Netflix and the Design of the Audience
The Homogeneous Constraints of Data-Driven Personalization

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Abstract

This paper explores how audiences engage with Netflix as an intermediary in their digital lives, and how Netflix, as it is designed, creates a highly constrained system for its users. The paper is based on a study of observed use and discussions with Netflix users. It explores the limitations that are designed into Netflix as a digital media platform, and how Netflix users engage with this system that obscures rather than clarifies the contents of the platform. The paper discusses examples of frustration, confusion, and misdirection that Netflix, as a heavily constrained system, cultivates. It argues that the thoughts, feelings, and desires of audiences are not reflected in the data-driven design of digital media platforms like Netflix. Instead, data are used by Netflix to design a personalized environment that acts as a set of blinders which constrain the agency of the audience through an interface designed to dazzle and disorient Netflix users.

Keywords

Affordances, agency, design, digital media, Netflix, techno-social systems.

Introduction

Netflix has become an important—perhaps the most important—global intermediary for film and televisual content. As a key intermediary, Netflix has the power to shape and alter how video content is mediated to millions of viewers across the globe. The company has long been known for its use of data collection from viewers to create algorithmically processed viewing recommendations on the platform (Hallinan & Striphas, 2016). However, the datafication of the platform, its content, and its viewers is not limited to an algorithmic recommendation feature. The design of the platform—everything from simple buttons and menus through to the colourful promotional graphics displaying the catalogue to viewers—is based on continual tracking of user behaviour and algorithmic data processing of this information. This is typical of digital media platforms in the early 2020s. It suggests the capacity for highly personalized systems that are specifically tailored to match each individual user of the platform—a machine that takes the same finite catalogue and rearranges it in infinite ways to suit each and every individual viewer. But infinite complexity derived from finite resources is illusory. In practice, Netflix is potentially more homogeneous than it may initially appear.

This paper is based on a multi-method study that explored the impact of Netflix shaping audience behaviours from a user-centric perspective. The study involved focus groups and observations of research participants use of the platform. These participants were also regular Netflix users, located in the lower mainland of British Columbia, Canada. It includes observations of viewers' behaviours when using Netflix, and their responses to questions and group discussion of their perceptions of Netflix. The study found that most of these Netflix users considered it their primary source for TV content, with nearly half of the participants not having a traditional television connection hooked up in their homes. This underlines the growing impact of the datafication of media and audiences, where a traditional medium like television has been greatly supplanted by data-hungry platforms such as Netflix.

The outsized role of digital media technologies like Netflix suggests the importance of considering the designed details of the platform, and how designed systems can attempt to shape the viewing habits of the people who use the platform, not just to constrain what is possible, but to reframe the interface, thereby constraining what is considered as possible. This paper seeks to address the questions of how audiences respond to Netflix as an intermediary in their digital lives and the implications of Netflix's designed constraints for these audiences. It focuses on the affordances and constraints in the design of the interactive elements of the platform, the stated desires of users of the platform, and how those desires may have become frustrated, constraining user agency within this techno-social system.

Datafication and the design of constraints

Interactive digital media are usually a highly visual form of communication, especially for a platform like Netflix that focuses on video. The production of digital media interfaces

involves a process of design where techno-social systems are crafted with functionalities built into them that serve a designed purpose as a functional creative work. That purpose with Netflix is ostensibly to play video, but as a private company, Netflix has the additional self-sustaining purpose of profitability. The political-economic forces on Netflix, just as with other large technology companies, suggest why digital media companies create techno-social systems that can serve the company's profitability as the primary focus of platform design, with users arguably seen by the platform-owning companies as resources to be exploited through data collection and behavioural manipulation (Dean, 2012; Jordan, 2013; Lovink, 2011; Zuboff, 2019). Considering these designed elements in terms of the affordances and constraints that they facilitate allows for the systematic interrogation of the design of an interactive interface. This process can uncover what it is that is being communicated to the user of that interface and can suggest why users might be using an interface in the way that they do.

Hutchby (2001, p.445) notes that technological affordances are encountered as a "negotiated process", one where users must interpret functionality and decide how to act based upon that interpretation. Hutchby's choice of words, despite not referring to Hall, suggests considering users engaging with affordances similarly to Stuart Hall's concept of audiences taking differing readings of media texts, particularly in how audiences can negotiate these readings (Hall, 1980; Shaw 2017). Following on from Hall and Shaw, digital media technologies can be seen as complex expressions of power and its contestation. The design of the Netflix platform suggests dominant interpretations of use which are afforded to users more easily, oppositional interpretations of use which may be tightly constrained, and potential sites of negotiation where users may seek to engage with the technological affordances in alternative and potentially more varied and unpredictable ways. Also following from Hall, Lomborg and Kapsch (2019) point to users decoding or taking readings of algorithms as a framework for understanding the use of digital media technologies. Similarly, Nagy and Neff (2015, p. 1) point towards how users of digital media technologies "imagine" the affordances of a technology as a way of attempting to understand the frequently opaque nature of a digital media interface that may have been designed without the user's best interests in mind.

Users who primarily engage with algorithmically generated content as it is presented to them on platforms like Netflix can be seen as exchanging their agency with the designers of the platform through the algorithms for personalized content (Sundar & Marathe, 2010; van Dijck, 2013). What van Dijck refers to as "implicit use" (2013, p.33) is an example of users taking the dominant reading of an interface populated with algorithmically sorted content, reducing the agency afforded to individual users. Siles et al. (2019) see some evidence of this, as users frequently interact with Netflix through a state of distraction, such as when using the platform while distracted as part of a domestic ritual (for example, watching while ironing clothes). Moments like these could be times when users do not desire the agency to engage with a complex platform and instead are happy to just have something, anything, on in the background to make doing the ironing seem less

like drudgery. Throughout day-to-day life, interface design can often be engaged with on a less conscious level as interactive interfaces fade into the background of other experiences. This offers an opportunity for designers at companies like Netflix to take a larger role in shaping the behaviours of users and create systems that can shape the individual agency of users through algorithmic designs that blend in with common usage habits.

Netflix, like most large technology companies, is vague about exactly how it collects and uses data to power its algorithms and make decisions regarding the operations of the platform and its content. Reports from Hollywood trade publications quoting leaks and off-the-record sources within Netflix claim that the company makes production decisions such as ten-episode seasons and cancellation of series after their third season on what is "considered optimal for consumption" according to "decisions based on algorithms" about what will "add value" (Andreeva, 2019, para. 14). Not only is the presentation and promotion of video content to each user dictated by the algorithms, but the video content itself is shaped by the algorithms. Algorithms can act as a source of control over social interactions to shape use in a manner that fits the ideology of the designers of the platform (Cheney-Lippold, 2011; Gillespie, 2014). Markham et al. (2019) also directly identify the content recommendation algorithms on Netflix as the key source of algorithmic control of the users by the platform. It should be noted, as discussed above, that this control is a kind of individual agency that in some cases users may freely give or have no desire to act upon. But what any one person sees through the algorithmic personalization of content on Netflix is not the only element of the platform run by algorithms. The above reports from the Hollywood press suggest that algorithmic control also exists over the designed affordances of the platform, production of the heavily promoted and highly visible Netflix Originals, and the seeking out of optimal licensed content from other film and television producers. This is what everyone on the platform sees: it is not just control over the personalized curation of content by algorithms with potential personal benefit for users—this is algorithmic control over the creation of content in the mass production of cultural works. This is not an act of personalization, but of homogenization.

What is created on Netflix, is perhaps a twenty-first century recreation of televisual flow. The practice of bingeing television series indicates how this concept that Raymond Williams (1990) uses to describe continuous television programming can be applied to Netflix (Matrix, 2014). But there are other elements designed into the platform that could further enforce this sense of flow. The rapidly loading auto-play feature at the end of every episode certainly encourages televisual flow, but so too does the data-tracking of users and the algorithmic presentation and creation of content that results. Not only does content auto-play for hour after hour, but the interface itself is a cascading series of mobius strips without end. The auto-playing trailers when the interface is first loaded (usually featuring the latest Netflix Original), the endless scroll through the home page and various sub-pages, the side-scrolling auto-generated categories filled with various recommendations on the platform, all contribute to the creation of a kind of platform-level flow of

continuous activity. The continual flow of televisual programming is fostered through the design of the platform, its interface and the algorithms recommending content to users. Control comes not just through the algorithm and what it recommends, but from a much more holistic system of interface design building a set of affordances that could encourage users to see the platform as one that creates a sense of semi-structured televisual flow.

Indeed, Byung-Chul Han (2017) claims that techno-social systems foster the creation of a kind of false consciousness. Han argues that data-driven platforms employ participatory elements (such as hitting the thumbs-up button on a Netflix video) to make the audience "collaborate" (p. 8) in the algorithmic surveillance and datafication they are submitted to when using a platform. This collaboration produces a kind of coercive conformity, and users then have an investment in the personalized systems that they are given based on what the algorithms apparently think they want. Netflix users might seldom see it as necessary or desirable to take their own user agency over how they interact with the platform. Users may instead prefer to allow the algorithm to present them with a limited set of choices that encourages a sense of flow. The algorithm could be seen as bringing order to Netflix by presenting the good and shunning the bad. Andrejevic (2013) argues that this problem of too much information in a digital media platform leads to a kind of "post-comprehension" (p. 141), where digital systems dazzle users with so much stuff that the amount itself fosters a sense of feeling informed without being informed—for example, through endlessly scrolling Netflix recommendations.

However, on Netflix there is not a limitless well of user-generated content like on the social media platforms Andrejevic discusses. Other platforms like YouTube host more video content than can be watched in countless human lifetimes. Netflix, in countries like Canada at least, has less than 3,500 titles (Lovely, 2019). If each title could fit on a single DVD in a standard 14mm thick DVD case, they would take about 49 metres of shelf space—enough to fit comfortably in an old video rental store with plenty of room to spare. Netflix does not actually have a problem of too much information, but the platform is designed in a way that can make it appear as if it does—for example, with endlessly scrolling mobius strips below a regularly changing series of seemingly randomly ordered esoteric sub-genre labels. In terms of visual design, this unnecessary creation of too much information functions similarly to Bolter and Grusin's (1999, p. 189) concept of "hypermediacy" on 24-hour cable news, in which more information is packed into a screen than is possible to digest, giving a sense of action and excitement, but not of informed understanding. This visual misdirection is also similar to what Tufekci (2014, para. 61) describes regarding data-driven social media platforms, where information is designed to appear as if users are "pulling" it, when in fact the system is designed to create an expensive over-engineered "push". The interface creates a deception, as its design makes users think they are participating in the creation of a sophisticated system built to navigate an infinite well of content in a deeply personalized way, when instead what is being personalized is the presentation of that same finite selection of video content.

Methods for researching audience perceptions and observations of Netflix use

The following sections of this paper look in more detail at examples of the expressed desires of individual users and observations of their use of Netflix. This study was conducted in-person and participants were based in the lower mainland region of British Columbia, including the metro Vancouver area and other smaller cities and towns in the Fraser Valley. This qualitative study focuses on a sample of 44 participants who participated in focus groups and observation sessions, taken from a total sample of 64 individuals who responded to an initial survey. This initial survey asked participants if they currently had access to Netflix, in addition to general questions about perceptions of time spent using the platform. All participants were college students who were taking first-year media and communications courses from mid-2019 through to late-February 2020, prior to the COVID-19 crisis reaching the region in March of 2020. Participants were asked by their teacher during class time if they wished to participate, and it was made clear that participation was strictly voluntary. No course credit or any other incentive was given. The focus groups and observation sessions took place in the same building as their classroom. The participants were mostly young but ranged in age from recent high school graduates through to middle age (approximately 19–49). The sample of participants in this study was entirely composed of people from a variety of minority communities, particularly east and south Asian communities. This was to be expected, as the ethnic makeup of several regions in the lower mainland of British Columbia is 'majority-minority'. As a result, a commonly expressed dissatisfaction with Netflix during the focus groups was regarding the availability of multilingual content and the perceived lack of films and television programming from countries like India and China. Specific data on the age and ethnicity of participants have not been included in this article as this could potentially compromise participant anonymity.

The focus group and observation sessions were separated into discussion and observation components of approximately 15–25 minutes each. During the observation component, participants were asked to open Netflix on their own personal device that they brought to the session (in the form of a smartphone, laptop or tablet) and behave as they normally would when browsing Netflix. Participants were split into nine separate focus group and observation sessions, each focus group containing between four and seven participants. Many of the participants were classmates and potentially friends with one another, although exactly who was friends with whom was not asked as part of this study. The existing relationships between participants may have helped to create a noticeable group-think dynamic in all of the focus groups in this study. Participants in this study regularly nodded along and agreed with whoever spoke first on a given topic, with only three cases of open disagreement between participants across all groups. This occurred once in group 3 when discussing the inability to leave comments on the platform, once

in group 5 when discussing the platform's recommendations, and once in group 9 when discussing the amount of content available in Hindi on the platform. This is not to say that participants gave uniform responses, but in this study the participants tended to give a "yes, and" style of response following points from other participants in their group who had just expressed slightly different views. Contradiction and open disagreement among participants in all groups in this study was notably rare. As a result of the notable group-think dynamic, the following sections will sometimes refer to the opinions expressed by groups rather than concentrating on the responses of individual participants.

The data collection methods were selected to explore the how and the why of the research topics: audience responses to Netflix as an intermediary, and the implications of the platform's constrained design for the audience. The aim was to observe how participants engaged with Netflix as a platform and to uncover why they used the platform in the way they did through discussing their own perceptions of use in detail during the focus groups in response to broad semi-structured questions and group discussion. It was also necessary to combine this with analysis of the key elements of the Netflix interface on various devices to better understand what the participants were observed interacting with, the meanings and implications of how participants behaved, and why they may have expressed their views in the matter they did during the focus groups. Screenshots and video recordings of the interface on different devices were taken at multiple points, as there were various changes in the interface during the data collection period (discussed further below).

Data were analyzed first individually and then by combining the different collection methods. Observations were analyzed with an emphasis on key moments during the period of interactivity, such as when users showed delight, frustration, noticeable confusion, and so on. This follows a microethnographic approach to analysing the use of interactive digital media (Giddings, 2009). Analysis of the Netflix interface began after several observation sessions had run to help identify the key parts to focus on. For example, the main page of the Netflix interface was where many participants spent the largest portion of their time, and a wireframe analysis of the main page on different devices alongside other key elements of the interface is discussed in the next section. Wireframes are used to deconstruct the key elements that users can interact with; in practice, though, interactive elements can vary in visibility to users depending on design elements like colour, fonts, buttons, and other details. This method of analysis is particularly appropriate as it has been used by both academic researchers for analysis and in the private sector by UX (user experience) designers when creating these interfaces (Allen & Chudley, 2012; Eyal & Hoover, 2014), and likely resembles approaches taken by UX designers at Netflix. This method also helps to analyze observation data by identifying interactive elements in conjunction with mapping user journeys or walkthroughs and decision trees as they interact with the system (Light et al., 2018; Polson et al., 1992). Analysis of the focus groups involved theme-based coding of responses, categorized to help understand how

users interpreted the communication of affordances and may have had their expectations shaped through their experiences with the platform (Hartmann et al., 2008). Following these analysis processes, observations and content analysis were also coded and combined with coded focus group data to identify overlapping (or contrasting) themes across strands of data and analysis. The results are discussed together in broader thematic groupings in the sections below.

Designed misdirection

The Netflix platform is a moving target that is constantly tweaked and redesigned. During the data collection period of this study, buttons and menus did indeed move around, or disappeared and reappeared on different devices and app versions. Broadly, the overall design of the platform remained consistent aside from minor changes. The platform had three basic appearances with a largely similar design for most of the data collection period: the small-screen smartphone app, the medium-screen laptop/desktop/tablet app or website version, and the large-screen smart TV app. There were minor variations between, for example, how Netflix appears in the Windows 10 Netflix app versus in a web browser run on Windows 10, or between a 13-inch Apple tablet and a 13-inch Apple laptop, but overall these three general types of platform interface design appeared according to the following simplified illustrations.
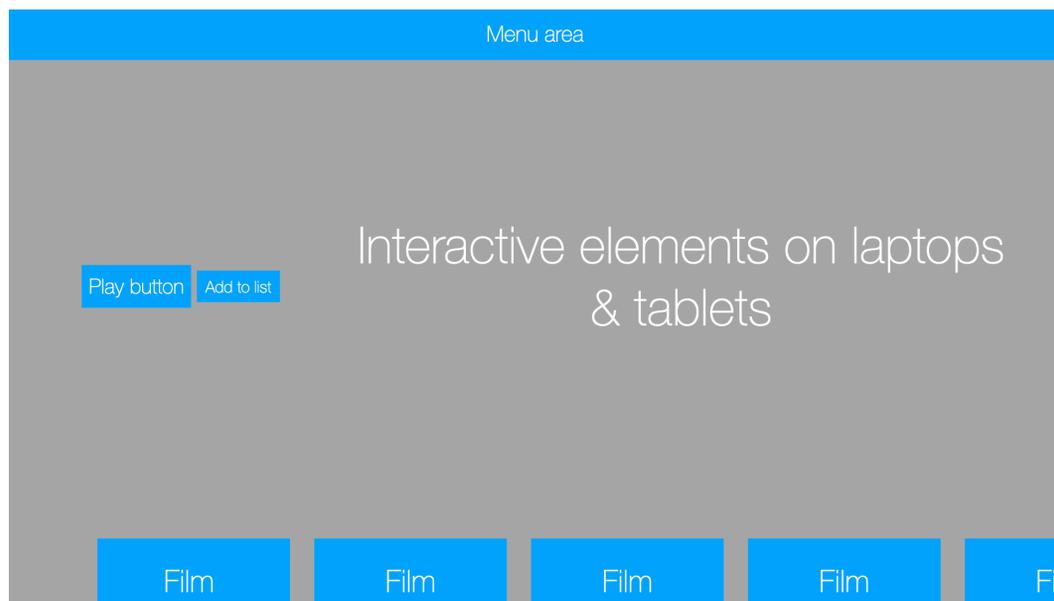

Figure 1. A simplified representation of how the interactive elements of the Netflix main page interface generally appear on most laptop and tablet computers. Exact proportions differ across devices.
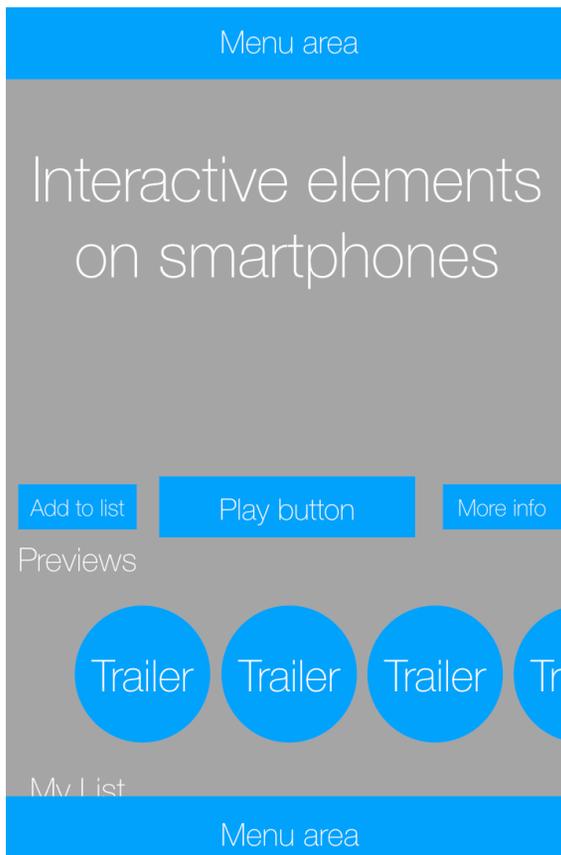
Figure 2. The Netflix main page on smartphones. Exact proportions differ across devices.
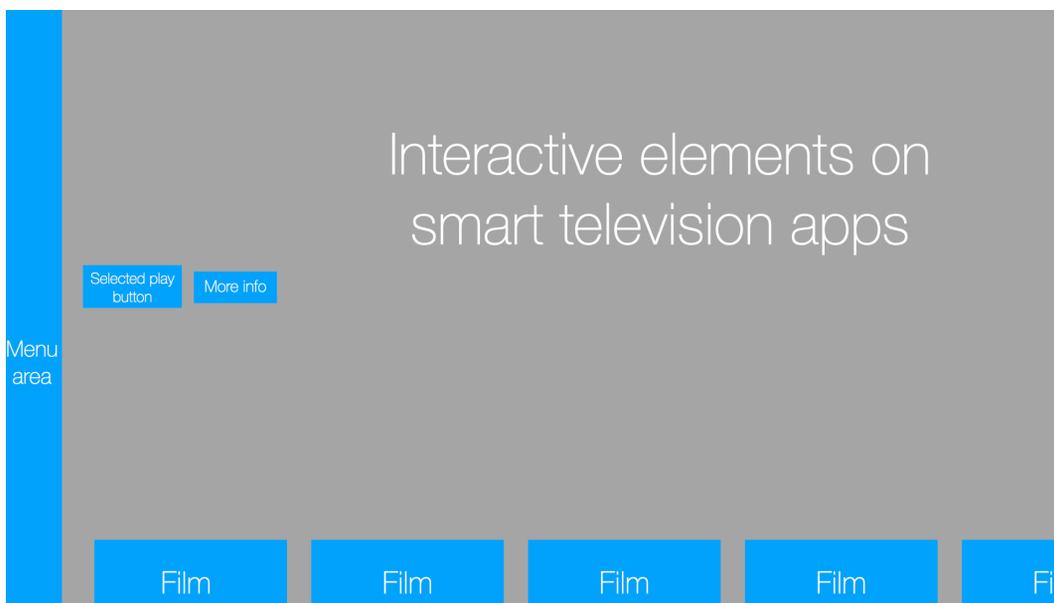

Figure 3. The Netflix main page on smart televisions (e.g. the Apple TV Netflix app).

These illustrations show an overall design consistency. The grey backgrounds would usually feature an auto-playing trailer on the two larger versions, whereas the smaller smartphone version would include in its place a static image promoting a video. Instead of auto-playing trailers, the smartphone app features circular buttons indicating short form videos, sharing a visual language with platforms like Instagram and Snapchat. The menu bar is on the left on the largest screen and at the top on the other two, with broadly similar functionality hidden within (aside from some notable exceptions, discussed below).

The main page layout on Netflix communicates several affordances that participants in this study had no difficulty engaging with. The functionalities most easily afforded are indicated by size and prominence, but also by occlusion: boxes partially covered up indicate that the rest of the box can be revealed through swiping in the appropriate direction, for example. The "my list" section is partially occluded on the smartphone app, indicating that users can swipe down, just as the images representing various films on the larger two interfaces are. All three also display partially occluded videos (on the larger displays) and trailers (on smartphones) on the right side of the screen, indicating that more can be revealed by moving right. If moved right far enough this interface element can also wraps around like a mobius strip, eventually bringing users back to the beginning of the list. Large brightly coloured "play" buttons encourage users to play the suggested titles, whereas the relatively small and more dimly coloured "add to list" and "more info" buttons are presented as relatively less noticeable alternatives to the large "play" buttons. Prominent play buttons appear when other titles in the mobius strips below are selected, also with smaller and less prominent buttons for further information, rating, and adding to a list. This interface is highly optimized to indicate to users the preferred directions of movement: down and to the right. During the observations, every single participant swiped past or through these occluded boxes, and 19 of the 44 did not move outside of the clearly presented options available on the main page. The prominence of the play buttons suggest a preferred action: to play the recommended videos. But, as discussed further below, most users in this study instead found themselves trapped by indecision. The most clearly communicated affordances of scrolling through lists and playing the recommended videos suggest an interface that seeks to aid users in their desire to find something to watch; but what is hidden and what is missing begins to reveal how the agency of Netflix users is more constrained than it needs to be to satisfy the desires of users.

Most striking of the poorly communicated affordances is the category section on smart TV versions of Netflix. The interface in Figure 3, as with Figures 1 and 2, suggests movement down and to the right. Nothing indicates that movement upwards is possible, and nor would this be assumed, given user expectations or how users may imagine affordances based on the use of other apps and websites. Most apps and websites begin at the top with no ability to scroll upwards to access more information. This is true on the smaller Netflix screens shown in Figures 1 and 2, but smart TV apps shown in Figure 3 do indeed scroll upwards—revealing an entirely new mobius strip, not of films, but of

a series of grey boxes labelled with common genre categories. These categories (action, romance, sci-fi, etc.) are not the esoteric genre names shown throughout the rest of the Netflix interface. The genre categories are also ordered differently depending on the user profile or account, indicating algorithmic sorting. However, when interacted with, a lengthy downward-scrolling list based on the selected genre appears. The interface reveals a simple list of Netflix's entire catalogue for commonly understood genre categories without algorithmic constraints over what is shown or not shown, only some algorithmic sorting of what is shown higher up on the list or lower down. Even more strikingly, the mobius strips are gone in this view, and this list features the entire catalogue for the selected genre with a clear beginning and a clear end. Hidden away within the depths of Netflix, almost all of the design features that privilege the algorithm, such as the obscure esoteric categories and the endlessly scrolling mobius strips, are melted away to reveal the list of everything in the action section, or the romance section, or sci-fi, or whatever has been selected. This view affords a kind of user agency that could be easily acted upon with few constraints on users' ability to peruse content in a finite and digestible list. The problem of too much information vanishes and all is revealed in its original simplicity.

But on smartphones and tablets this level of simplicity does not exist, only the algorithmically sorted mobius strips. During the data collection period and at the time of writing, no non-algorithmic view exists within any menu on these devices. There are genre categories on these devices (sometimes), found within the upper menu bar (shown at the top of Figure 2). However, once selected, these genre sections only offer another version of the home page with a new series of esoterically named and algorithmically sorted mobius strips, only now the esoteric labels are all related to the same commonly understood genre heading that the user selected. On the web interface accessed through desktop and laptop computers, similar genre menus are visible through the upper menu bar (shown at the top of Figure 1). This initially delivers similar results to smartphones and tablets. However, a different small button appears in the top right of the interface once a genre category is selected through this version of Netflix. The button that appears does not have any writing and is labelled only with a cryptic hieroglyph showing an arrangement of lines and boxes. When clicked, the button removes the algorithmically sorted mobius strips labelled with esoteric categories and displays a complete scrollable list that has a beginning and end, just like the smart TV app. Additionally, a further button now appears in the top right that drops down a menu to sort the list in a variety of ways (including alphabetically), removing the influence of the algorithm completely. Finally, buried within a series of cryptic menus and buttons is a complete list of easily browsable content sorted by commonly understood genre categories without any algorithmic influence at all.

That the completely algorithm-free view of a simple list with a beginning and end sorted alphabetically is available on only one version of Netflix (the web interface) and is either only partially available (as an algorithmically sorted list) on smart TVs or not available at all on smartphones and tablets suggests that Netflix users are unlikely to have reli-

able access to this view. Of the 64 survey participants, 19 said the last video they watched on Netflix was on their phone, 18 on a television, 13 on a laptop, five on a tablet, and the remaining nine did not know or did not answer. For most users in this study the ability to completely bypass the algorithmic arrangement of content on Netflix was likely impossible, and for the small fraction for whom it was possible, this possibility may never have been recognized, let alone regularly used. This was borne out in the observation sessions: only a single participant out of 44 in the observation sessions ever accessed the non-algorithmic view of the platform described above. The other 43 participants only engaged with what an algorithm arranged for them, whether it was the suggested categories, promoted trailers, or the search results. It is the inadequate communication of affordances on Netflix that constrains the agency of users and obfuscates what is or is not possible.

This design hides and removes visible end points. If a clear beginning and end exists, then users can more easily foresee and potentially arrive at a day when they can recognize that Netflix has nothing left to offer them. This suggests that there is indeed a kind of dazzling effect to the Netflix interface, and perhaps deliberately so. It is not as simple as the problem of too much information, as this dazzling effect obscures the reality of the platform from its users. The Netflix content catalogue is presented as if simplicity is impossible, or is at least very cumbersome to access, even if users have stumbled upon the correct path on the devices that are able to reach it. What results instead is users potentially experiencing information overload without an understanding of how to seize their own agency and properly solve it. Towards the end of each focus group, participants were asked "How often do you find yourself spending a lot of time scrolling through titles on Netflix before you settle on watching anything?". This was met with universal recognition across all groups, with groups 1, 3, 4, 5, and 9 including open laughter in their response. A participant in group 4 added "You're trapped by it"; another in group 9 added that this was a source of "disagreements between friends" when watching together. The laugher is especially telling, indicating a recognition of the shared absurdity of the habit of endlessly scrolling back and forth. These Netflix users understood that the platform was baffling and often left them befuddled. In earlier sections of the focus groups prior to more direct questions like the above being asked, the only complaints offered were regarding account restrictions on simultaneous logins (group 3), difficult to understand parental guidance warnings (group 3), and the amount of content in various languages or originating from non-English-speaking countries (group 4, although this was also mentioned by other groups in response to later questions). When asked directly, the users in this study recognized the absurdity of Netflix's confusing presentation of content, yet in response to broader questions they largely praised its recommendation algorithms and the platform in general.

The confusing design of the platform and some level of recognition of that confusion would suggest that Netflix users would find the platform unsatisfying. After all, what good is a video platform that is built in a way that makes it harder to watch videos? But the participants in this study were overall very positive in their discussion of the

platform. This does suggest some kind of false consciousness, perhaps like the coercive conformity in the self-surveillance of datafied platforms as suggested by Han (2017). But this is arguably more passive in practice than Han suggests. It is the confused stumbles of users negotiating the messy interface that are being turned into data, not their active participation of liking and commenting, as may be the case on YouTube or Instagram. The psycho-political coercion on Netflix is less participatory and is instead done through acts of disorientation. A selection of content that would otherwise be easy to understand is being presented as non-understandable, with the ability to fully bypass these architectures of confusion only existing as a carefully hidden possibility on desktops and laptops—legacy hardware preferred by a minority of the users in this study.

The obfuscation of key desires

Evidence of constrained agency becomes even more striking when considering the expressed desires of the audience. One of several commonalities across the focus groups and observation sessions was how the participants discussed the content they preferred watching on Netflix. The groups all began with the same open-ended question: "What do you watch on Netflix?" Responses to this question were remarkable in their thematic consistency: "comedy", "action", "horror", "romance", "drama", "thrillers"—all words relating to commonly understood concepts of genre. Only two participants (one in group 8 and one in group 9) gave an alternative style of answer: referring to "shows" (in group 8) or "TV episodes" (in group 9) instead of listing genres. All other participants who spoke in response to this open-ended question expressed themselves in terms of the genre examples quoted above. Their responses to other questions about navigating the catalogue were also often framed through genre categories. When asked "What is the first thing you do when opening up Netflix?", six of the nine groups (1, 3, 4, 5, 6, and 9) discussed their preferred actions by describing browsing through or looking for their favourite genre categories. For example, a participant in group 6 explained: "Usually we don't pick up a random movie which appears there [in the trending section at the top], we see, browse around, see what's in the lists below", that list being the often esoteric genre categories. However, exactly how participants were observed accessing genre categories and how they discussed engaging with genre categories during the focus groups yielded some notable differences.

Participants in the focus groups generally discussed their use of genre categories in Netflix in very non-specific terms, using phrases like "I scroll down to horror movies" (group 4) and "It's simple, the categories it has, I can find whatever I want to see" (group 9). These participants, as in the example above from group 6, were referring to the esoteric genre categories labelling most of the mobius strips on the main page. Some participants also referred to using the search tool to find a specific genre (groups 2, 3, 7 and 9), and in two groups (1 and 4) participants mentioned using the "genre menu" on their phones, like the menus discussed in the previous section. The menu's presence or absence was seem-

ingly random during the length of this study, and also seemingly random for both iOS and Android devices (it was always present for the minority of participants who used laptops). This could be evidence of whether participants did or did not regularly update their devices, or perhaps even whether some of the participants may have unknowingly been part of an AB test (a common form of testing potential changes in platform UX design by releasing changes to a small sample of the userbase) conducted by Netflix itself. During the data collection period, I noticed that the genre category dropdown menu remained visible on my laptop throughout 2019, was visible on the movies section but disappeared on the TV section on my tablet, and completely disappeared on my smartphone during the middle of 2019, only to mysteriously return on both devices later that year.

The fluctuating presence or absence of the ability to browse by genre is not the only way that the feature has been obscured, as discussed above regarding the variety of hidden menus and lists constraining the potential for user agency in this area. Participants discussed content according to these genre categories and laughed with recognition at their common practice of endlessly scrolling up and down the method of sorting that Netflix most readily affords. Yet Netflix constrains users' ability to engage with the platform in a way that most closely represents how users discuss their desires. Instead, the design of the platform directs them towards esoteric categories above a mobius strip populated with an algorithmically generated sub-sample of any given genre. Only one single participant out of 44 was observed browsing Netflix in the form of simple non-algorithmic genre sections. A total of 23 of the 44 participants were observed engaging with genre in some fashion when navigating the Netflix interface. Of these 23 participants, 17 did so by scrolling up and down the main page as they described in the focus groups, looking through the mobius strips labelled with esoteric genre categories. The remaining five participants from this sub-group of 23 used the search feature in the menu bar to search using genre names: for example, one participant from group 9 searched for "crime" and another from group 8 searched for "romance". Of the 44 participants in the observation sessions, ten used the search function, while the other five that did not search for genre names instead searched for specific video titles, such as "Twilight" or "Anabella".

Despite participants claiming that they looked for genre and cared about genre, their actions were shaped by the interface. Their agency has been constrained, and some 'control' has been awarded to the algorithms that recommend content within each esoterically labelled mobius strip. But it is the design of the platform that wrests this control away, not the algorithms in and of themselves. The recommendations are placed prominently, and a more common understanding of genre is buried several clicks away deep within a series of unclear menus and buttons, if it is available at all. As a result, observations of users show that the same participants who identified their own viewing habits as being about genre do not browse Netflix through a catalogue organized by genre. Instead, a variety of strategies were seen to be employed to reach something vaguely resembling that goal. These users attempted to negotiate the constraints of a platform designed to

emphasize the algorithm. The system withholds information from the users, and users are left to conclude (wrongly) that they have reached the limits of their agency and achieved all that they can in terms of engaging with the platform according to their expressed wishes. In a sense, Netflix users are made to think that they have done something when they have in fact not. Genre as it is commonly understood is what the users want but Netflix will not give. The design of the platform obscures the possible and channels the users towards the same algorithmically sorted patterns.

Indecision

What participants end up spending most of their time doing on Netflix could suggest why the design avoids clearly affording straightforward engagement with genre. All 44 participants in the observation component of this study engaged with the recommendations that were shown on the main page of the Netflix interface. This is not surprising, given that the platform is designed to feature this information so prominently: it would take determination to avoid even a momentary glance at the main screen before opening a more obscure part of the interface. But the manner in which the participants engaged with this information was seldom efficient. If the algorithmic recommendations were indeed so good, then surely Netflix users would be effortlessly channelled towards video content that they did not even know they wanted. Instead, interaction with the algorithmic view was often a long and time-consuming process. Most observation sessions were largely spent by participants scrolling back and forth through algorithmically generated lists with no beginning or end to the lists, and no end to their indecision as they browsed.

   Of the 44 participants in the observation sessions, 16 selected a video to watch, and two of these 16 participants then abandoned the video they had selected after several minutes, returning to the main page. An additional 28 participants did not select anything at all and instead spent their entire observation session moving around the interface—for example, watching trailers, saving episodes to watch later, checking their downloads, and overall being extremely busy navigating through various features of the platform without engaging with the supposed primary purpose of the platform: watching videos. It is possible that all 30 of these participants (the two that abandoned their choice plus the 28 that never picked anything in the first place) were all engaged in busywork because they knew that they were being observed or may have felt uncomfortable selecting something to watch in a research setting. But the fact that these participants could fill up so much time doing so many activities with the platform that did not involve watching a video does show that the majority of participants in this study were easily afforded the ability to engage in this kind of busywork on Netflix. The design of the platform actively promotes a sense of too much information, but instead of passive choice paralysis, the observable effect appears to be a more active kind of busywork.

Abandoning one action and attempting another only to return to a previous approach to browsing the platform was a typical behaviour as part of this long process of indecision. Four of the ten participants who used the search function then changed their mind about searching for videos. These participants then exited their search to return to the main home page, where they resumed their browsing of the algorithmically generated mobius strips. Three of these four participants who gave up had searched specifically for common genre names (action, horror, sci-fi, etc.), further suggesting their attempted negotiations of a constrained interface. These users appeared to want to act on their stated preferences, to fufil their own agency, but were thwarted by the system. Two additional participants searched for genre and used it to select a video that they spent the rest of the observation session watching, suggesting that at least for some users such negotiations can lead to an apparently satisfactory result. But for the rest of the participants who used the search function, searching appeared to be an act of giving up after spending time scrolling up and down the main page. Shortly after looking at the search results, these users went right back to scrolling up and down the main page again.

Netflix as a techno-social system encourages poor understanding of what information is contained within, and it keeps users looking but never satisfied. The design of Netflix does create a kind of flow to increase engagement because users feel that there is always more for them to engage with on the platform. But users are trapped in a flow of endlessly scrolling up and down, back and forth, not of endlessly streaming televisual content. As argued by Cheney-Lippold (2011), Gillespie (2014), and Markham et al. (2019), power and control are given to an algorithm when it selects the information that is presented to users, resulting in the creation of an algorithmic identity that constrains user agency or users' ability to exercise direct control over their own relationship with video media on the platform. But Netflix is more complex than just its algorithm—the design of the platform fosters and promotes indecision without any time spent watching the videos that the algorithm suggests. For users in this study, whatever the algorithms suggested was arguably incidental, as the platform itself got in the way. Control is shaped by the design, and the algorithm is just a method for populating that design, a personalized *lorem ipsum.*

Conclusion:
Homogeneity and algorithmic mass production of the audience

This study is focused on qualitative observations and professed experiences of individual participants and does not include a large enough sample size to control for demographic groupings or to make broad statistical claims about the general population. This is particularly true due to the participants in this study all being first-year media and communications students who volunteered their participation. Many of the issues discussed in this study could be particular to the communities that were most represented in this

study, largely of south and east Asian origin. It is quite possible that most of these issues are common to broader populations both in Canada and internationally, or they may only be applicable to certain communities or other groups in society. Broader research in this area would be required to substantiate such claims about Netflix's wider userbase. More particular to this study, following up on participants over longer timeframes could further illuminate the decisions participants made. Did the participants continue to watch what they started watching during the observation sessions when they returned home? Did the participants who spent so much time bookmarking and downloading episodes to watch later eventually watch what they selected or were these decisions later abandoned? How often those choices were maintained over time could further establish how the platform shapes behaviour, particularly regarding how the recommendation algorithms may have a relationship with what users watch and what affective relationships are built over time.

What could be understood as implicit use, of users taking the dominant reading of an algorithmic platform designed to constrain user agency, featured extremely heavily throughout the observation sessions. Attempts to negotiate the affordances of Netflix largely resulted in indecision and confusion. When discussing the platform, users were positive towards it, but this does not necessarily mean that users are persuaded into a sense of false consciousness. They recognize the flaws in the system, but they are unaware of possible alternatives that could exist (and, beneath a series of poorly communicated affordances, do exist on a minority of devices). When asked what they desire and about their frustrations, users in this study gave responses suggesting they desire something that the platform does not give and are frustrated by what it offers instead. This is not persuasion—it is obfuscation and disorientation resulting from the constraints placed on user agency. The design of Netflix creates a labyrinth that does not need to exist, as there is no problem of too much information on the platform apart from that which has been unnecessarily created. This does mean that the design of alternative platforms which respect their users is hypothetically possible. However, expertly decoding and negotiating the affordances and constraints of platforms like Netflix through enhanced digital literacy does not appear to be an appropriate solution. If too many people successfully negotiated the constraints of Netflix to bypass the confusing interface and the algorithmic recommendations, it would be simple for the platform designers to redesign and reset the process. A decoding of any specific maze can be easily met by the construction of a new and different one. This is a problem that can indeed be understood and recognized through digital literacy to overcome implicit use on a small scale, but the real answers for the public at large ultimately rest in the designer's hands.

The promise of data-driven personalization by the major digital media platform owners is that media within these platforms are presented to the users in a way that will better meet each user's own individual interests and desires. However, this system creates a series of constraints on user agency, stymieing the realization of those desires. The affordances of Netflix's data-derived recommendation system do not necessarily match

the stated preferences of users, and observations of use suggest that the agency of users is under considerable constraint, with users often confounded at how to reassert their own agency. Data-derived personalization systems like those constructed by Netflix appear to be creating a system of parallel construction, where the personalization systems are made not to make users find what they want, but to make them less aware of what they cannot have. Netflix hoovers up incredible amounts of data on its audience, but that audience is given very little information about the possibilities that are afforded to it. On Netflix, data-derived personalization is not simply the personalization of what content is or is not shown to the audience: it is the personalization of the framing of that content, a mask over homogeneity. As a data-driven algorithmic system with the supposed potential for diverse micro-targeted special interests, Netflix pushes viewers into the habit of scrolling back and forth through mobius strips. The promise of easy access to a limitless library of content is arguably misdirection and deception, taking the potential for greater agency among the public in their relationship with televisual media and instead designing a system to confuse and constrain. The algorithm alone does not manipulate user behaviour through seductive personalization on Netflix: the design of the platform itself can be seen as playing the larger role. Netflix users are funnelled through a common set of experiences, through a process that is homogenized more than it is personalized.

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