Australia* 152 (1): 87–97.
Barlass, T. (2012) "Dramatic Twist: Police to Raid Suspected Pay TV Pirates", *The Age* 1 April. www.theage.com.au/it-pro/security-it/dramatic-twist-police-to-raid-suspected-pay-tv-pirates-20120331-1w542.html.
Burkart, P. (2014) *Pirate Politics: The New Information Policy Contests*, Cambridge: The MIT Press.

Crisp, V. (2015) *Film Distribution in the Digital Age: Pirates and Professionals*, Basingstoke: BFI Palgrave Macmillan.

Cunningham, S. and Sinclair, J. (eds) (1999) *Floating Lives: The Media and Asian Diasporas*, St Lucia: University of Queensland Press.

De Kosnik, A. (2016) *Rogue Archives: Digital Cultural Memory and Media Fandom*, Cambridge: The MIT Press.

Ernesto (2017) "Hollywood Sees Illegal Streaming Devices as 'Piracy 3.0'." *TorrentFreak*, 2 June, https://torrentfreak.com/hollywood-sees-illegal-streaming-devices-as-piracy-3-0-170502/

Ganley, G. D. and Ganley, O. H. (1985) *Global Political Fallout: The VCR's First Decade*, Cambridge: Harvard University Center for Information Policy Research.

Gray, J. (2011) "Mobility Through Piracy, or How Steven Seagal Got to Malawi", *Popular Communication* 9 (2): 99–113.

Holt, J. and Sanson, K. (eds) (2013) *Connected Viewing: Selling, Streaming, & Sharing Media in the Digital Age*, London: Routledge.

Hu, K. (2004) "Chinese Re-Makings of Pirated Japanese VCD Dramas", In: K. Iwabuchi (ed.), *Feeling Asian Modernities: Transnational Consumption of Japanese TV Dramas*, Hong Kong: Hong Kong University Press, 205–226.

Jenkins, H. (2006) *Convergence Culture: Where Old and New Media Collide*, New York: New York University Press.

Jenkins, H., Ford, S., and Green, J. (2012) *Spreadable Media: Creating Value and Meaning in a Networked Culture*, New York: NYU Press.

Keane, M. (2016) *The Chinese Television Industry*, London: British Film Institute.

Leaver, T. (2008) "Watching *Battlestar Galactica* in Australia and the Tyranny of Digital Distance", *Media International Australia* 126 (1): 145–154.

Lobato, R. and Meese, J. (eds) (2016) *Geoblocking and Global Video Culture*, Amsterdam: Institute of Network Cultures.

Lobato, R. and Thomas, J. (2015) *The Informal Media Economy*, Cambridge: Polity.

Lotz, A. (2017) *Portals: A Treatise on Internet-Distributed Television*, Ann Arbor: University of Michigan.

Newman, M. Z. (2011) "Free TV: File-Sharing and the Value of Television", *Television & New Media* 13 (6): 463–479.

O'Regan, T. (1991) "From Piracy to Sovereignty: International VCR Trends", *Continuum: The Australian Journal of Media and Culture* 4 (2): 112–135.

Rowe, D. and Hutchins, B. (2017) "Prize Fight Over Live-Streamed Sport Will Go On Long After the Final Bell Sounds," *The Conversation*, 8 February https://theconversation.com/prize-fight-over-live-streamed-sport-will-go-on-long-after-the-final-bell-sounds-72494

Sandvine (2017) "Spotlight: The 'Fully Loaded' Kodi Ecosystem (2017 Global Internet Phenomena report)," www.sandvine.com/resources/global-internet-phenomena/spotlight/the-fully-loaded-kodi-ecosystem.html

Smith, M. D. and Telang, R. (2016) *Streaming, Sharing, Stealing: Big Data and the Future of Entertainment*, Cambridge: MIT Press.

Spangler, T. (2017) "Facebook Quietly Adds Piracy Devices to List of Banned Sale Items," *Variety* 26 May http://variety.com/2017/digital/news/facebook-bans-kodi-piracy-devices-1202445930/

Strangelove, M. (2015) *Post-TV: Piracy, Cord-Cutting, and the Future of Television*, Toronto: University of Toronto Press.

Sundaram, R. (2009) *Pirate Modernity: Delhi's Media Urbanism*, London: Routledge.

Popcorn Time (2016) "We Are Officially Back," *Popcorn Time blog*, 24 February. https://blog.popcorntime.sh/official-statement/

Tse, Y.-T. (2016) "Watching Foreign TV in an Age of Online Sharing: The Cultural Implications of Cross-Border Television Experience," PhD Thesis, Goldsmiths, University of London http://research.gold.ac.uk/17441/

van Es, K. (2016) *The Future of Live*, Cambridge: Polity.

Williams, R. (1977) *Marxism and Literature*, Oxford: Oxford University Press.

Zhao, E. J. (2017) "The Bumpy Road Towards Network Convergence in China: The Case of Over-the-Top Streaming Services", *Global Media and China* 2 (1): 28–42.