

Television and New Media

“This Title is no Longer Available”: Preserving Television in the Streaming Age

Journal:	<i>Television and New Media</i>
Manuscript ID	TVNM-19-0151.R2
Manuscript Type:	Original Manuscript
Keywords:	digital dark ages, subscription video-on-demand, interfaces, catalogues, subscription economy, preservation, Netflix, TV history, digital media

SCHOLARONE™
Manuscripts

“This Title is no Longer Available”: Preserving Television in the Streaming Era

For a brief moment in late 2017, eagle-eyed Netflix subscribers were able to access an easter egg promoting the second season of the streaming service’s popular series, *Stranger Things* (2016 – present). By clicking on the twisted, pulsating red and black vines located on the right-hand side of a promotional banner, situated at the top of the Netflix interface (see fig. 1), viewers were virtually transported to the “Upside Down” – the fictional parallel world featured within the series itself. Once there, the interface quite literally turned upside down, rotating 180 degrees, whilst the visitor’s cursor transformed into a torch that could be used to highlight different areas of the now dimly-lit screen. The transformation included other aesthetic and aural elements associated with the series such as the signature floating particles and an array of familiar and ominous sounds. The sequence concluded with the sudden appearance of a “Demogorgan” leaping toward the viewer at which point the interface reverted back to its original state. As is usually the case with these kinds of paratextual materials, this easter egg was only available for a short period of time before it eventually disappeared, mirroring the ephemeral, intangible and elusive nature of the parallel universe that it sought to depict.

INSERT FIG. 1 HERE

Caption: Screenshot of the *Stranger Things* promotional banner which appeared on the Netflix interface in late 2017.

The *Stranger Things* easter egg is just one of countless examples that demonstrates the increasing ephemeralisation of contemporary screen media. In this instance, the ephemerality stems from the fleeting availability of the promotional text which, once no longer available via the Netflix interface, becomes impossible to reproduce and therefore impossible to study. Though television has always been a highly ephemeral medium (Holdsworth 2011, 1), most of the various promotional elements of *broadcast* TV – namely advertisements, trailers and interstitials – were at least archivable, even if only a small percentage of those texts were actually preserved. But today television is

1
2 increasingly delivered via platforms (as opposed to networks) and through interfaces and algorithms
3
4 (as opposed to schedules), all of which are intrinsically more ephemeral (Johnson 2019). Although fans
5
6 often document these promotional materials – typically through screen captures which are uploaded to
7
8 video archives such as YouTube – they still remain difficult to locate, are vulnerable to sudden loss
9
10 (for example, through copyright takedown claims), and often lack sufficient contextual information
11
12 (when and to whom was it made available and under what circumstances did it appear?) Furthermore,
13
14 these archived versions are only ever secondary representations, often lacking the interactive properties
15
16 that characterise the originals, and thus denying scholars the opportunity to examine these texts in their
17
18 original and intended form.
19
20
21

22
23 Given the proliferation of highly ephemeral paratexts such as the *Stranger Things* example
24
25 cited above, it is unsurprising that there has been a growing critical concern with the more fleeting and
26
27 oft-neglected aspects of media culture (see, for instance; Grainge 2011; Gray 2010; Pesce et al. 2016).¹
28
29 Notably, these studies appear to share the consensus that ephemerality has been driven by a number of
30
31 factors, key amongst them the simultaneous proliferation, brevity and transience of such promotional
32
33 materials. But this is just the tip of the ephemeral iceberg, so to speak. In addition to the proliferation
34
35 of interactive and highly transient paratexts such as the *Stranger Things* promotion, television has
36
37 become ephemeral in a number of other ways in recent years. This includes the ongoing “datafication”
38
39 of the creative industries, the prominence of interfaces, catalogues and personalisation, and the rise of
40
41 the subscription economy as an ever-more popular model of media consumption.
42
43
44

45
46 Ephemerality today is thus an increasingly widespread, multifaceted and complex challenge for
47
48 media scholars. But it is particularly challenging for television historians for whom the object of study
49
50 itself has undergone a profound transformation, resulting in a medium that has become much more
51
52 resistant to preservation. Whereas at one time television scholars had to contend with documenting,
53
54 analysing and archiving a relatively limited and arguably much more ontologically defined set of texts
55
56 and paratexts – though admittedly many of these have since been lost – today we find ourselves in the
57
58 midst of a heavily saturated mediascape in which it has become all but impossible to keep track of the
59
60

1
2 volume, variety, or circulation of these texts let alone their various paratexts. Furthermore, scholars
3
4 tend to have very limited access to the data that is generated through our frequent interactions with
5
6 these texts and paratexts (Andrejevic 2014; Kelly 2019), data which is becoming increasingly
7
8 influential when it comes to making decisions about the production and distribution of television, and
9
10 which therefore have significant value in an academic context.
11
12

13
14 In light of these various developments, this article intends to broaden the scope of current
15
16 debates around television ephemerality, debates which have tended to focus on the more paratextual
17
18 and promotional aspects of this phenomenon. In doing so, I argue that ephemerality is not only confined
19
20 to television's more fleeting and marginal texts, but that it permeates the medium in a range of different
21
22 ways, all of which will have significant implications for media historians, for how we might preserve
23
24 these increasingly complex and diverse forms of contemporary television, and ultimately for how we
25
26 might access and study them in the future. In particular, I argue that despite the utopian view that digital
27
28 technologies provide us with limitless archives, endless choice, and instant and ubiquitous access,
29
30 television is, in many ways, becoming increasingly ephemeral and therefore ever more prone to loss.
31
32 This article focuses on streaming as an emerging space where these issues are most prevalent and where
33
34 ephemerality is therefore most pronounced. These developments affect both film and television, but to
35
36 address both would be beyond the scope of this article. Having said that, the boundaries between the
37
38 two have become increasingly blurred, particularly in the context of the streaming industries, and thus
39
40 the arguments I present here are largely applicable to both.
41
42
43
44

45
46 Whilst I argue that media historians are facing a number of new challenges, I consider these
47
48 recent developments in relation to a longer history of popular and critical debates around the
49
50 preservation of television and digital culture – particularly in relation to growing anxieties around the
51
52 perceived threat of a *digital dark age* (Kuny 1997). In doing so, I suggest that we might simultaneously
53
54 learn something from these earlier accounts, whilst also using them to draw attention to the different
55
56 anxieties and challenges involved in the preservation of contemporary TV. Following this, I use the
57
58 example of Netflix, currently the most popular subscription video-on-demand [SVOD] service in the
59
60

1 world, to illustrate how these anxieties are beginning to manifest and to consider some of the
2 methodological challenges this presents for media historians today and in the future. Finally, the article
3 concludes by proposing a number of practical steps and further lines of enquiry so that future television
4 historians might be better equipped to avoid a “scholarly dark age”.
5
6
7
8
9

10 11 12 13 **A digital dark age?** 14

15 One of the main anxieties around digital preservation today is the concern that content and data are
16 being produced at a far greater rate than they can be catalogued and stored. Indeed, there is a consensus
17 amongst critics that we now live in the age of “big data”, an era in which information is not only rapidly
18 proliferating but in which it is also becoming an increasingly integral if often unseen part of economic,
19 political, and cultural activity (Kelly 2019). While digital technologies have no doubt contributed to
20 this surfeit of data and content, the idea that we are living in an era characterised by abundance and
21 expansion is hardly new (Milligan 2019), especially in the context of television history. Studies of the
22 historical development of television have routinely drawn attention to its trajectory of continued growth
23 and expansion. For instance, in his seminal account, John Ellis (1999) describes the history of television
24 using volumetric terms, as a gradual evolution from “scarcity” to “availability” to “abundance”.
25
26
27
28
29
30
31
32
33
34
35
36
37
38

39 Despite the long history of these debates around excess and preservation, these concerns are
40 especially acute today. This is due to a number of different factors including the proliferation of new
41 forms of data such as those generated through our interactions with television, data that are rarely
42 archived let alone made available outside of specific institutional boundaries. This particular example
43 supports the idea that we are entering into, if not already in, a *digital dark age* (Kuny 1997). Broadly
44 speaking, the prospect of a *digital dark age* is based on the belief that digital and electronic media are,
45 in many respects, much more ephemeral than their analogue antecedents (Bollacker 2010; Keene
46 2002). As such, a central tenet of the *digital dark ages* critique holds that historians in the future will
47 know very little about late twentieth and early twenty-first century digital culture. To give just one
48 example, while a significant amount of historical research undertaken today relies heavily upon
49
50
51
52
53
54
55
56
57
58
59
60

1
2 physical archives of hand-written correspondence, production notes, annotated scripts, and other such
3
4 analogue artefacts, there is a great deal of uncertainty as to whether future historians will have access
5
6 to the email threads or other digital data that surround, accompany and inform contemporary
7
8 productions. More problematically, however, there is a great deal of uncertainty as to whether these
9
10 materials are even being preserved in the first place.
11
12

13 The concept of a *digital dark age* gained widespread notoriety after it featured in a keynote
14
15 address by Vint Cerf, vice president of Google, early in 2015 (in Maffeo 2015). However, it has a much
16
17 longer history than this. Indeed, it is worth briefly revisiting the original formulation of this critique,
18
19 as many of its key characteristics are pertinent to issues around the growing ephemerality and
20
21 subsequent need for preservation of digital media culture today. The first recorded reference to the
22
23 concept of a *digital dark age* appeared in a paper by Terry Kuny, presented at the International
24
25 Federation of Library Associations and Institutions conference in 1997. In the paper, Kuny expressed
26
27 a concern about the rate at which information was expanding, arguing that “one of the impacts [of the
28
29 information age] is how we are to preserve the historic record in an electronic era where change and
30
31 speed is valued more highly than conservation and longevity.” (1997, 1) Kuny goes on to outline a
32
33 number of justifications for his assertion that, “we are moving into an era where much of what we
34
35 know today, much of what is coded and written electronically, will be lost forever.” (Ibid.) Several of
36
37 these are especially pertinent to the changes currently taking shape around television today, including
38
39 (i) too much information, (ii) non-accessible information, and (iii) non-reliable information. Indeed,
40
41 these are problems that have come to characterize the challenges of working with big data and which
42
43 will therefore need to be addressed by television scholars as the datafication of the industry continues
44
45 to gather momentum (Kelly 2019).
46
47
48
49
50
51

52 Within these broader categories, Kuny identifies a number of more specific factors that are
53
54 contributing to this supposed *digital dark age*, several of which again speak to current developments
55
56 around television today. Key amongst these are:
57
58
59
60

- 1
2 1. Hardware and software obsolescence. For instance, files that become inaccessible due to updates
3 or changes in software, codecs and/or operating systems (something that has become particularly
4 important for digital media historians).
5
6
- 7
8 2. The increasing privatization of data, which Mark Andrejevic (2014) has more recently described
9 in terms of a “data divide” in which access to information is increasingly uneven, almost always
10 privileging institutions over individuals.
11
12
- 13
14 3. “Increasingly restrictive intellectual property and licensing regimes” (Kuny 1997, 3) – in other
15 words, copyright issues going on behind-the-scenes that are jeopardizing the potential permanence
16 of, and access to, digital media.
17
18
19
20
21
22
23
24

25 **From owning to renting: the rise of the subscription economy**

26
27 Kuny’s suggestion that the prospect of a *digital dark age* is partly driven by “increasingly restrictive
28 intellectual property and licensing regimes” is somewhat prescient of a broader transition currently
29 taking place across the media industries – one that involves and affects the preservation of, and access
30 to, television. As a number of scholars have already observed (Johnson 2019; Lotz 2017; Nelson 2014;
31 Steirer 2014; Tryon 2009), the media industries are embracing more ephemeral modes of delivery in
32 which permanent and physical models of ownership are gradually being displaced by more temporary
33 forms of access. This growing economic model is often referred to as the *subscription economy*, and
34 has become popular across a range of industries, products and services.
35
36
37
38
39
40
41
42
43
44

45 Elissa Nelson (2014, 63), for instance, has observed that DVD sales of film and television began
46 to decline as early as 2004. Prior to this decline, however, television enjoyed a brief period in which it
47 was perhaps at its least ephemeral.² Although it is difficult to substantiate such an abstract claim, the
48 proliferation of physical media in the early 2000s, coupled with the popularity of digital recording
49 technologies such as TiVo, suggest that this was a period in which more television was being owned
50 and archived than ever before. Citing a study by Barry Brown and Louise Barkhuus, Sharon Strover
51 and William Moner note that:
52
53
54
55
56
57
58
59
60

1
2
3
4 ...while television in the broadcast era was largely ephemeral ... informants described
5
6 archiving behavior with DVRs and peer-to-peer downloading. For example, users of
7
8 BSkyB's Sky+ DVR service record several episodes of a series on their devices and then
9
10 watch multiple episodes in order in one sitting. (2014, 238)
11
12
13
14

15
16 However, it is important to bear in mind that whilst more television was being recorded to DVRs, this
17
18 doesn't necessarily mean that more television was being permanently archived. Devices such as Sky+
19
20 have limited storage space, are designed to easily overwrite or automatically delete previously viewed
21
22 content, and are routinely upgraded. Even if recordings are retained, it is difficult to "export" them
23
24 from such a device so that they can be archived and made available at a later date. Likewise, it is
25
26 important to remember that during this same period certain forms of television were being purchased
27
28 and archived far more than others. As Matt Hills (2007) has pointed out, the introduction of DVDs
29
30 resulted in generic discrimination between those titles that were preserved and those that were
31
32 ultimately discarded. As he explains:
33
34
35

36
37
38 ... shows which are culturally and discursively positioned as being absolutely 'of their
39
40 time', or as being disposable parts of 'that day's schedule' remain far more likely to
41
42 permanently disappear from consumer availability, in marked contrast to 'high-end'
43
44 and 'quality-popular' or cult TV. (2007, 50)
45
46
47
48
49

50
51 As such, even though television enjoyed this brief spell of heightened preservation, large sections of it
52
53 remained highly ephemeral.³
54

55
56 At the same time, however, a significant amount of television (and film) was, and still is, being
57
58 preserved via other less official channels such as peer-to-peer networks. In many ways, the unofficial
59
60 copying and sharing of content through sites such as Pirate Bay⁴ is a continuation of earlier analogue

1 archival practices which equally sought to address the problem of television's ephemerality, only today
2 it occurs on a much larger scale. While peer-to-peer networks offer access to content that might
3 otherwise be lost or discarded, this is often on a very temporary basis with empirical studies
4 demonstrating that 'relatively few torrents exhibit long-term survivability' (Martin 2016). Moreover,
5 these unofficial sites are less likely to archive paratextual materials, particularly those that are more
6 resistant to preservation such as audio-visual content embedded within an interface. Fortunately, many
7 of these materials are often archived, or at the very least described, on fan-run wiki sites. Peer-to-peer
8 networks and wikis thus clearly function as crucial sites of cultural preservation (Tanvir 2014), but
9 their unofficial status means that they tend to remain highly ephemeral, incomplete and therefore
10 unreliable.
11
12
13
14
15
16
17
18
19
20
21
22
23
24

25 As the examples above suggest, the internet has created both opportunities and challenges when
26 it comes to the preservation of television. In terms of the latter, the dwindling popularity of physical
27 media is often understood to be a direct consequence of the emergence of newer models of delivery
28 such as streaming. As Chuck Tryon argues, "the persistent availability of movies through different
29 VOD services has altered their value, often with the result that consumers have felt less urgency to
30 own copies of individual films" (2009, 3). Although Tryon's account is primarily concerned with the
31 impact of digital distribution on film culture, his argument applies equally to television. Either way,
32 there is clearly an inverse correlation between the rise of streaming and the decline of the physical
33 ownership of television, resulting in more intense and diverse forms of ephemerality.
34
35
36
37
38
39
40
41
42
43
44

45 But what is driving these changes? As Gregory Steirer (2014) has suggested, the economic
46 logic underpinning this distributional shift from ownership (or permanence) to subscription (or
47 ephemerality) is largely the result of efforts by the industry to assert greater control over media products
48 at all stages within the economic chain. This is where streaming and digital downloads have a distinct
49 advantage for rights holders. After physical media are first purchased (known as first sale) they can be
50 sold on in secondary markets. However, the original publisher will not see any of these profits. As
51 Steirer points out, these secondary markets exist thanks to the legal concept of the "First-Sale Doctrine"
52
53
54
55
56
57
58
59
60

1
2 which affords consumers a greater degree of control over what happens to the physical text – most
3
4 importantly, including the right to sell it on. The first-sale doctrine, however, does not apply to digital-
5
6 only copies. Streaming therefore represents a key opportunity for the industry to “wrest power back
7
8 from consumers and retailers” (Steirer 2014, 80). In doing so, it creates a steady and more secure
9
10 revenue stream for SVOD services in what has historically been a very unpredictable market. For
11
12 consumers, the subscription model has its advantages too. Subscribers can get access to thousands of
13
14 titles for the same price (or less) than the cost of one physical copy, albeit temporarily. Media historians
15
16 also benefit from the increase in access to content, just as they did following the arrival of DVDs (Hills
17
18 2007). Unlike DVDs, however, the subscription model is far more ephemeral and therefore poses a
19
20 number of challenges when it comes to preservation.
21
22
23

24
25 At present, streaming constitutes a relatively small but growing percentage of our overall
26
27 television viewing diet. As such, the issues I have identified around ownership and access will only
28
29 become more pronounced in years to come. Indeed, according to the 2018 *Communications Market*
30
31 *Report* by UK broadcasting and telecommunications regulatory authority Ofcom, the average UK
32
33 viewer spends 71% of their time watching broadcast TV (though only 51% of this is viewed live via a
34
35 TV set), whilst the remaining 29% is comprised of content accessed via streaming services such as
36
37 YouTube, the BBC iPlayer, Netflix and Amazon (Ofcom, 2018). However, this latter figure is
38
39 significantly higher amongst those aged between 16 to 34 (54% for this particular demographic versus
40
41 29% for all demographics), suggesting that streaming will play a much more prominent role in the
42
43 audio-visual diets of future generations.⁵
44
45
46

47
48 Studies such the *Communications Market Report* indicate that Netflix has played a central role
49
50 in the growth of streaming. While there are a number of streaming services – some commercial, some
51
52 public service – Netflix is the most widely used and globally accessible. Indeed, by the first quarter of
53
54 2019, the streaming service reported almost 149 million subscribers worldwide (Statista 2019), a figure
55
56 that rises substantially if we bear in mind that subscribers tend to share their accounts with family and
57
58 friends. My own personal subscription, for example, is accessed at various times by myself, my wife,
59
60

1
2 my two children, and both of my parents. Even at a relatively conservative estimate of three users per
3
4 subscription, it is feasible that Netflix is already being accessed by well in excess of 400 million people
5
6 across the globe.
7

8
9 Netflix also warrants attention because of its successful foray into original production. Thanks
10
11 to critically acclaimed series such as *House of Cards* (2013-2018), and *Orange is the New Black* (2013-
12
13 2019), the streaming service has accrued an impressive number of industry-recognised awards and
14
15 nominations over the past few years, even surpassing more established networks (for example, at the
16
17 2015 Emmys they received 31 nominations to AMC's 26). Given its exclusive rights to this catalogue
18
19 of prestigious content, Netflix can no longer be considered an on-demand database of repurposed film
20
21 and television content – i.e. as a collection of programming readily available on other networks, via
22
23 physical media, and/or through other streaming services. Rather, through its growing investment in
24
25 original productions and exclusive streaming rights,⁶ we are seeing an increasing amount of original
26
27 content housed behind its subscription pay-wall. This, in turn, has implications for the study of
28
29 contemporary television, as it renders otherwise useful archival tools such as the Internet Archive's
30
31 "wayback machine" entirely ineffective. Of course, Netflix original series do usually receive a physical
32
33 release, though this seems to be a less common practice for its original films (Wroot 2019).⁷
34
35 Nevertheless, the fact remains that sales of DVDs and Blu-Rays are still declining significantly whilst
36
37 subscriptions to digital streaming services continue to grow. Ultimately, these trends suggest that the
38
39 once popular practice of permanent ownership is gradually being replaced by the much more temporary
40
41 option of streaming, making television more ephemeral and intangible as an object of study.
42
43
44
45
46
47
48
49

50 **The challenges of studying online TV**

51
52 Netflix has clearly established itself as a key player in the television market – as such, its ephemeral
53
54 model of distribution requires further interrogation. Here, I want to consider how the emergence of
55
56 SVODs presents a number of specific methodological challenges for media historians, focussing on
57
58 two related areas that, in different ways, highlight the complex ephemerality of streaming – firstly, the
59
60

1
2 interfaces and catalogues of services such as Netflix, and secondly, issues around access and the “data
3
4 divide” (Andrejevic 2014).
5
6
7

8 *Interfaces and Catalogues*

9
10
11 When it comes to studying streaming, the first and perhaps most obvious methodological obstacle is
12
13 the highly ephemeral nature of interfaces and catalogues (Johnson 2019), both of which are integral to
14
15 the operation of services such as Netflix. While the programmed flows of broadcast television are
16
17 relatively fixed and, to some extent, well documented,⁸ the “schedules” of streaming services are
18
19 highly personalised, often unpredictable, and therefore virtually non-existent. Historically, scheduling
20
21 practices have provided crucial insights into our understanding of the social, cultural and ideological
22
23 functions of broadcast television (Ellis 2000), but this temporal dimension is largely absent within the
24
25 streaming realm.
26
27

28
29 Given the relative flexibility and variety of choice offered by services such as Netflix, it is
30
31 increasingly difficult if not impossible to make generalisations about what people are watching. It is
32
33 also surprisingly difficult to know what is even available in the first place. This is largely because
34
35 digital catalogues are highly prone to change. As Jussi Parikka explains:
36
37

38
39
40
41 Although the traditional archive used to be a rather static memory, the notion of the archive
42
43 in Internet communication tends to move toward an economy of circulation: permanent
44
45 transformations and updating ... The aesthetics of fixed order is being replaced by
46
47 permanent reconfigurability (2012, 99)
48
49

50
51
52 Though Parikka’s assertion that traditional archives are a “rather static memory” could be contested
53
54 (given that physical items are constantly added, removed and re-ordered), the digital catalogue is,
55
56 comparatively speaking, much more transient. In the case of Netflix, this paradoxical notion of
57
58 “permanent reconfigurability” is most visible in its interface, which differs significantly depending on
59
60

1
2 a number of contextual factors, including time, location, user, and device. The main interface itself is
3
4 largely organised around a series of constantly evolving recommendation lists. These range from the
5
6 highly specific “top picks for you”, and “because you watched...” to more generic categories such as
7
8 “popular on Netflix” and “New arrivals”.

9
10
11 The ephemerality of the interface is further compounded by the fact that it is frequently
12
13 intertwined with other forms of television ephemera, such as the *Stranger Things* example with which
14
15 this article begins. To reinforce this point further, I want to briefly draw attention to another visit to
16
17 Netflix during which time I was confronted with a rather unusual recommendation list entitled
18
19 “Watched by Tobias Fünke” – a fictional character from *Arrested Development*, a sitcom that was
20
21 revived by and exclusively distributed via Netflix from its fourth season onwards (see fig 2).
22
23
24
25
26
27

28 INSERT FIG. 2 HERE

29
30 Caption: Screenshot of the Netflix interface featuring a “Watched by Tobias Fünke” recommendation
31
32 list.
33
34
35

36
37 This particular recommendation list featured a number of titles that gestured towards one of the series’
38
39 running jokes in which Fünke’s heterosexuality is subject to constant scrutiny. Although a rather
40
41 humorous and unusual example of how Netflix was able to exploit the versatility of its interface, the
42
43 use of this narrative detail has implications for our understanding of the original text (in this case, by
44
45 reinforcing a certain character’s traits)⁹ and for our consumption of film and television more broadly
46
47 (e.g. by algorithmically recommending other content based on very niche, inside jokes related to an
48
49 individual’s viewing history).
50
51

52
53 As I soon discovered, the “Watched by Tobias Fünke” recommendation list was just one in a
54
55 larger constellation of *Arrested Development* paratexts through which Netflix sought to exploit the
56
57 versatility of its interface. This included search results pages for titles containing the word “blue”
58
59 bearing painted hand-prints of the same colour, in an obscure reference to Fünke’s failed attempts to
60

1
2 join the Blue Man Group, another running gag in the series. It also included fake entries in the Netflix
3
4 catalogue for non-existent titles such as *Mock Trial with Judge Reinhold* and *Les Cousins Dangereux*,
5
6 both of which exist only within the narrative world of *Arrested Development*.¹⁰ Though these examples
7
8 may seem trivial, paratexts are an important part of an increasingly complex media culture in which
9
10 the television text is just one of many different elements. Located at the “threshold of interpretation” –
11
12 to borrow Gerard Genette’s (1997) term – paratexts (and, by extension, interfaces) frame and shape
13
14 our encounters with texts in significant ways (Gray 2010; Kelly 2018). Yet the examples cited above
15
16 no longer exist, once again illustrating the highly transient nature of the Netflix interface and the
17
18 permanent loss of various television ephemera. Unfortunately, because these kinds of paratexts don’t
19
20 necessarily translate to other formats, they are rarely made available beyond the SVOD interface –
21
22 unlike the bonus materials that are regularly bundled onto physical releases and which have become
23
24 an important resource for media scholars. Indeed, it is comparatively rare to find materials such as
25
26 director commentaries or behind-the-scenes featurettes on streaming services such as Netflix –
27
28 materials which are commonplace on physical releases.¹¹ Of course, paratextual materials have always
29
30 existed and locating them has always been a challenge for media historians. However, contemporary
31
32 paratexts are far more diverse and far more prolific, making archiving and retrieving them all the more
33
34 difficult. For example, in their recent analysis of television interfaces, David Hesmondhalgh and
35
36 Amanda Lotz (2020) give the example of electronic programme guides [EPGs], describing how they
37
38 have become much more complex and sophisticated over the years, offering more layers and levels
39
40 through which a user can navigate. If anything, such observations highlight some fundamental
41
42 differences between earlier analogue and electronic paratexts and those that circulate today, with the
43
44 latter often more resistant to preservation not least due to their prolificacy. These observations also
45
46 stress the urgency with which we therefore need to develop new methods for preserving the
47
48 increasingly complex and intangible elements that surround contemporary television.¹²
49
50
51
52
53
54
55

56
57 It isn’t just the interfaces and paratexts of streaming services that are susceptible to loss. The
58
59 main collection itself is also subject to “permanent reconfigurability” (Parikka 2012). This is evident
60

1
2 in that content is continuously added *and* removed. While some services, such as the BBC iPlayer,
3
4 often foreground expiration dates, in the case of Netflix the removal of material can occur without prior
5
6 warning. This uncertainty around the availability of a title can be frustrating for subscribers who can,
7
8 and have, suddenly lost access to content – particularly when in the middle of a long running series.
9
10 There are also problems with the variety of content available in VOD catalogues, with many streaming
11
12 services appearing to prioritise more contemporary content to the detriment of “classic” film and
13
14 television series, so much so that popular website Vox.com once boldly pronounced that “The age of
15
16 streaming is killing classic film” (VanDerWeff 2016). This emphasis on more contemporary content
17
18 has obvious ramifications for both film and television studies, limiting access and exposure to classic
19
20 titles – a problem that was compounded by the closure of TCM’s classic film-oriented VOD service,
21
22 FilmStruck in 2018 despite the very same Vox article suggesting that this SVOD service could well be
23
24 the saviour of classic film. As these examples indicate, the rise of streaming is having a significant
25
26 impact on the availability and types of content that can be accessed via VOD services, with provision
27
28 of short-term availability of more contemporary titles seemingly the most common approach.
29
30
31
32
33
34
35

36 *Access and the data divide*

37
38 The second methodological barrier that I want to consider is access, or rather, lack of access and the
39
40 “data divide” (Andrejevic 2014). In many ways, Netflix is exemplary of Andrejevic’s (2014) data
41
42 divide critique, in which he describes the distribution, availability and usability of data as highly
43
44 uneven, with the balance typically in favour of institutions over individuals. This lack of access is
45
46 especially problematic for media historians given that data has become increasingly important when it
47
48 comes to making decisions about the production and distribution of media content. As Reed Hastings,
49
50 CEO of Netflix, once explained in an interview:
51
52
53
54
55

57 With a streaming service, we get a lot of signals about what and how people are watching
58
59 ... we know what we've shown to you -- we know what we put on the screen as
60

1
2 possibilities for you, what you snapped up or passed over in favour of something else (in
3
4 Silver 2015)
5
6
7
8

9 As Hastings elaborates, this information forms the basis of Netflix's various recommendation
10 algorithms which ultimately determine what an individual is offered. However, the company harvest
11 other kinds of data too, and increasingly use these to inform licensing, commissioning and production
12 decisions – an example of what Philip M. Napoli has called the 'algorithmic turn in media production'
13 (2014). Perhaps the most notable example of this in regard to Netflix was its acquisition of *House of*
14 *Cards*. Although Netflix didn't use an algorithm to conceive the show, it did consult its data in order
15 to help determine whether or not the specific combination of stars, director, producer, plot and genre
16 would prove popular amongst its subscribers. Either way, this is just one of numerous such examples
17 that offers clear evidence of the growing importance and influence of data within creative contexts.
18
19
20
21
22
23
24
25
26
27
28

29 As the examples above demonstrate, and as a number of critics have recently observed,
30 "curation by code" (Morris 2015) has become a common practice in the creative industries. For
31 instance, Netflix's recommendation algorithms, whose primary function is to curate (i.e. personalise)
32 the SVOD's sizeable catalogue, is a good example of this phenomenon. However, as in the case of
33 *House of Cards*, we are also witnessing the use of data to inform decision-making prior to the moment
34 of curation – in this instance, to inform commissioning decisions. Numerous other examples of data-
35 driven decision-making can be found on the Netflix Tech Blog. For example, in a post from 2018 titled
36 "Data Science and the Art of Producing Entertainment at Netflix", Kumar et. al describe how the
37 SVOD service has sought to automate many aspects of a production, including choice of filming
38 location, shooting schedule, post-production asset management, and content localisation. As these
39 examples indicate, data can, and often does, play an important role across all stages of a production –
40 not just in terms of how content is recommended to the subscriber. This is particularly true when it
41 comes to data-driven SVODs such as Netflix, but it is increasingly the case for more conventional
42 broadcasters who also operate in these spaces (i.e. by offering OTT services such as the BBC iPlayer)
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2 and who are likewise building, and increasingly making decisions, based on their own proprietary
3
4 datasets. But despite the growing significance and value of data within the creative industries, this
5
6 material remains largely invisible and inaccessible to anyone outside of specific institutional
7
8 boundaries, and very often within those boundaries too (Andrejevic 2014; Kelly 2019).
9

10
11 We haven't quite reached the stage where data and algorithms have superseded human agency
12
13 in the creative process, nor do I think we ever will. Nevertheless, the examples described above
14
15 demonstrate that these phenomena are playing an increasingly prominent role in the organisation,
16
17 delivery, commissioning and purchasing of contemporary television. At the same time, however, there
18
19 exists a very problematic data divide in which producer-distributors such as Netflix are not only
20
21 gathering but hoarding this valuable information. Even basic statistics such as viewing figures, a staple
22
23 of the broadcast industry and a key source of evidence for academics, are seldom made available.
24
25 Producers themselves are rarely privy to this information. Given that our critical attention is often based
26
27 on the popularity of programmes, the absence of such data will therefore have significant implications
28
29 for what we choose to examine (or ignore), for the development of a television canon, and for our
30
31 understanding of TV history more broadly.
32
33
34
35
36
37
38

39 **Conclusion**

40
41 I want to conclude by briefly summarising my broader argument and by outlining some potential
42
43 directions for future research. Throughout this article, I have illustrated how and why digital television
44
45 is becoming increasingly ephemeral, and thus more difficult to preserve. This ephemerality has been
46
47 driven by, amongst other things: a vast expansion of the medium that has been accompanied by a
48
49 proliferation of both texts and paratexts, many of which are highly resistant to preservation; new market
50
51 logics that promote temporary access to larger catalogues of content; the ongoing "datafication" of
52
53 television which is producing data that are increasingly used to inform production and distribution but
54
55 which are rarely archived or made available outside of specific institutional contexts; and the inherent
56
57
58
59
60

1
2 ephemerality and transience of digital media itself (particularly interfaces and catalogues), as
3
4 exemplified in Kuny's (1997) *digital dark ages* critique.
5

6 The primary purpose of this article has been to draw attention to the precarious nature of
7
8 contemporary digital television culture so that we might be better positioned to prevent a "scholarly
9
10 dark age" for future media historians. But in order to avoid this happening, we need to do more than
11
12 simply identify the medium's heightened ephemerality and its increasing resistance to preservation. As
13
14 such, I want to conclude by proposing a number of practical steps and further lines of enquiry for future
15
16 research in this area.
17
18
19

20 Firstly, it is crucial that scholars embrace and develop new analytical approaches and
21
22 methodologies that are more tailored to the study of contemporary television, particularly to the
23
24 analysis of the interfaces and the ever-evolving catalogues of SVOD services such as Netflix. Of
25
26 course, this is far easier said than done. While it is possible to locate, document and/or reconstruct the
27
28 schedules of broadcast television, and to gain access to many of the programmes themselves – and
29
30 much of the ephemera in between them (commercials, idents, continuity announcements, and so forth)
31
32 – how is one to archive, reproduce and study an interface or a catalogue? Fortunately, there have been
33
34 a number of recent efforts to move beyond purely theoretical discussions of these phenomena.¹³ Ramon
35
36 Lobato (2018), for instance, has proposed several different ways we might begin to study catalogues,
37
38 including utilising publicly available APIs (or Application Programming Interfaces)¹⁴ such as
39
40 uNoGS¹⁵ to explore the availability of Netflix titles across different territories. These kinds of research
41
42 innovations will be crucial to the future of the discipline not least because, as Lobato maintains, "as
43
44 television studies moves further into the Internet age, it must develop a robust understanding of how
45
46 catalogs work if it wishes to understand wider dynamics of access, choice, and diversity in digital
47
48 distribution." (2018, 2)
49
50
51
52
53

54 Despite their potential, however, these APIs often have significant limitations (for example,
55
56 restrictions on the number of searches one can execute), do not necessarily provide access to all of the
57
58 metadata for entries in a catalogue (for example, acquisition or expiration date of a title), and tend to
59
60

1
2 require a high level of technical competency to operate. Moreover, given that catalogues are subject to
3
4 “permanent reconfigurability” (Parikka 2012), and since APIs such as uNoGS can only provide us with
5
6 a snapshot of the “live” data, they are therefore of limited use if we wish to develop a more diachronic
7
8 understanding of the history or evolution of such collections. As such, one way forward might be for
9
10 scholars to build and share their own datasets, to construct historical indices of catalogues that track,
11
12 and allow others to explore, the permanent reconfigurations of SVODs such as Netflix.
13
14

15
16 If catalogues are problematic as objects of study, the highly ephemeral and personalised nature
17
18 of SVOD interfaces poses an even greater methodological challenge for media historians. Yet despite
19
20 their transience, Catherine Johnson has demonstrated that “textual analysis of the GUI [Graphical User
21
22 Interface] of an online TV interface”¹⁶ can offer important insights, enabling us “to examine how its
23
24 design shapes the experience of using the service.” (2019, 109) Indeed, Johnson’s close textual analysis
25
26 of different VOD interfaces reveals a number of corporate strategies and preferred user behaviours that
27
28 are built-in to their very design (see also, Ash 2016; Chamberlain 2011; Stanfill 2015). Since most of
29
30 the work in this vein has been comprised of close textual analyses of interfaces – particularly in terms
31
32 of their features and the behaviours that such features elicit from the user – the field would clearly
33
34 benefit from larger-scale, longitudinal studies that track the evolution of these interfaces over time
35
36 and/or search for patterns in content (for example, how frequently certain titles or genres are
37
38 recommended, how prominently they feature within a given interface). As with the study of catalogues,
39
40 I am proposing an approach more akin to “distant reading” (Manovich 2009; Moretti 2013). This would
41
42 complement existing close textual analyses of interfaces by offering more macroscopic insights.
43
44
45
46

47
48 Secondly, media scholars need to develop more robust institutional/industrial alliances in order
49
50 to gain greater access to the data that, as I have shown above, increasingly shapes the production,
51
52 distribution and promotion of contemporary TV. Although I have suggested that it is necessary that we
53
54 create our own datasets (not least because certain kinds of data are likely not being recorded let alone
55
56 retained), it is equally important to try and gain greater access to, and ultimately preserve, “official”
57
58 industry generated data – also known as “direct data” (Kelly 2019). Indeed, having the necessary
59
60

1 methodologies in place is of limited use if we have little if any access to these kinds of direct data. A
2
3 further advantage of developing institutional relationships is that they not only facilitate greater access
4
5 to data, but they may also potentially increase access to the expertise and tools required to make sense
6
7 of said data. As William Uricchio explains:
8
9

10
11
12
13 If only we had access . . . , the mantra goes. But even if we did have access, we would
14
15 immediately face the expertise problem, for most individual algorithms inhabit vast
16
17 interdependent algorithmic systems (not to mention models, goals, data profiles, testing
18
19 protocols, etc.) – and making sense of them typically requires large teams of experts. (2015,
20
21 7)
22
23
24
25
26

27 Finally, it is important to nurture these institutional/industrial relationships so that media historians can
28
29 not only gain greater access to data but also to help ensure that the appropriate digital/data preservation
30
31 policies are in place. Establishing and maintaining these relationships, or gaining access to such data,
32
33 is far from easy. However, as those working in fields such as production studies have demonstrated
34
35 (see, for instance, Caldwell 2008; Ramsay 2018), these relationships can provide an invaluable source
36
37 of knowledge and/or increase access to important data. Such studies also offer methodological
38
39 paradigms of how to undertake this kind of research, including practical steps on how to establish,
40
41 maintain and develop industrial relationships.
42
43
44

45 Although anxieties around the preservation of television have existed almost as long as the
46
47 medium itself, the various developments detailed above suggest that TV is just as ephemeral, if not
48
49 more ephemeral, than ever before. As such, we need to focus our efforts on developing innovative
50
51 critical skills and forming new industrial relationships if we are to avoid creating a “scholarly dark
52
53 age” for future television historians.
54
55
56
57
58
59
60

References

- Andrejevic, Mark. 2014. "Big Data, Big Questions | The Big Data Divide." *The International Journal of Communication* 8: 1673-1689.
- Acland, Charles R. and Hoyt, Eric, eds. 2016. *The Arclight Guidebook to Media History and the Digital Humanities*. Sussex: Reframe Books.
<https://reframe.sussex.ac.uk/reframebooks/archive2016/the-arclight-guidebook-to-media-history-and-the-digital-humanities/>
- Ash, James. 2016. *The Interface Envelope: Gaming, Technology, Power*. New York: Bloomsbury.
- Bollacker, Kurt D. 2010. "Computing Science: Avoiding a Digital Dark Age." *American Scientist* 98 (2): 106-110.
- Caldwell, John T. 2008. *Production Culture: Industrial Reflexivity and Critical Practice in Film and Television*. Durham and London: Duke University Press.
- Chamberlain, Daniel. 2011. "Scripted Spaces: Television Interfaces and the Non-Places of Asynchronous Entertainment." In *Television as Digital Media*, edited by James Bennett and Niki Strange, 230-254. Durham and London: Duke University Press.
- Ellis, John. 1999. *Seeing Things: Television in an Age of Uncertainty*. London: I.B. Tauris.
- Ellis, John. 2000. "Scheduling: the last creative act in television?" *Media, Culture and Society* 22(1) 25-38.
- Genette, Gérard. 1997. *Paratexts: Thresholds of Interpretation*, trans. J.E. Lewin. Cambridge: Cambridge University Press.
- Grainge, Paul, ed. 2011. *Ephemeral Media: Transitory Screen Culture from Television to YouTube*. Basingstoke, Hampshire; New York: Palgrave Macmillan.
- Gray, Jonathan. 2010. *Show Sold Separately: Promos, Spoilers, and Other Media Paratexts*. New York and London: NYU Press.

- 1
2 Hills, Matt. 2007. "From the Box Set in the Corner to the Box Set on the Shelf". *New Review of Film*
3
4 *and Television Studies* 5 (1): 41-60
5
6
7 Holdsworth, Amy. 2011. *Television, Memory and Nostalgia*. Basingstoke: Palgrave Macmillan.
8
9
10 Johnson, Catherine. 2019. *Online TV*. London, New York: Routledge.
11
12
13 Kelly, JP. 2018. "Algorithmic Advertising and the Perils of Personalisation". *Flow* (online), Jan 29.
14
15 <https://www.flowjournal.org/2018/01/algorithmic-advertising-and-the-perils-of-personalisation/>
16
17
18 Kelly, JP. 2019. "Television by the Numbers: The Challenges of Audience Measurement in the Age
19
20 of Big Data". *Convergence* 25 (1): 113-132.
21
22
23 Keene, Suzanne. 2002. "Preserving Digital Materials: Confronting Tomorrow's Problems
24
25 Today." *The Conservator* 26 (1): 93-99.
26
27
28 Kompare, Derek. 2006. "Publishing Flow: DVD Box Sets and the Reconceptation of Television."
29
30 *Television and New Media* 7 (4): 335-360.
31
32
33 Kumar, Ritwik et. al. 2018. "Data Science and the Art of Producing Entertainment at Netflix." *The*
34
35 *Netflix Tech Blog*. March 27. [https://medium.com/netflix-techblog/studio-production-data-](https://medium.com/netflix-techblog/studio-production-data-science-646ee2cc21a1)
36
37 [science-646ee2cc21a1](https://medium.com/netflix-techblog/studio-production-data-science-646ee2cc21a1)
38
39
40 Kuny, Terry. 1997. "The digital dark ages?: Challenges in the preservation of electronic
41
42 information." *International Preservation News* 17: 8-13.
43
44
45 Lobato, Ramon. 2018. "Rethinking international TV flows research in the Age of Netflix." *Television*
46
47 *and New Media* 19 (3): 241-256.
48
49
50 Lotz, Amanda D. 2017. *Portals: a treatise on internet distributed television*. Michigan: Michigan
51
52 Publishing.
53
54
55 Maffeo, Lauren (2015) "Google's Vint Cerf on how to prevent a digital dark age." *The Guardian*,
56
57 May 29. [https://www.theguardian.com/media-network/2015/may/29/googles-vint-cerf-prevent-](https://www.theguardian.com/media-network/2015/may/29/googles-vint-cerf-prevent-digital-dark-age)
58
59 [digital-dark-age](https://www.theguardian.com/media-network/2015/may/29/googles-vint-cerf-prevent-digital-dark-age)
60

- 1
2 Manovich, Lev. 2009. "Cultural Analytics: Visualizing Cultural Patterns in the Era of "More
3
4 Media"" Milan: Domus. Spring.
5
6
7 Martin, John D., III. 2016. "Piracy, public access, and preservation: An exploration of sustainable
8
9 accessibility in a public torrent index." *Proc. Assoc. Info. Sci. Tech.*, 53: 1-6.
10
11 doi:[10.1002/pra2.2016.14505301123](https://doi.org/10.1002/pra2.2016.14505301123)
12
13
14 Milligan, Ian. 2019. *History in the Age of Abundance: How the Web is Transforming Historical*
15
16 *Research*. Montreal & Kingston; London; Chicago: McGill-Queen's University Press.
17
18
19 Moretti, Franco. 2013. *Distant Reading*. London: Verso.
20
21
22 Morris J.W. 2015. "Curation by code: Infomediaries and the data-mining of taste." *European Journal*
23
24 *of Cultural Studies* 18 (4–5): 446–463.
25
26
27 Napoli, Philip M. 2014. "On automation in media industries: integrating algorithmic media
28
29 production into media industries scholarship." *Media Industries Journal* 1(1)
30
31 <http://www.mediaindustriesjournal.org/index.php/mij/article/view/14/60>
32
33
34 Nelson, Elissa. 2014. "Windows into the Digital World: Distributor Strategies and Consumer Choice
35
36 in an Era of Connected Viewing." In *Connected Viewing: Selling, Streaming and Sharing Media*
37
38 *in the Digital Era*, edited by Jennifer Holt and Kevin Sanson, 62-78. New York, London:
39
40 Routledge.
41
42
43
44 Ofcom. 2018. "The Communications Market Report.", July 18.
45
46 https://www.ofcom.org.uk/_data/assets/pdf_file/0014/116006/media-nations-2018-uk.pdf
47
48
49 Parikka, Jussi. 2012. *What is Media Archaeology?* Cambridge: Polity.
50
51
52 Pesce, Sara and Noto, Paolo, eds. 2016. *The Politics of Ephemeral Digital Media: Permanence and*
53
54 *Obsolescence in Paratexts*. New York, London: Routledge.
55
56
57
58
59
60

- 1
2 Ramsay, Debra. 2018. "Tensions in the Interface: the archive and the digital." In *Digital Memory*
3
4 *Studies: Media Pasts in Transition*, edited by Andrew Hoskins, 280-302. London, New York:
5
6 Routledge.
7
8
9 Silver, James. 2015. "Meet Netflix founder Reed Hastings." *Wired*, February 5.
10
11 <https://www.wired.co.uk/article/do-adjust-your-set>
12
13
14 Stanfill, Mel. 2015. "The interface as discourse: The production of norms through web design." *New*
15
16 *Media & Society* 17(7) 1059-1074.
17
18
19 Statista. 2019. "Number of Netflix paying streaming subscribers worldwide from 3rd quarter 2011 to
20
21 2nd quarter 2019 (in millions)." *Statista*, August 9.
22
23 [https://www.statista.com/statistics/250934/quarterly-number-of-netflix-streaming-subscribers-](https://www.statista.com/statistics/250934/quarterly-number-of-netflix-streaming-subscribers-worldwide/)
24
25 [worldwide/](https://www.statista.com/statistics/250934/quarterly-number-of-netflix-streaming-subscribers-worldwide/)
26
27
28
29 Steirer, Gregory. 2014. "The Personal Media Collection in an Era of Connected Viewing." In
30
31 *Connected Viewing: Selling, Streaming and Sharing Media in the Digital Era*, edited by Jennifer
32
33 Holt and Kevin Sanson, 79-95. New York, London: Routledge.
34
35
36 Strover, Sharon and Moner, William. 2014. "The Contours of On-demand Viewing." In *Connected*
37
38 *Viewing: Selling, Streaming and Sharing Media in the Digital Era*, edited by Jennifer Holt and
39
40 Kevin Sanson, 234-253. New York, London: Routledge.
41
42
43
44 Tanvir, Kuhu. 2013. "Pirate Histories: Rethinking the Indian Film Archive." *BioScope: South Asian*
45
46 *Screen Studies* 4(2): 115–136.
47
48
49 Tryon, Chuck. 2009. *Reinventing Cinema: Movies in the Age of Media Convergence*. New
50
51 Brunswick, N.J.: Rutgers University Press.
52
53
54 Uricchio, William. 2015. "Recommended for you: prediction, creation and the cultural work of
55
56 algorithms." *The Berlin Journal*. 28 (Spring): 6-9.
57
58
59
60

1
2 VanDerWeff, Emily Todd. 2016. "The age of streaming is killing classic film. Can Turner Classic
3
4 Movies be its salvation?" *Vox*, October 19.

5
6 <https://www.vox.com/culture/2016/10/19/13314670/tcm-turner-classic-movies-film>
7

8
9 Wroot, Jonathan. 2019. "Annihilation: A Netflix Original – Now Available Via DVD, Blue-Ray and
10
11 Amazon?" *CST Online*, April 5. [https://cstonline.net/annihilation-a-netflix-original-now-available-](https://cstonline.net/annihilation-a-netflix-original-now-available-via-dvd-blu-ray-and-amazon-by-jonathan-wroot/)
12
13 [via-dvd-blu-ray-and-amazon-by-jonathan-wroot/](https://cstonline.net/annihilation-a-netflix-original-now-available-via-dvd-blu-ray-and-amazon-by-jonathan-wroot/)
14
15

16 17 18 19 Notes

20
21
22
23 _____
24 ¹ Also, see the special issue of *Critical Studies in Television* entirely dedicated to the topic of
25 television ephemera (Vol. 12 (2) 2017).

26
27
28 ² For a more detailed account of this period and the implications of DVDs for the preservation of
29 television, see Kompare (2006).

30
31
32
33 ³ Although there isn't scope for a thorough discussion of it here, it could be argued that television's
34 ephemerality has gone through a number of distinct phases which roughly align with historical
35 accounts of the medium. For example, Ellis' (2000) model of scarcity, availability and plenty speaks
36 to the way that television was initially highly ephemeral (largely because a lot of programming was
37 either live and/or never recorded) before it entered into a period of expansion (availability) that was
38 accompanied by recording technologies such as the VHS player in the late 1970s. As such, it could
39 be argued that this second period, which lasted until the early to mid 2000s, was when television was
40 at its least ephemeral (because VHS, and later DVRs, enabled programmes to be recorded off-air,
41 whilst the arrival of DVD boxsets in the early 2000s offered consumers another option for permanent
42 ownership). However, the era of plenty (particularly from the 2010s onwards) has been characterised
43 by an abundance of content as well as new textual forms, experiences and services. This period has
44 also seen the once common practice of permanent ownership being replaced by temporary forms of
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 access. Overall then, one could argue that television has gone through at least three distinct phases of
4
5 ephemerality, with the present era perhaps the most ephemeral of all.
6

7
8 ⁴ Pirate Bay is a peer-to-peer file-sharing website founded in 2003, which allows users to index and
9
10 share digital content directly between one another. The site has become known as a place for the
11
12 unauthorized sharing of copyrighted materials, including film, television, music, videogames and
13
14 software.
15

16
17 ⁵ According to the Ofcom report, “broadcast” content refers to services such as the BBC iPlayer, ITV
18
19 Hub, or All4. As such, non-broadcast content refers to any of the various subscription video-on-
20
21 demand services [SVoD] such as Netflix or Amazon Prime Video, as well as free to access content
22
23 that originates online, such as YouTube.
24

25
26 ⁶ However, at the time of writing, a number of competitor SVODs are poised to launch, leading to the
27
28 withdrawal of a number of exclusive streaming rights.
29

30
31 ⁷ It is interesting to note that, while a limited number of Netflix original films receive a physical
32
33 release, a growing number of them are now being given a theatrical release. However, this is usually
34
35 a very limited run designed to ensure that a film meets the criteria for inclusion in various festivals
36
37 and awards ceremonies. Therefore, many of these films remain highly ephemeral due to their very
38
39 limited theatrical runs and due to their lack of availability on physical media. Whilst some films have
40
41 been (or will be) made available to purchase via physical media – e.g. *Roma* (dir. Alfonso Cuarón,
42
43 2018) and *Marriage Story* (dir. Noah Baumbach, 2019) – others are unlikely to receive the same
44
45 treatment – e.g. *The Irishman* (dir. Martin Scorsese, 2019). Thus, the limited availability of a number
46
47 of Netflix’s original films (and TV series) creates an artificial scarcity designed to attract more
48
49 subscribers – if it’s not available anywhere else, then you’ll need a Netflix subscription in order to
50
51 watch it. This clearly works in Netflix’s favour commercially, but it also has access implications for
52
53 media historians.
54
55
56
57
58
59
60

1
2
3 ⁸ For example, see Learning on Screen's 'Television and Radio Index for Learning and Teaching' [or
4 TRILT]. However, it is worth noting that this itself is a subscription service that is largely confined to
5
6 academic contexts.
7

8
9
10 ⁹ This is an example of how paratexts are often used to reinforce preferred readings. For more on this
11
12 in relation to DVDs, see Hills (2007).
13

14
15 ¹⁰ It is worth noting that these examples were discovered via a wiki site for the series. This
16
17 demonstrates the importance of "unofficial" resources which can help scholars reconstruct the history
18
19 of a text, including its various paratexts and contexts of production. Indeed, media historians are very
20
21 much indebted to the work of fans who have a track-record of preserving content that would
22
23 otherwise have been lost forever. A key example of this includes the recovery of "lost" episodes of
24
25 the BBC's long-running sci-fi series *Doctor Who*, many of which were located or recorded off-air by
26
27 fans of the show. For more on the important contribution that fans and collectors make to the
28
29 preservation of television, see Kompare (2006). For more on how illegal sharing via peer-to-peer
30
31 networks can help create important "pirate archives" of rare or ephemeral content, see Tanvir (2014).
32
33

34
35 ¹¹ Even basic promotional materials such as posters, a rich source for academic enquiry, are highly
36
37 ephemeral on SVOD services such as Netflix (Kelly 2018). Many titles have a number of different
38
39 thumbnails which are selected and then displayed depending on a range of factors, including viewing
40
41 history.
42
43

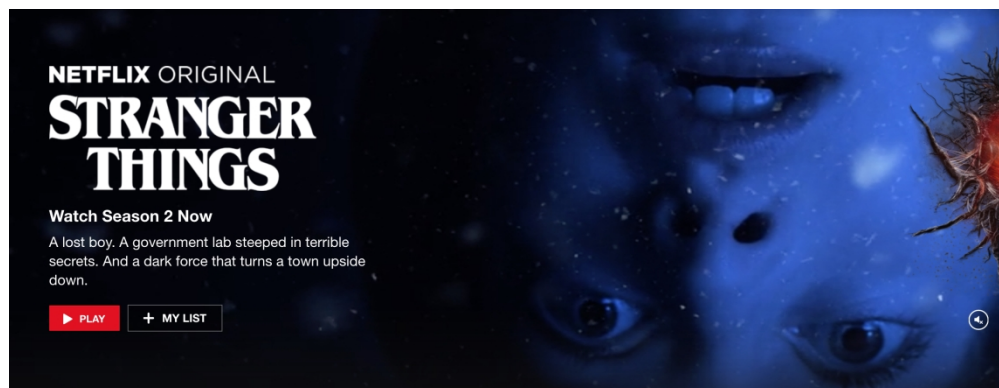
44
45 ¹² Although there isn't time to fully unpack these distinctions between earlier, analogue,
46
47 electronic/digital paratexts and their more contemporary iterations, it is important to stress that the
48
49 latter are more prolific and more diverse in form, and therefore more resistant to preservation. This
50
51 article is also concerned with other ephemera such as data, which is equally prolific and equally
52
53 difficult to preserve and/or access. For further reading on the historical distinctions between earlier
54
55 and more contemporary paratexts, see: Grainge (2011); Gray (2010); Pesce et al. (2016).
56
57
58
59
60

1
2
3 ¹³ For example, see the special themed issue of *VIEW: Journal of European Television History and*
4 *Culture*, ‘Audiovisual Data in Digital Humanities’ (2018 Vol. 7 (14)) edited by Andreas Fickers,
5
6 Pelle Snickars and Mark J. Williams. Also, see Acland and Hoyt (2016)
7
8

9
10 ¹⁴ An API, or Application Programming Interface, is a set of protocols that allows applications (or an
11 application and a user) to interact with one another. For example, the Twitter API allows authorized
12 users to perform searches and queries, few of which are possible via the website interface.
13
14

15
16 ¹⁵ uNoGS [unofficial Netflix online global search] is an online search engine that utilises the Netflix
17 API to offer more granular search options.
18
19

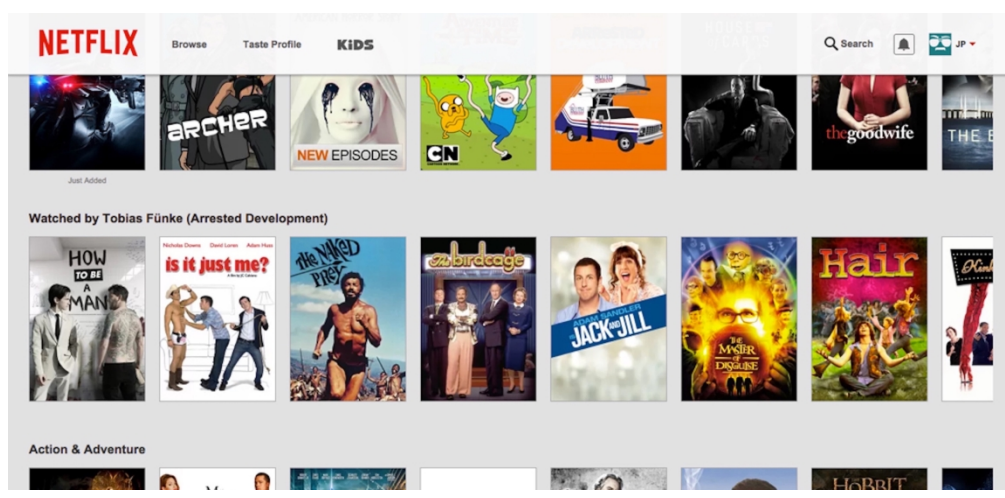
20
21 ¹⁶ GUI stands for Graphical User Interface. Whereas Command Line Interfaces [CLIs] require users
22 to input code in order to execute a command, GUIs enable users to interact with a system or device
23 via graphical elements (windows, pointers, menus, icons, etc.)
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60



A screenshot of the *Stranger Things* promotional banner which appeared on the Netflix interface in late 2017.

892x343mm (72 x 72 DPI)

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60



A screenshot of the Netflix interface featuring a "Watched by Tobias Fünke" recommendation list.
780x372mm (300 x 300 DPI)