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Shifting Power: How Google TV entered the living room

On the historic development of Internet television,
and the technological and cultural effects on the television medium.

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Preface and acknowledgements

With this thesis I will finish my Bachelor in Media & Culture studies at the University of Amsterdam after two years of lectures, exams and papers. During these years I have been educated in the critical analysis of media in all its forms and gained a professional perspective for analyzing the cultural, social, and political aspects of media and its effects on society. I would like to thank Michael Dieter for his understanding during this project, and his advice and directions on my research proposal and first draft versions of this paper. I hope my efforts in analyzing the first developments of internet or smart television provides an early insight in a dynamic and changing field of media and provides an early understanding of the convergence of new media and television studies.

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Summary

In the recent years we have seen the development of several new television initiatives such as Apple TV, the Roku Player, Boxee box and Google TV, that connect the television to an internet enabled interface providing access to online content platforms such as Netflix and YouTube. Moreover, these devices allow developers to create their own applications giving access to new forms of television which disrupts and alters the classic understanding of the medium. This research is an early attempt to understand the convergence of television and the web, and how this will affect the medium

By looking at the development of the television as an domestic mass medium, and the development of interactive television after the Second World War with the rise of portable televisions, the remote control, and the VCR, DVD, and DVR, this research describes how television has always been a medium in transition. This historical analysis provides a first insight in how the traditional understanding of television consumption becomes problematic when applied to the contemporary uses of the medium (time shift, playlists, recommendations, and metadata). Furthermore, the shift in media power by the convergence of internet and television is analyzed.

The insights gained from this analysis are then applied to Google TV as object of research to describe how web enabled television will affect and reshape the traditional domestic television medium, and some early predictions on the future of television are provided.

Keywords:

Internet, Television, Flow, Convergence, Google TV, Media Power, Interface, Database.

1. Introduction

'The question is whether—and in what form—the long-term conceptual concerns that have bound definitions of television together will rebound as the stability of the medium, imposed since the 1950s by governments and the electronics industry, gives way to new articulations of the televisual'

(Uricchio, 2008; p. 302).

In an interview with FOX news, Time Warner's CEO Jeffrey Bewkes noted that 'we are at dawn of big change when all TV programming goes on the Internet'¹. Television as a medium has been changing ever since its commercial and domestic acceptance in the UK and the US after the Second World War. Not only the technical developments, but also the cultural and social acceptance have changed with the development of the medium. The introduction of commercial broadcasters, color television, increased screen sizes, cable boxes, satellite transmission, portable TV, the growth of the VCR, DVD, and DVR, and more recently the connectivity with the web, have shaped and influenced the way television is perceived and utilized. From its start, television has been a transient and unstable medium for the technological change, its cultural transformation, being ephemeral present, and its seeming everydayness (Uricchio, 2004; p. 165).

An important aspect of this transformation is the convergence of two-way web based initiatives such as user generated content on YouTube and social media tools such as Facebook and Twitter, and the traditional one-way television as a sequenced, passive, and controlled mass medium. Within these new platforms the traditional distinction between user and producer and broadcaster and viewer is blurred, and the media power of traditional institutions is dissipating. Scholars have written about powerful censorship that denies open access to television, and the capabilities of the (mass) media to construct reality (cf. Couldry 2000; Bourdieu, 2001), while the web and new media technologies are considered to consist of a free and open culture and empowered audiences, providing the opportunity to engage in corrective communication with power holders, and to facilitate participation (cf. Van Dijck, 2009; Jenkins, 2006; Bucy & Gregson, 2001).

Additionally, the declining interest of a young audience in the traditional form of television and the move toward more interactive and participatory channels, forces the industry to react (Jenkins, 2006). YouTube can be considered mainstream media but instead of being controlled by content providers and distribution networks 'the aesthetic values, cultural forms, and creative techniques are

¹ FOX News (October 6, 2010) <http://video.foxnews.com/v/4360455/exclusive-time-warner-ceo-on-tvs-future-in-digital-age/> (Visited: March, 2011)

normalized via the collective activities and judgments of the social network' (Burgess & Green, 2009; p. 61). This is a notable shift in media power and control over the medium and its content, and the way this content is consumed. '[T]he biggest change may be the shift from individualized and personalized media consumption toward consumption as a networked practice' (Jenkins, 2006; p. 255). The technological allowance and cultural adoption of these new media forms are changing the traditional media landscape. This relationship between technology and the cultural form was first described in 1974 by Raymond Williams in his influential book *Television: Technology and Cultural Form*; '[h]ow the technology develops from now on is then [after rejecting technological determinism] not only a matter of some autonomous process [...] [i]t is a matter of social and cultural definition, according to the ends sought' (p. 137).

Although viewers are still watching traditional television content on domestic television screens in the living room, this is changing rapidly, especially in the 12- to 17-year old market. An important reason for this is the heterotopic nature of YouTube in comparison to the heterochronic, or flow based, nature of television. By providing the ability to respond, comment, and exchange videos, and by facilitating a social and networked experience, these web initiatives making use of network affordance (Uricchio, 2009). The passive couch potato has become an active participant in digital cultures (Van Dijck, 2009). The question arises what is next for the television medium when it's connected to these new technologies? Can we still talk about television or are we 'in an era in which there are multiple coexisting paradigms for what television is and how it is used?' (Mittel, 2011; p. 53).

Vicki Mayer (2011) describes television to be synonymous with the term 'media power', arguing that 'television continues to evoke as a symbol of modernity as well as the way its symbolic capital circulates through societies and culture in terms of production, content and representation, reception and users' (p. 96). This research builds on this perspective by looking at both the technical developments and changes, and the effects on the practice and acceptance of the television medium. Internet television allows for new ways of creating, consuming and distributing television images, resulting in a shift of media power and changing its cultural dominance in contemporary societies. Traditional means of mass communications become more customized and accessible to the public with the rise of networked platforms focused on user generated content such as YouTube and Facebook.

Returning to the statement of Jeffrey Bewkes, we can argue if internet enabled television is a fundamental change and a radical transition from the historical development and struggle of the medium as a reaction to a networked and connected society, or whether television is a generation

medium, changing through the years to fit the current demands of the audience and viewers. As Raymond Williams notes about the new generation that finds novel uses beyond 'orthodox television': '[i]t is from this generation, raised on television, that we are continually getting examples and proposals of electronic creation and communication which are so different from orthodox television as to seem a quite new technology and cultural form' (Williams, 1974; p. 137).

Over recent years internet based companies such as Google and Apple haven entered the television market, offering set-top boxes which are connected via the internet. The boxes not only allow television content to be displayed on television systems, but provide the user with a wide array of applications bringing internet functionalities to the television screen. Internet television in this research includes seamlessly integrated access to television content, on-demand databases, internet applications, and web content.

The objective of this research is to examine new forms of internet enabled television in an era of 'postbroadcasting' or 'flexible microcasting', and the technological, cultural, political and economic effects on the television medium. The cultural form of television has not only shaped its technological definition, but also the political and economic powers involved. Postbroadcasting 'refers to television's current transformations as part of an ongoing set of historical struggles played out over and around the medium rather than as a byproduct of the "digital revolution"' (Parks, 2004; p. 134). Together with the rise of a 'network society' and changing cultural demands on how content is made available, television is being reshaped as a domestic and widely accepted medium. However, are these changes in widely accepted technologies such as television a result from historical struggles around the medium or a result from the affordances of the technology?

This research finds its relevance in the changing nature of television with the introduction of the internet and its convergence with new media, and the limited knowledge about the effects when traditional closed media collides with more open and networked media. We no longer can make a distinction between pure television and new media, 'the only things that died in the past decade were the industrial myths that television and new media were totally separate entities' (Mayer, 2011; p. 97).

In order to analyze the effects of new media on television, this research distances from traditional new media binaries such as passive and active, interactive and static, offline and online, mass and individual, etc., but instead looks at the historic genealogy of the conceptualization of television as a base for the analysis of contemporary shifts and convergence of television and new media.

Internet television such as Google TV is a form of configurable media that allows for mass customization which exist alongside more traditional methods of production (Chamberlain, 2011). It converges traditional television technologies and practices with the emerging network affordances of the internet. The threat from streaming platforms on the internet (e.g. YouTube, Hulu, Netflix), piracy and downloading, and the availability of video-on-demand (VoD), has forced traditional television companies to reshape their business model. Furthermore, traditional powerhouses such as NBC, ABC, and CBS, and distribution partners such as Comcast and Time Warner Cable in the United States, see a need to change their business model as consumers are gaining more control over the medium. Therefore, 'our conceptions of television as a cultural force and form must similarly be rethought' (Mittel, 2011; p. 53).

As the object of research in this study, YouTube is viewed as a new production and distribution platform, and Google TV as an early form of internet television. By looking at the historic development of television, the changes in the field of broadcasting by digitalization, the convergence of television and the internet, and the shifting power structures involved, this research is aimed at describing the historic development of web enabled television and how this affected and reshaped the traditional domestic television medium. Building on theories from media studies, and social and cultural research, this study provides an early perspective on the post Marxist organization of the television medium in which the masses get access to some of the means of television and are introduced to (mass) customization and social interaction, by which it redefines broadcasting.

This paper is structured as follows. In the first chapter the historical development of television and the broadcasting industry is described. This is relevant to create a conceptual framework and provide the basis for the further analysis of the changes in the cultural and technological acceptance of television and the political and economic structure surrounding it. After this, in chapter 3, the rise of niche channels and digitalization of television is analyzed to provide insight into the early changes of the medium leading to the convergence of internet and television. Chapter 4 looks at the shifting power structures within television and how internet television redefines the medium. In chapter 5, Google TV is used to describe these changes in the interface and content of television and how new control mechanism are in place. This is followed, in chapter 6, with the conclusion which provides an early attempt to answer the research question on the effects of media convergence within internet television and how it redefines the medium.

2. From McLuhan to Williams: the cultural and technological formation of television

'If we look back to television's first decades, before it achieved its conceptual and institutional stability and its culturally dominant definitions, we might better assess the medium's potentials...'

(Uricchio, 2008; p. 287).

This chapter describes the historic perspective on television as a technological, social cultural, political, and economic medium by drawing on work of Uricchio (2009), Williams (1974), Lotz (2007) and McCarthy (2001). First, the early days of television studies are analyzed to understand the way the medium was interpreted by scholars and to provide a conceptual framework which serves as a base for the further analyses. Secondly, the domestication of television is discussed to describe its social acceptance and its position within the cultural discourse after the development of commercial and national broadcast efforts in the years following the Second World War (Uricchio, 2008). Lastly, the economic and political context and the influence of ratings is analyzed on how television became a domestic household appliance, dominated by commercial broadcasters and major brands.

2.1. Studying television: culture, technology, and economy

Before becoming a medium of its own, television was considered to be a visual broadcasting technology as a fusion of film and radio (Uricchio, 2008). Early inventions leading to the development of the television system, which found commercial and cultural ground in the '1950, were often a combination of other proven technologies. In 1885 Paul Nipkow patented the 'elektrisches Teleskop', a technology that would be the heart of mechanical-optical television systems in the late 1930s. He envisioned a medium that would be capable of live extension, interaction, virtual presence, and communication referring to the telephone and gramophone (Uricchio, 2008; p. 291). Many early communication technologies have been attributed to innovation within military technology to improve operational communication between individuals over long distances (Williams, 1974). War and the fear of war have always been considered the primary incentives for the development of technological extension of our bodies (McLuhan, 1964; p. 47). However, especially for the development of broadcasting and television, the construction of national identity and the modern state played an important role (Uricchio, 2008; p. 292). As with radio, television provided a communication system for governments to reach the masses, which obscured the fact that the

means chosen was the offer of individual sets, a method better described by the word ‘broadcasting’ (Williams, 1974).

When analyzing television you have to look beyond the invention of the technology and place television as a concept among related media forms, conceptual frames, and national developments. By doing so the establishment of television as a domestic medium is placed within a discourse of the convergence of technological development (e.g. radio, film, and the telephone), the consolidation of communication technology in national corporations (the RCA in the United States, EMI in Britain, and Telefunken in Germany), and making television a household appliance (Uricchio, 2008). Television was thus more than just a technological invention, it provided a transmission and reception facilities that preceded the demand and definition of content (Williams, 1974). Therefore, the ‘invention’ of television should be analyzed in a ‘social constructivist’ approach in which industries, regulatory frameworks, governmental authorities, and public interaction form to a culturally specific constellation of technology and its application’ (Uricchio, 2008; p. 293).

Although early uses of television technology were used by governments to construct the nation , for example in the 1930s and 1940s in Nazi Germany by the Propaganda Minister to connect ‘Greater Germany’, the postwar era of television was dominated by the commercial exploitation of this domesticated technology (Uricchio, 2008). Inspired and based on the broadcasting structure of radio in the United States which developed from the 1920s, television became a medium on its own after World War Two. From the beginning the industry was dominated by big forces controlling radio networks and was funded by advertising. The corporate liberalism and the close relation between government and industry because of Cold War tensions, provided a stable base for a classic network system with tight and centralized control by the ‘big three’ (NBC, CBS, and ABC) (Hilmes, 2008). The content was dominated by sitcoms, variety shows, and the news, supported by advertisement showcasing the power of manufactures and their networks to control the medium. By 1955 television was installed in nearly two-thirds of US homes, and the basic mechanism of the network oligopoly were set in motion. By 1960 almost 90 percent of US households had at least one receiver, with the average person watching about 5 hours of television a day (Spigel, 1992). Although the development in other countries such as the UK and Germany know a different history, the results tend to be of a similar structure in which the broadcasting system is owned by a few public and commercial networks.

This new medium attracted the interest of scholars in different disciplines in which two broad perspectives can be identified. First of all, there is a technological focused perspective on the medium most clearly articulated by Marshall McLuhan and popularized by his book *Understanding*

Media: The Extensions of Man (1964), and a later established cultural perspective formulated and popularized by Raymond Williams in his book *Television: Technology and Cultural Form* (1974). According to McLuhan technology is a defining actor which shapes cultural acceptance and practice. 'This power of technology to create its own world of demand is not independent of technology being first an extension of our own bodies and senses' (McLuhan, 1964; p. 68). It is the medium that defines, shapes, and controls the effect on society and therefore as he famously wrote; 'the medium is the message'. The personal and social consequences of any medium as any extension of ourselves result from the new scale that is introduced into our affairs by any new technology. Our own first TV generation is rapidly losing this habit of visual perspective as a sensory modality, and along with this change comes an interest in words, not as visually uniform and continuous, but as unique worlds in depth (McLuhan, 1964; p. 228). This technological deterministic perspective on media was challenged and attacked by Raymond Williams (1974) almost 10 years later. He defined the technological deterministic perspective as the discovery of technologies 'by an essentially internal process of research and development, which then sets the conditions for social change and progress' (p. 5). Williams argued that in order to understand television and to study the medium it was needed to look at what audience did with the medium and how media formed the means through which people expressed their culture (Williams, 1974; Spigel, 2004)². This discussion shows the complex relation between technology and society when analyzing television. Technology can be interpreted as a transformative agent in which the meaning and use is embedded in the technology itself, or as an effect from cultural and social definition, in which its use is a mode of expression in the relations between ourselves. The rapid adoption of television after the Second World War has changed societies and the way media is consumed by individuals, families and communities.

A distinctive characteristic aspect of television described by Williams (1974) is 'the replacement of a programme series of timed sequential units by a flow series of differently related units in which the timing, though real, is undeclared, and in which the real internal organization is something other than the declared organization' (p. 93) which he conceptualized as flow. Flow is closely related to the television experience itself and a defining characteristic of traditional broadcasting as a strategy to retain audiences (Williams, 1974). Another defining aspect of broadcast television is the live experience of the image, which is transmitted and received the same moment it is produced, this concept of 'liveness' creates a feeling of immediacy and viewers are held in a relationship of co-

² Another influential cultural studies scholar, Stuart Hall, added a closer examination of the reciprocal relationship between media and their audiences. By encoding and decoding audiences respond in different ways to media text depending on their social background and identities. This effect is not directly related to the medium but focuses on the reception and response by the audience. This research, however, will focus on the effects on the medium by the introduction of internet television because of this relative new and unexplored object of study and the unclear definition of its audience.

presence intimacy (Ellis, 1982; Williams, 1974). As a result of this immersive effect, the TV became domesticated and proved to be an incubator for an expanding media industry and new business models in which advertisement and commerce played an vital role.

Lotz (2000) defines three general era's in television; the 'network era' lasting until the mid-1980s proved to be the characterizing era of most of televisions history. After this, between the mid1980s and mid-2000s there is a period of the 'multi-channel transition' which is characterized by gradual development of the industry by technological and regulatory changes. Starting from the mid-2000s is the 'post-network era' which shows a renewed practice within the industry replacing those of the network era.

This study applies a holistic approach by studying the cultural and technical practices of television, the conceptualization of television and its function within society is the result of human choice, cultural decisions, and social pressure (Fiske & Hartley, 2003). However, the technological affordances and potential have affected the way the medium developed. By drawing on the writing of Williams (1974), this research pursues a 'dialectic view of the relationship between social structures and processes on the one hand, and technical and scientific developments on the other, 'against both technological determinism and a view of technology as a pure "effect" of social circumstances' (Gripsrud, 2004; p. 211). In the following paragraphs the cultural and technical aspects of the development of the television medium is analyzed.

2.2. Culture: television as a bi-local domestic medium

As described earlier, television was a medium without a predefined definition of content. Television found its place within society as a commercial mass-medium dominated by a network system controlled by broadcast corporations and advertisers. Tthese institutions focused in the early days of television on the family, and approached television as a domestic technology which had to be brought into the house. The home and the family are 'both point to a powerful cultural construct, a set of deeply held assumptions about the nature of 'normal' human existence' (Ellis, 1982; p. 113). This sets TV apart from cinema by being intimate and close ranged, it is part of the furniture and stays on as background activity. 'But even when we pay it close attention, it does not stupefy us and make us passive. To the contrary, it invites our participation. We channel surf, we make snide remarks, we yell back at the set' (Shaviro, 2003; p. 6). This participation makes television a 'cool' medium; when really used it demands involvement in the completion by the audience (McLuhan, 1964).

As noted, television broadcasting followed the successful strategy started by radio broadcasting, and thus allows people to 'go out and see new places' without moving physically from their homes' (Buonanno, 2008; Williams, 1974; p. 20). This discussion about participation and intimacy, and the mobility of the viewer without physically moving, brings us to the contradicting definition of television and especially broadcasting. Broadcasting is characterized by a centralized transmission of images and a privatized reception in a private setting (Williams, 1972). However, television provides a shared experience that people can talk about with interest and sometimes with great feeling. It connects people through local sport events or national tragedies (cf. Spigel, 2004³) and can strengthen the sense of community. This can be considered a result of mass media since it could not take place if viewers were watching their own individualized programming (Lee & Lee, 1995).

Besides the private and domestic medium, television culture has spread into public spaces. McCarthy (2001) discusses how television is a both a domestic and ambient medium, in which 'public spaces are not purely and self-evidently public; they are, like every other cultural space, characterized by particular configurations of public and private' (p. 121). However, these screens in public areas were used to fill up waiting time by 'waiting room television', and as she argues, 'waiting is in some ways central to the everyday experiential structure of TV's flow' (McCarthy, 2004; p. 201). This study will focus on the domestic and private use of television and won't elaborate on the changes with ambient television. 'Just as the television set is a domestic object, broadcast TV is a profoundly domestic phenomenon (Ellis, 1982). In the next paragraph the technological aspects that have defined television through the years are discussed.

2.3. Technology: cable and niche channels

After its installment in a domestic setting the television and broadcasting industry knew a fairly stable development and growth. However, from the 1980s the television industry experienced gradual change. The development of the remote control device (RCD), the video-cassette recorder (VCR), and the analog cable system, had an impact on viewer's choice and control (Lotz, 2007). The introduction of the VCR and RCD threatened advertisement and the program-based flow, by providing viewers the control to switch a channel with a touch of a button, affecting advertisers and evaluation systems. The cable system, and to some extent satellite transmission, opened up new possibilities for the television industry. These new delivery systems created a mixed and branched

³ In her research 'Entertainment wars: television culture after 9/11' about the aftermath of 9/11 on American television' (2004), Lynn Spigel notes a strong focus on pride, patriotism, and history channeling the nation back to normal flows of television and consumer culture. There was a form of performative nationalism by broadcasting nationalizing event supported by celebrities to overcome the national tragedy and bringing the nation back to 'normal'.

structured multi-channel environment, where the small number of dominant broadcasting networks are joined by hundreds of narrowcasting channels (Buonanno, 2008). This 'narrowcasting' is heavily touted by cable and internet executives as a democratic part of the technological future. Beyond profitability, it creates a space for specified (targeted) groups' interests (Smith-Shomade, 2004; p. 73). It is the re-distribution of mass television audiences into a range of segments down to the smallest niches, to which viewers assign and profile themselves when presented with the supply of many channels (Buonanno, 2008).

The technological development in the distribution and control of the television medium affected the international and cross border TV networks. In the 1990s the legal, political, commercial and technological context considerably improved for cross-border TV networks, allowing international broadcasters to create transnational TV networks 10 years later (Chalaby, 2009; p. 153). These new practices allowed for a larger audiences and increased sales of syndication rights. However, multichannel competition and digital technologies continue to threaten the value of these syndication rights when viewers are becoming more profiled and in control over the content they want to watch (Caldwell, 2004). The diversification of products, in terms of cultural form and content, is favored by subscription based narrowcasting to capture a more demanding public that is willing to pay to have something that's not available for free on the free mainstream networks (Buonanno, 2008). New cable networks create viewer loyalty by associating themselves with particular genre types and by recombining older broadcast genres for the niche demographics of contemporary TV (Spigel, 2004).

Technological development in the distribution of content and the control over the TV device changed the television business by creating niche channels, subscription based television, and a more dispersed audience. Television with and without subscription co-exist within the same systems, and viewers will continue to enjoy free television for economic and cultural reasons, whether from preference or necessity. However, access by subscription has brought a significant change in the history and collective perception of television (Buonanno, 2008). A perception that will affect the later adoption of on-demand services and network technology in the television industry.

To conclude, as Lynn Spigel (2004) summarizes, 'the demise of the three-network system in the United States, the increasing commercialization of public service/state-run systems, the rise of multichannel cable and global satellite delivery, multinational conglomerates, internet convergence, changes in regulation policies and ownership rules, the advent of HDTV, technological changes in screen design, the innovation of digital television systems like TiVo, and new forms of media competition all contribute to transformations in the practice we call watching TV' (p. 2). Before

discussing the change brought by interactive television and the rise of video on-demand databases, the next paragraph discusses the importance of ratings in the 'traditional television economy'.

2.4. Popularity, ratings, and the data economy

As discussed earlier, the network era starting in the 1950s was dominated by three large networks, NBC, CBS, and ABC, which gathered a mass audience through a system of national networks affiliates (Lotz, 2007). Part of this dominance was the reach these networks achieved which attracted advertisers and capital. The liveness of television proved to be important for ratings since it told advertisers when and at what timeframe the ratings were high. From the 1950s Nielsen Company dominated the viewing rating market. By collecting data in a sample of American households via diaries and special connected TV sets, it predicted TV ratings for the whole country. However, these samples have many limitations when it comes to detailed information about the hour or day and the audience that is watching. Manovich (2011) compares these early TV ratings with a low-res image, if you make it many times bigger it doesn't get any new details, only larger pixels. Ratings have become a strategic manipulation of the popularity numbers with broad consequences for current, new, and future programming. The implications of this incestuous relationship between cable, the networks, advertising, and the ratings companies could cause concern about the dominance of the data collecting agencies and the power of the networks (Smith-Shomade, 2004). It creates a data economy in which the political and economic structures are based on the knowledge from data gathering and analysis, generally owned and controlled by big corporations. This power structure creates a dominant position for the big networks, rating agencies, and distribution networks, which can be seen as a form of media power, by controlling the content and access to the medium. As we can see in chapter 4, this changed by the convergence of television and the internet; 'if TV refers to the technologies, industrial formations, government policies, and practices of looking that were associated with the medium in its classical public service and three-network age, it appears that we are now entering a new phase of television—the phase that comes after "TV"' (Spigell, 2004; p. 2).

3. Post-broadcasting: user interaction, customization, and convergence

'Just as cable had radically expanded the array of content that could be found on television, the new distribution windows promise to again rewrite the possibilities for what can be found on television'

(Lotz, 2007; p. 124).

This chapter describes the changes in content production and delivery after the introduction of interactive devices such as TiVo, IPTV (Internet Protocol Television) technology, and DVR set-top boxes. These developments allowed viewers a form of control that was radically different from the early days of the network era in which the flow and control of content was dominated by the networks. As described in the previous chapter, the introduction of the remote control, cable television, and niche channels changed the television industry. These developments were followed by changes to the distribution and interface of the television, and the individualized use of the medium. In 1995 the presumption of interactive television was that the exchange will be highly individualized, a one-on-one experience tailored to the individual's needs and interests (Lee & Lee, 1995). The simultaneity of viewing has contributed to the social integration and community maintenance performed by broadcast television, and this will be diminished by the individualized forms of asynchronous consumption (Buonanno, 2008). Moreover, 'we have seen a shift in the televisual environment from broadcasting as an activity associated with the public sphere to narrowcasting via metadata and adaptive agent mediations of individual tastes' (Uricchio, 2004; p. 180). More often television is delivered digital by set-top boxes which provide interactive services and the time-shifting or recording of content next to the traditional flow of programs, which has affected traditional approaches in understanding television. 'To 'despatialized simultaneity' we can now add 'despatialized asynchrony', without substituting the one for the other' (Buonanno, 2008; p. 70). Below the development and effects of interactive television and the convergence of television with the internet are discussed.

3.1. Interactive television and customization

In a traditional sense, television can be seen as an ubiquitous medium on which content is accessed for 'free' (after paying your subscription to the cable company), since there is no limit to the amount of television you watch, in contrast to the newspaper or movie which is generally based on a pay per use basis (Lotz. 2007). However, with the endless flow of content came a liveness that demanded

viewers to watch at certain time slot. New technology such as the VCR, digital broadcast satellites (DBS), and pay-per-view, allowed new players to enter the television market and creating niche channels. This diversification of content and networks created new challenges for television to stay relevant and to (re)connect with its viewers (Caldwell, 2004). Television shifted from broadcasting to narrowcasting via a variety of alternate carriers such as cable, satellite, but also the internet, and resulted in a substantial alteration of interfaces between viewers and programs (Van Dijck, 2007). The concept of watching television shifted from a generalist definition of broadcasting to a more specialized and personal experience as narrowcasting (Buonanno, 2008). The recording capabilities of the DVR was a threat to the conventional practices of the television industry because owners watched less 'live' television. The DVR in combination with (subscription) video-on-demand (VOD) technologies provided an easy to access personal television experience and has changed the viewing behavior of many (Lotz, 2007).

Personal television can be described as a set of industrial and technological practices that work to isolate the individual cultural tastes of the viewer to refine direct marketing by the ability to group consumers in specific types of audiences for advertisers (Parks, 2004). This personalized experience affects the television's capacity to construct a sense of community, belonging, or 'sharedness', which provided a sense of the co-presence of an imagined community of the nation — hence the shared nature of television's consumption (Turner, 2011). 'In a sense, personal television makes every PC a Nielsen household, assuming the responsibility of "self-packaging" or "self-programming" while being continually scrutinized by marketing systems' (Parks, 2004; p. 136). Thus the customized experience offered by new technologies results in an individualized experience which is no longer connected to time or even place. Television becomes a configurable experience in which the interfaces and medium become flexible and are separated from the content. Our television viewing devices become complex, digital, and networked, and promise enhanced customization, personalization, and control, 'displacing liveness and flow as the primary ontologies and ideologies of contemporary entertainment' (Chamberlain, 2011; p. 20). The linear structured and simultaneous experience of broadcast television becomes an heterochronic spectatorship of screens, interfaces, and networks. New emerging modes of television viewing are predicated on asynchronous viewer choices of what, when, and, increasingly, where to watch (Lotz, 2007; Chamberlain, 2011). The answer to these choices can in many ways be found on the internet, which allows, to some extent, what, when and where to watch. Video-sharing websites such as YouTube allow viewers to create a personalized program and even adds another dimension, by allowing users to produce their own audiovisual content and distribute this to a potential worldwide audience (Van Dijck, 2007).

We can conclude that the developments in the interface, distribution, and use of television has shifted. As Uricchio (2004) argues; 'the agency of the television programmer has been displaced by that of the [remote]-equipped viewer, which in turn has been displaced by metadata programmers and adaptive agent designers' (p. 178). An important element in this shift is the convergence of television and the internet which is discussed in the next paragraph.

3.2. Converging technology: television and the internet

Nowadays, more and more television sets are in some way connected to the internet. Game consoles, set-top boxes, built in software, and connected laptops allow users to 'watch' the net on their television. However, before this direct convergence of technologies, the internet played an important role for creating a next-generation television audience. Over the last couple of years there has been an, what Buonanno (2008) calls, 'inter-media-cooperation' between the internet and television content with the proliferation of official and non-official websites, chat rooms, newsgroups, forums, games, and on-line shopping that are dedicated to a huge number of television programmes (p. 62-63). Henry Jenkins in his acclaimed and critiqued book *Convergence culture* (2006) describes how convergence represents 'a paradigm shift- a move from medium-specific content toward content that flows across multiple media channels, [...] and toward ever more complex relations between top-down corporate media and bottom-up participatory culture' (p. 254). Convergence goes beyond the combination of technical systems and involves the shifting meaning of converging technologies as well (Parks, 2004; p. 134).

This research focuses on the convergence of television and internet in a sense that television viewers have access to online platforms that have affected the traditional television such as video platforms (e.g. VOD and user-generated content), social networks (e.g. creating a shared experience), personal platforms (e.g. image sharing and music streaming), and specialized content creators (e.g. webTV such as the NextNewNetwork on YouTube⁴). 'Digital media not only have restructured media industries, distribution platforms, and textual practices, but have altered our relationships with technologies, the built environment, and one another' (Kackman et al., 2011; p. 11). Convergence in this sense, analyses the changes and development to the technology and platform, but also the altered relationship of viewers and users of this new device we call internet television.

⁴ The Next New Network was initiated in March 2007 as an independent producer of online video by creating a network of producers and was bought by YouTube (owned by Google) in 2010. The network syndicates popular programming such as 'Barely Political' (<http://youtube.com/barelypolitical>) and 'IndyMogul' (<http://youtube.com/indymogul>). As they state on their YouTube channel 'We bring together the best elements of TV programming and Internet philosophy to allow viewers to contribute, share and distribute content'. Available at: <<http://www.youtube.com/NextNewNetworks>> 2011

As discussed earlier, the VCR and DVR have affected the way viewers experience and use television and introduced an early form of video-on-demand (VOD). These VOD platforms offered the possibility to show content outside the 'broadcast discourse' that was often controlled by networks and cable companies. They allowed micro-casting of non-broadcast material or subscription based access to premium content such as TV-series and movies. Together with narrowcasting, which is the proliferating system of minority channels and subscription based cable and satellite networks, this development reflects the distributive abundance brought about by the technical evolution of the network (Buonanno, 2008; p. 25). This abundance of content creates more demanding audiences expecting a more customized television experience by having control over the television and its content, a shift already present on the internet and online platforms such as YouTube on which users have individualized experiences. YouTube's algorithm is a curatorial act correlated to the user's interest and the community recommendation, creating a 'taste formation' that goes beyond the traditional capabilities of televisions' narrowcasting (Uricchio, 2009). YouTube not only provides personalized channels supported by complex algorithms and community functions (e.g. commenting, sharing, and saving videos), but also offers users to create and distribute their own content. These more accessible media technologies and platforms open possibilities for the commercialization of amateur (or user) generated content (UGC). Media participation is an important characteristic of the internet in terms of its hyperlinked, interactive and networked infrastructure and digital culture (Deuze, 2007; p. 224). However, in order to become famous online and reach a celebrity status (such as Ryan Higa and his Nigahiga channel⁵) it seems you still have to pass through the old media gate-keeping mechanisms including advertisement deals, film festivals, and recording contracts (Burgess & Green, 2009).

Broadcast TV has developed a distinctive aesthetic form with discrete segments of short sequential unities of images and sounds (in contrast to e.g. cinema) (Ellis, 1982). This is comparable to the database of images and videos on YouTube out of which user generally watch multiple videos creating a sequential context. However, 'there is a significant shift in agency (producer-controlled flow as distinct from user-generated flow), and a shift from flow as default to flow as a condition that requires active selection' (Uricchio, 2009; p. 33). The traditional concept of flow is replaced by 'user-generated' flow. The participatory nature that seems to be an exclusive and characteristic trait of new media isn't as self-evident as sometimes described. José van Dijck (2009) notes three points of participatory culture critique. First, the opposition between the passive couch-potato of 'old' media

⁵ Ryan Higa started the Nigahiga channel with friends in 2006 uploading sketches, songs, and lip sync videos. His channel now has over 800 million views. It is said that Ryan Higa is one of the few amateur channel owners making more than 100.000 dollar.
Channel available at: <<http://www.youtube.com/nigahiga>> 2011

versus the skilled and active participant of 'new' media is deceptive. The majority of YouTube viewers are leechers and do not directly contribute to the community. Second, participation refers to both activist and people who employ their skills. Yet the use of terms like 'communities' and 'cultural citizenship' should be used with caution when transferred to internet communities as they have different forms, social rules and anonymous relations. And third, 'now that citizens have become creators and arbiters of media content, the question should be asked what role do platform providers play in steering the agency of users and communities?' (p. 43).

To sum up, the internet and digitalization had three major consequences on the TV industry, the convergence of the TV medium with the computer and the internet, a radically increased capacity of transmission allowing for more specialized channel and on demand content, and interactivity between user, viewers, prosumers, and the medium (Gripsrud, 2004). Furthermore, the networked environment that the television medium is drawn into creates a more 'fundamental shift in which the intersections of media interfaces and pervasive communications networks are reconfiguring the private/public dialectic in favor of a new paradigm of spatiality for the network society – the networked media space' (Chamberlain, 2011; p. 15). These networked media are destabilizing the long monopoly of traditional media industries and exclusive producers of text. YouTube for example has already taken on a broader space in which social meaning and cultural value are agent by the users (Uricchio, 2009; p. 35). In this new networked era of television, users are effectively engaging with information networks, media interfaces, and the programming and protocological code that describes both networks and interfaces (Chamberlain, 2011; p. 16). This shift of agency towards users and the network protocol has threatened the traditional media power enjoyed by broadcaster, content networks, cable companies, rating companies and advertiser which is discussed in the next chapter.

4. Shifting media power: empowering technology and being in control

'It's silly to think that anyone is brainwashed by TV. It doesn't constrain us, or perpetrate violence upon us. Much more subtly and insidiously, TV draws us into discourse, absorbs us into the network. It colonizes us obliquely, by distraction. It allures us, willy-nilly, into getting connected'

(Shaviro, 2003; p. 6).

This chapter deals with the changing power structures which dominate the current media landscape and especially the television medium. Traditional political economy or sociology analysis of media production tend to produce results in which people's social identities are either producers or consumers of media content, 'and frame their responses either as acts of resisting or enforcing power relationships' (Deuze, 2007; p. 224). As discussed, in contemporary (new) media research attention is focused on the changing role of consumers or viewers when they get involved with the production or distribution of content. Concept such as prosumers, producers, co-creators, and semi-professionals have been introduced to describe this changing role and changing agency in the production, distribution, and consumption of content, as well as binary terms as an active and passive audience, and interactive and static systems. The term prosumer denotes 'how users' agency hovers between the bipolar categories of producer versus consumer, and of professional versus consumer' (Van Dijck, 2009; p. 42). With the rise of global video platforms and the illegal distribution by piracy, the spatial distribution strategy (creating territorial scarcity) of content is under pressure.

These developments are threatening traditional media powers in the form of network conglomerates, cable companies, and content providers. Media power is the concentration in media institutions of the symbolic power of 'constructing reality' (both factual representations and credible fictions) and is a social process between the media and its users (Couldry, 2000; p. 4). The conglomeration of the industry was a reaction to the need for scale to arise above the commercial environment of the advertising and marketing industry which, through a period of mergers and acquisitions, is dominated by four networked holding companies: Omnicom, WPP, Interpublic and Publicis (Chalaby, 2009; p. 161). This shows the paradoxical aspect of the internet as it provides means for the formation of conglomeration and transnational television and advertising networks, and at the same time empowers consumers in their media and television consumption. This paragraph first analyses the power structure within television and how conglomerations are threatening pluralism in culture, news, and reporting, focusing on the effects for viewers. The

following paragraph discusses the effects of internet television on television audiences by introducing the concept of 'post-viewership'. And how these changes demand a new process of rating and evaluating success.

4.1. Media Power in television

Media power suggests that television continues to evoke as a symbol of modernity as well as the ways its symbolic capital circulates through societies and culture in terms of production and labor markets, contents and representations, reception, and users (Mayer, 2011; p. 96) During the multi-channel transition the television industry experienced a deregulatory trend in policies and regulations (Lotz, 2007). After the repeal of the syndication (Fin-syn regulations) rules, which prevented the major over-the-air broadcast networks (ABC, NBC, and CBS) from owning program production activities, there has been a major shift towards vertical integration of production and distribution (Lotz, 2007; Christopher, 2009). The profit of television is based on an artificial scarcity of content protected by copyright (the exclusive right to license, make copies of, and otherwise commercially exploit a creative work), since the initial production cost are high but the marginal cost of distribution are relatively low. To have a positive return on their investment media companies form worldwide conglomerations to achieve economies of scale and to distribute their content to as many markets as possible, resulting in oligopolistic control by a few network and advertising corporations (Christophers, 2009).

The 'Big Three' television networks in the US have created a form of convergent media that tend to reinforce 'dominant ideologies as part of an effort to maintain hegemony in multimedia environments' (Parks, 2004; p. 134). This dominant ideology is then spread across other societies within the powerful networks of these international corporations. This spread is often referred to as cultural imperialism which implies that the control of this global cultural empire has shifted from a government-military complex to transnational US-centered media corporations. The patterns of media consumption follow the same pattern as economic inequality which results that richer nations disproportionately own, produce, and consume mass media. 'The egalitarian image of a "global village" once again obscures reality' (Croteau & Hoynes, 2003;p. 36). This is showcased in the United States' dominance of media export and the organizational forms and production practices that are used. All this influences the cultural consumption around the world but also transmits American cultural and economic values (Christophers, 2009; p. 206). As a result of this 'electronic invasion' local traditions tend to be destroyed and the cultural heritage is submerged beneath a flood of TV programmes and other media products from western conglomerates (Thompson, 1995).

Media critics like Pierre Bourdieu (2001) have argued and discussed how commercial television is paid for by advertising and subscriptions or by subsidies of governments, who as a result decide what gets on the screen. 'They are invisible mechanisms through which the many kinds of censorship operate to make television such a formidable instrument for maintaining the symbolic order' (p. 246). The oligopoly present in the American broadcasting industry creates a homogenization of standards by mirroring content and concepts, and reports and perspectives are reflecting each other. 'Television offers cultural 'fast-food' predigested and prethought culture' (p. 252). As result, television operates as a 'cultural institution' that participates in communicating values and ideas within a culture and by telling stories and conveying information that reflects, challenges, and responds to shared debates and concerns (Lotz, 2007; p. 32). For example, in politics the campaign journalist has become increasingly evaluative and elitist, while the political actor relies on spots and staged media events for message control. This results in maximized campaign influence over the message but limits audiences interactivity and silencing citizens in the process (Bucy & Gregson, 2001; p.364).

The rise of new distribution channels and the convergence of television and the internet have their effect on this power structure. New distribution options provide amateur and independent producers access to the television as a cultural institution. When these new platforms on the internet are integrated with the television medium viewers can view content at self-determined times and locations, and have more access to content outside of that created by commercial conglomerates (Lotz, 2007). Although there are many aspects influencing media power (cf. Curran, 2002; Couldry, 2000; Christophers, 2009) this research focuses on the effects of internet television on the power structures discussed. In the next paragraph this new 'empowered' internet television audience and these new possibilities are analyzed.

4.2. Post viewership: creating an empowered audience

Online streaming platforms (e.g. Netflix), video websites (e.g. YouTube), illegal peer-to-peer distribution (BitTorrent), and piracy websites (e.g. Piratebay) have forced content creators and networks to change their distribution strategy and business model. More and more content is spread to international markets as soon as possible after the US airing, before their audience abroad will get a hold of the content in an illegal way. For example, the first season of *Lost* was broadcasted a year later in the UK compared to the first airing in the US while the final episode of season three had only a four day gap (Christopher, 2009). But not only the gap between spatial distribution difference is being closed. Also the separation between the 'old' Hollywood media moguls and aspiring amateurs is mediated by platforms such as YouTube (Van Dijck, 2009). These platforms are empowering the

previous passive spectators with the means for creation, selection and distribution of content. 'YouTube clearly represents a disruption to existing media business models and is emerging as a new site of media power' (Burgess & Green, 2009; p. 15). It provides a site of cosmopolitan cultural citizenship in which individuals and groups can represent their identities and perspectives, and encounter cultural differences.

YouTube has achieved a mainstream media status, however, it is unclear what kind of medium it is. A commercial top-down player of content, or a social community for creativity and the disruption of traditional media practices (Bruggess & Green, 2009). Henry Jenkins (2008) titled the conclusion of his book *convergence culture*; 'democratizing television? The politics of participation' in which he argues that the paradigm shift of empowering users by the web is still driven by economic calculations. However, the relationship between media companies and their audience is under renegotiation. Especially younger generations of viewers demand more influence over the media they consume and how it is delivered. In his book Jenkins argues that we have to focus on what we (the audience) is doing with the media, instead of what the media is doing to us. This active participation with media is conceptualized in the concept of *post-viewership* and occurs at three levels, production, selection and distribution. Although in terms of McLuhan, television has always been and interactive or cold medium, the rise of internet television gives this a new perspective.

Post-viewership argues that an previous passive audience ('viewer') is activated by the use of the medium. Especially the changing interface of internet television and the expanding amount of available content changes the traditional passive couch potato to a more engaged and active viewer. This is not the same as interactivity and participation for these concepts are too general or vague to be relevant in this discussion (Manovich, 2001; Van Dijck, 2009). As Gane & Beer (2008) argue 'while new media give the appearance of being highly interactive they often offer something far more restricted: a limited number of preprogrammed options that in turn structure our usage' (p. 92). Instead, post-viewership indicates a shift by which the traditional television audience gets increased control over the medium and its content. This started with the introduction of the remote control, VCR, DVR and video-on-demand functionalities, which influenced the time and space of television content. And is now followed by post-viewership in the internet television era, in which the internet, applications, social networks, and content databases are seamlessly integrated into the TV-set, and takes the user beyond being an active spectator of controlled television content. 'The World Wide Web offers possibilities so vast, and yet so tantalizingly incomplete, that I must get involved with it in depth' (Shaviro, 2003; p. 6).

Internet television creates a digital interface and therefore ‘acts as a code which carries cultural messages in a variety of media (Manovich, 2001; p. 76). This interface creates a flow of information between the human body and the television; by which the post-viewership audience do not sit passively between systems but are to some extent embodied with them (Gane & Beer, 2008; p. 55).

Traditional television audiences formed imagined communities, or an invisible meeting of simultaneous viewers, creating a feeling of sharedness which had a strong link to the liveness of the content. ‘Being present at the precise moment when the event is taking place and being there when others, unknown to us and far away yet united by the same experience, are present’ (Buonanno, 2008; p. 56). Internet television and the distortion of the spatial and live experience of content by on-demand video changed this experience. With the rise of social connectivity by the use of online social networks on the internet, this community becomes smaller and more visible. Lotz (2007) identifies a specific cultural role or mode for television as self-determined gated community as a result of increasing flexibility in distribution and opportunities for viewers to access programming on demand. It encompasses the personalized organization of television, individuals pursuit of specific content, and as a form of expression by sharing experiences. It indicates a shift from a heterogeneous social structure to a more restricted and homogeneous social circles already present on the web (Buonanno, 2008).

This more familiar social circle creates a new form of niche channels by the recommendation of content by social connections, and a shared experience on the social web. The integration with Facebook, Twitter, GetGlue, and Miso⁶, creates a recommendation system based on a closed social community. However, as Van Dijck (2009) notes, ‘participation’ does not equal ‘active contribution’, and that media communities resemble groups of which some resemble grassroots movements but many coincide with consumer groups or entertainment platforms. So although this new connected form of television and the access to user-generated content platforms, media power is still in place as these platforms only allow user to connect, like, or check-in to content dominated and controlled by media conglomerates.

Still, with access to the television medium through distribution platforms on the internet or special applications for television, independent producers are able to share their content within social

⁶ The websites and applications Miso (available at www.gomiso.com) and GetGlue (available at www.getglue.com) allow user to check-in to their favorite piece of music, video, series, or television. Similar to FourSquare and Gowalla, by which users can check-in to places, these applications allow users to let their social network know what media content they are consuming and evaluate their choices, and see what other are consuming. This real-time sharing of media consumption reestablishes a form of sharedness and community as was present in traditional broadcast television.

networks on a previous inaccessible system. The integration of Twitter and Facebook on YouTube for example creates a new form of opposing media power when conflicting perspectives (opposing the mass media) are shared on the web and accessed on television. 'If nothing else, new media formats may cultivate the perception of system responsiveness, offering citizens the opportunity to engage in corrective communication with power holders' (Bucy & Gregson, 2001; p. 366). By being able to access and share this content on the TV-set, the media powers that used to dominate the medium gets challenged, which allows for new perspectives being spread.

Another result of the internet affecting television and its power structure is the measurement of post-viewership ratings. The possibilities of the internet integrated in the TV-set provides more control over content and the use of television. The social aspect of the television experience becomes more important and dominant than views. 'It is perhaps more advantageous for some video makers to think more broadly about 'viewership', defined not in the traditional sense as number of views, but rather about the social dimensions of video sharing. A more nuanced notion of viewership could be refashioned to be less concerned with statistics and more interested in promoting respectful social and feedback linkages between video makers and viewers, whose roles as viewers and creators are constantly in flux' (Lange, 2008; p. 98). If we think of rating as making television available to measurement and capital, then this is connected to the power structure of television since higher ratings result in more capital and as a result more power. It is not the behavior of individuals affecting change, but the institutions that generate and realize economies through the production of data and knowledge (Christophers, 2009; p. 308). As discussed earlier, television and advertising industries are based on a data economy providing insight in popularity and profitability of time-slots and programs. However, traditional measurement tactics become obsolete with the introduction of the DVR, online video platforms such as Netflix, on-demand services, and the convergence of internet and television (Lotz, 2007). New more social system such as trendrr.tv⁷ use data about social interaction, sentiment, and popularity on platforms such as Facebook, Twitter, Miso, and GetGlue which adds a social dimension to ratings. This could indicate a first shift towards a more social oriented measurement affecting the traditional power structure. However, as discussed before, at the moment these platforms mainly focus on commercial and professional content neglecting popular and semi-professional content on UGC platforms.

In the next chapter Google TV is analyzed and how the changes in television as discussed in the previous chapters is reflected in the technology. This analysis focuses on the changes to the traditional understanding of the television medium as discussed throughout this research.

⁷ Available at <http://trendrr.tv/>

5. Google TV: beyond the black box

'The coolest thing about Google TV is that we don't even know what the coolest thing about it will be'

(Google TV website, 2010⁸)

Google TV was launched in 2010 as an 'new' way of watching television by integrating web, applications, (Google) search, 'and the world's creativity'. Television as a medium has been adopted by more consumers than mobile and computer users combined and 'knowing how the web radically transformed those devices, we [Google] wondered what it could do for the most ubiquitous screen in the world'⁸. In this chapter the earlier discussed characteristics of the convergence of television and the web is applied to internet television in the form of Google TV. Google TV is a software based platform that is installed on the TV-set or can be connected to any television by a set-top box. The Android based software provides an open-source platform that allows users to install applications, search the web, and access content databases such as YouTube and Netflix. The most defining aspect is the combination of all these function in a seamlessly integrated interface that allows for multitasking and real-time updates. Google argues that the introduction of the web on the pc in 1994 and the introduction of the web on mobile devices in 2007 revolutionized these products and the way people engaged with and used the medium and expects to do the same with television⁹.

This chapter takes a closer look at the changing interface of television which started with the menu structured access of the DVD and DVR and how this affects the television experience. Also the possibilities of installing applications and multitasking are discussed. After this the network side of Google TV is analyzed, and the effect when a search engine becomes part of the television experience and allows you to search across every channel, every app, and the entire web simultaneously. This is followed by a critical analysis of the limiting aspects of the device in the form of protocological control and if viewers are actually empowered as discussed earlier in this paper.

⁸ In the introduction tour explaining the possibilities with Google TV the page 'why?' states: 'The coolest thing about Google TV is that we don't even know what the coolest thing about it will be'. Website available at: <http://www.google.com/tv>

⁹ 'Introducing Google TV' (2010) - Google TV product launch keynote at Google I/O 2010 – Video available at: <http://www.youtube.com/watch?v=ASZbArr7vdl>

5.1. A changing interface

With the introduction of DVR set-top boxes such as the TiVo system and interactive menu's on DVD's, the television viewer became used to a more interactive interface. With new options added to the television experience, more often viewers have to navigate through menus before they can actually watch television (Chamberlain, 2011). An important distinction between Google TV and the traditional TV experience is the interface and menu structure which is used to interact with the device. As Google describes, 'TV gets a homepage', which indicates the web focused development of the device. In this menu user can access different channels (e.g. YouTube, Netflix, Broadcast stations), applications (e.g. Facebook, Twitter), and any website. It allows users to switch between TV content and the web seamlessly and provides an picture-in-picture option to do both at the same time. An option which blurs the previous clear distinction between web and TV. Television is becoming a plural medium, both in the choices of channels and genres, and in the wide range of interfaces available to engage with the medium (Mittel, 2011).



Figure 1 - Google TV Interface¹⁰

As noted by William Uricchio (2004), the transformation of the viewer-television interface entails other sorts of change. Google TV makes the internet a domestic family experience within the social environment of the living room. It is the ultimate transition from television as a mass medium towards a form of individualized programming in which broadcast programming, local stored content, and online video platforms are all accessible from the same interface. Furthermore, Google

¹⁰ Example of the 'homepage' of Google TV showing 'trending' shows and episodes. Image from <http://gadgetwhore.org/2010/11/clicker-tv-google-tv-interface> 2011

TV allows you to control the device with your mobile phone by installing a special developed application. This functionality is available besides the keyboard control device that comes with Google TV and consists of a keyboard and navigation device. For now the application is similar to the classic remote control besides the automatically changing screen which adapts its functionalities to the use of the television (e.g. playback features while playing videos and a keyboard functionality while browsing the web), but in the future the smartphone or tablet could function as a second screen providing extra content, related information, or interactive applications. This development in the use of a second screen is discussed later. The interface and remote provides the user with multiple roles from passive audience to engaged participant. However, this increased agency should always be analyzed 'while concurrently accounting for technologies and site operators owners as actors who steer user agency' (Van Dijck, 2009; p. 55).

Also websites are adapting to the living room screen of Google TV. Both Vimeo and YouTube introduced a couch- or leanback mode to experience web videos on the big screen¹¹. As described on the official YouTube blog: 'Leanback is a new way to experience YouTube on a big screen [...] videos based on your subscriptions and viewing history will begin playing immediately'¹². Vimeo makes a direct connection with the television experience by stating; 'couch mode is a special new section of Vimeo that allows you to watch collections of videos [...] completely uninterrupted like a TV channel'¹³.

As a result a 'user-generated' form of flow is introduced in experiencing web video. Flow is no longer created and initiated by corporate broadcaster but by the user who can actively create his own playlist and subscription based favorites. At the same time, these services reintroduce a controlled flow by making the video playback on Google TV continues based on recommendations and top videos, which are based on algorithms and protocols. When this is combined with commercial advertisement a new form of corporate and commercial control of the medium is introduced. Therefore, media power is not only initiated by traditional broadcaster but also by major internet companies such as Google and Netflix by building on user profiles and user-generated data. This limitation of freedom and reintroduction of control is discussed in a later paragraph. Buonanno (2008) argues that because of the abundance of content and the selection options provided by new

¹¹ In 2010 YouTube introduced a new user interface named 'leanback' for big screens. This interface is integrated in GoogleTV. Available at <http://www.youtube.com/leanback> (March, 2011).

Also Vimeo introduced a new user interface named 'couchmode' to explore Vimeo on the big screen using set-top boxes, game consoles, or browsers. Available at <http://www.vimeo.com/couchmode> (March, 2011)

¹² YouTube Blog. YouTube leanback officially launches -- on Google TV. October 18, 2010. Available at: <<http://youtube-global.blogspot.com/2010/10/youtube-leanback-officially-launches-on.html>> 2011

¹³ Vimeo Blog. Introducing Couch Mode... get comfy!. October 26, 2010. Available at: <<http://vimeo.com/blog:355>> 2011

television technologies, we should exclude the concept of flow from the post-network era of television. However, this studies argues for a new form of flow based on information; a flow of data.

5.2. We're watching databases

Geert Lovink (2008) noted 'we no longer watch films or TV; we watch databases. Instead of well-defined programmes, we search one list after another' (p. 9). An important and differentiating aspect of Google TV and similar devices like Apple TV and Boxee, is the abundance of content from both professional and UGC sources. By providing access to *Hulu*, *Netflix*, *Mubi* (formerly *The Authors*), and *VUDU*, users can access various types of professionally created content such as Hollywood and independent movies, series, television episodes, and special webisodes (web episode), and access to video platform like *YouTube*, *Vimeo*, *LiveLeak*, and *DailyMotion* provides semi-professional videos and channels. Although the movie screen in the theater, the television screen, and the computer screen are still separate spaces and are connected to different kind of spectatorship (the office computer is different from the domestic lodging of the TV set); internet television allows users to watch videos from these various sources on the same device, in the same domestic setting, and with the same ease as traditional broadcasting content.

With the rise of ubiquitous databases, videos are losing their medium based specificity; they have become a utility disconnected from its traditional technology allowing television to be watched on a computer and recorded video on a mobile phone (Friedberg, 2003; p. 346). Also, the internet allows people to watch content from everywhere, creating a form of glocalization by which people abroad (e.g. expats) can watch and access content from their home country. This practice, however, is more and more blocked and prohibited by commercial companies by geo-blocking, making content only accessible from a certain region indicating a new form of media power on the internet and an artificial form of spatial distribution.

The surplus of content makes it increasingly difficult to find messages, videos, or stories of interest. In response media companies and internet platforms continue to refine search and recommendation algorithms to aggregate content and allow easier sorting. However, these commercial driven initiatives might reestablish commercial media control (Lotz, 2007; p. 148). There is a need for editorial support to filter and recommend material since part of the TV experience is the continuous flow of content. Broadcast TV can benefit from this overload of user data and images and also from the users' 'basic need to have available at the press of a button relevant, carefully selected and produced, engaging, and entertaining audiovisual signs of our place in a larger, more broadly composed community' (Gripsrud, 2004; p. 222). Many platforms offer users recommended, most watched, and popular videos, based on their algorithms and software code which can be considered

a new form of control as is discussed in the next paragraph. So what is needed are filters, not only based on software and algorithms, but from experts and professionals as was done by early bloggers for internet content and is now happening within social networks like Facebook. The new television systems is increasingly connected to a universal database economy which can be considered as the ultimate commodity form since it is purely exchangeable as data. Television becomes a flow of data creating commodified attention based on protocols and algorithms.

5.3. Limitations of freedom: protocol and internet television

The risk of studying a new and developing technology such as internet television is interpreting this renewed medium as a revolutionary device which dramatically changes television and the power structures involved. This study has tried to provide a first insight in the changing landscape of television when its integrated with internet functionalities and how it affects traditional media control. However, there are already new forces present that bring new forms of media control to the television medium. For example, Google TV was critiqued at its introduction for missing support of the big three networks, showcasing the power of these networks in the network age of television. Media concentration is a very real problem that suppresses developments and innovation, and places media industries above the demands of customers and new entrants to the industry (Jenkins, 2006). The blocking of access to websites approached by a Google TV device raises questions of net neutrality and slows the development of new television platforms.

Furthermore, the interface of entertainment media present themselves as 'neutral' information providers and assisting users in the selection of content (Chamberlain, 2011). However, Google TV creates profiles of users providing them with customization, networked, and profiled recommendations. This 'foregrounds the conditionality and indeterminacy of emergent modes of media engagement, which need not be celebrated simply for being new or automatically praised as liberating advancements' (p. 16). The interface provides a window or door across which we must step and by which we allow ourselves to be controlled by the algorithm providing its logic. 'The interface has a logic that may be known and articulated by the interface itself' (Galloway, 2008; p. 943). The domestic media space is no longer private, the networked nature of contemporary technologies extend boundaries and the inherent qualities of surveillance and control associated with media interfaces (Chamberlain, 2011). With internet television this control extends even further since it allows to connect with worlds beyond the logic within the technology. We could say that internet television connects viewers to an increased platform of control compared to traditional broadcast television, but hides this behind an overload of content, social connectivity, and being activated by the medium.

At the moment Google TV's competitors (most notably AppleTV, Boxee, and Roku) provide similar or improved services and applications. However, Google recently announced an upgrade of the Google TV platform with a new interface, making it more similar to the latest Honeycomb release of the Android platform. We could speculate if this will bring the television interface closer to that of smartphones or tablet pc's with a strong focus on applications or if they stay true to the core element of television as a central content device in the living room. From this research we can argue that the focus for internet television should be on social interaction to bring back the community in the television experience, on sorting content and provide expert recommendations, and by providing interactive options for content creators so television becomes a more dynamic and activated experience.

The internet television is threatened by 'second screen' applications on smartphones and tablet pc offering viewers to control their TV and connect with social networks. When this second screen is integrated with the television experience by controlling content, social interaction, and search functionality, the future of TV is in the remote and not the TV-set itself. This second screen affects both the television interface and the way we operate the TV set. By providing extra information on a second screen the programmes that used to be submerged in the flow of the experience, are disrupted affecting the new found definition of flow in the network era, providing a new future threat to the traditional concept of television.

6. Conclusion: how Google TV entered the living room and the effects of internet television.

This study developed an early insight in new forms of internet enabled television in an era of ‘postbroadcasting’ or ‘flexible microcasting’, and the technological, cultural, political and economic effects on the television medium. By providing an genealogy of the historical development a clear conceptual framework has been introduced to study future developments using medium related concepts to study new media effects. The development of post-broadcasting television indicated a first shift in the way the traditional domestic television experience shifted and how technical, economic, and political structures have changed. This research expanded this insight by providing early developments in the internet era of television and its effects of the traditional understanding of the medium.

As showed, developments in new media indicated a first creation of a post Marxist organization of the television medium by which the masses get access to the means of television. The web was envisioned as a new frontier space where amateur culture and grassroots initiatives could flourish. However, ‘labour critics and neo-Marxist scholars noticed early on how the glamorization of the digital domain was a convenient pretense for the mobilization of ‘immaterial labour’ – befitting the familiar logic of capitalist exploitation’ (Van Dijck, 2009; p. 50). The traditional passive couch potatoes are empowered by new technologies that were once the privilege of capital intensive industries, to create and distribute amateur or semi-professional content (Jenkins, 2006; p. 24). Nevertheless, as Van Dijck (2009) explains ‘in casting new user agency, it is indispensable to look at the role of advertisers as well as new media platforms in the renegotiation of power relationships’ (p. 46). We have to question the stakes of distributed network powers such as YouTube and Google and whether they actually provide and liberated and empowered audience, or if they’re installing new forms of media power and control for economic gains as an advertising company.

6.1. Smart Television

Nonetheless, a new form of television is developing and becoming more popular among a young audience. The internet television possibilities as discussed in this research in the form of Google TV indicates a development towards a smart television. Based on the concept of smartphones as a convergence technology of the mobile phone, tablets, PDA’s and the web. The new social and technical possibilities that are offered by these new devices are affecting the television experience. New social options indicate a return of the community experience once part of the television

tradition. Research by Harboe et al. (2007) showed that people who know each other have a better social TV experience and that the family is still the primary unit for television watching.

An important focus of this research was the shift of media power and control by the introduction of internet television. As shown in this study, user-generated content websites such as YouTube and Vimeo are challenging 'the broadcast industry's institutional structure and its technological and economic infrastructure' (Van Dijck, 2009; p. 46). It provides platforms of participation in for example the political field by active civic involvement instead of passive surveillance of the political environment (Bucy & Gregson, 2001).

At the same time these new networked systems allow for advanced digital technologies that facilitate the tracking of individual social behavior showing the close relationship between any media platform and advertisers and questioning the potential to renegotiate the power relationships by the use of new media (Van Dijck, 2009; Smith-Shomade, 2004). If anything, the Internet gives conglomerates more opportunities to develop synergies across media platforms. (Chalaby, 2009; p. 258). Especially since it is still unclear how many television and online video consumers are prepared to pay for internet connected televisions and cut the cable of traditional television, the future and success of these new platforms is uncertain (Christophers, 2008).

6.2. A new definition of television

Internet television audience is per definition a post-viewership audience by being activated by the medium and having seamlessly integrated access to internet, applications, social networks, content databases, and broadcasting television. Mass medium becomes individualized but shared with a close but familiar social network creating a renewed shared experience of liveness. By the increased amount of content from commercial and non-commercial sources and the access to content beyond the sources directed by the cultural imperialism of the US, viewers are able to visit new places, perspectives, and ideas, extending the spatiality of television and improving the pluralism of available views. Television is shifting from a hardware defined medium towards a software based experience making it less location and medium specific. At the same time the internet becomes a domestic family experience by being seamlessly integrated on the television device along with applications, social networks and content databases. Internet television provides an ultimate form of new media couch potatoes since we are 'watching ' new media; new media has become televised. Television does not allow viewers to add or create, the interface just adds new layers to content, so in the end software agents us and creates an experience beyond our control.

6.3. Limitations and future research

As with any research, this study contains limitations that should be taking into account when using the results for future research and analysis. This research focused on the Western and especially American television market and developments, future research should provide insight whether these findings can be applied to a more global audience and if cultural and demographic differences in technology adoption affect the results. Furthermore, contemporary new media discussions on the effects of piracy on the television experience, the discussion about free labor involved with UGC, the quality of content on YouTube and the effect of intellectual property rights on the development of internet television should be analyzed to have a better understanding of the forces that are shaping the new definition of television.

7. Bibliography

Bourdieu, Pierre. 'Television'. *European Review*, Vol. 9, No. 3, 2001: p. 245–256.

Bucy, Erik P., Kimberly S. Gregson. 'Media participation: A legitimizing mechanism of mass democracy'. *New Media Society*, Vol. 3, 2001: p. 357-380.

Buonanno, Milly. *The age of television: experiences and theories*. Bristol: Intellect Books, 2008.

Burgess, Jean, Joshua Green. *YouTube: Online video and participatory culture*. Cambridge: Polity Press, 2009.

Caldwell, John. 'Convergence television: Aggregating form and repurposing content in the culture of conglomeration. In: Lyn Spigel, Jan Olsson, ed. *Television after TV: essay on a medium in transition*. Durham: Duke University Press, 2004: p. 41-74.

Chalaby, Jean K. 'Transnational television in Europe: Reconfiguring global communication networks'. London: I.B. Tauris, 2009.

Chamberlain, Daniel. 'Media interfaces, networked media spaces, and the mass customization of everyday space'. In: Michael Kackman, et al., ed. *Flow TV: Television in the age of media convergence*. New York: Routledge, 2011: p. 13-29.

Christophers, Brett. *Envisioning media power: On capital and geographies of television*. Plymouth: Lexington books, 2009.

Couldry, Nick. *The place of media power: Pilgrims and witnesses for the media age*. London: Routledge, 2000.

Croteau, David. William Hoynes. *Media Society: Industries, images, and audiences*. Thousands Oaks: Sage Publications, 2003.

Curran, James. *Media and power*. London: Routledge, 2002.

Deuze, Mark. 'Convergence culture in the creative industries'. *International journal of cultural studies*. Vol. 10, 2007: p. 243-263.

Dijck, José Van. 'Television 2.0: YouTube and the emergence of homecasting'. Paper read at *Media in Transition 5*. April 27-29, Cambridge, Massachusetts. 2007.

Dijck, José van. 'Users like you? Theorizing agency in user-generated content'. *Media culture Society*. vol. 31, 2009; p. 41-58.

Ellis, John. *Visible fiction: cinema, television, video*. New York: Routledge, 1982.

Fiske, John. John Hartley. *Reading television*. London: Routledge, 2003.

Friedberg, Anne. 'The virtual window'. In: David Thornburn & Henry Jenkins ed. *Rethinking media change: the aesthetics of transition*. Massachusetts: The MIT Press, 2003.

Galloway, Alexander R. 'The unworkable interface'. *New literary history*, Vol. 39, No. 4, 2008; p. 931-955.

Gripsud, Jostein. 'Broadcast television: the chances of its survival in a digital age'. In: Lyn Spigel, Jan Olsson, ed. *Television after TV: essay on a medium in transition*. Durham: Duke University Press, 2004: p. 210-223.

Harboe, Gunnar, Noel Massey, Crysta Metcalf, David Wheatley, and Guy Romano. 'Perceptions of value: The uses of social television'. *EuroITV 2007*, pp. 116–125, 2007.

Hilmes, Michele. *Only connect: a cultural history of broadcasting in the United States*. Belmont: Cengage learning, 2008.

Jenkins, Henry. *Convergence culture: where old and new media collide*. New York: New York University press, 2006.

Lange, Patricia G. '(Mis)conceptions about YouTube'. In: Geert Lovink, Sabine Niederer, ed. *Video Vortex Reader: Responses to YouTube*. Amsterdam: Institute of Network Cultures, 2008. p. 87-100.

Lee, Barbara, Robert S. Lee. 'How and why people watch tv: Implications for the future of interactive television'. *Journal of Advertising Research*. 1995 p. 9-18

Lotz, Amanda D. *The television will be revolutionized*. New York: New York University Press, 2007.

Lovink, Geert. 'The art of watching databases: introduction to the video vortex reader'. In: Geert Lovink, Sabine Niederer, ed. *Video Vortex Reader: Responses to YouTube*. Amsterdam: Institute of Network Cultures, 2008. p. 9-12.

Manovich, Lev. *The language of new media*. Cambridge: MIT Press, 2002.

Manovich, Lev. 'Trending: The Promises and the Challenges of Big Social Data'. *Manovich.net*, April 23, 2011.

Mayer, Vicki. 'New television and media'. *Television & New Media*, 12(2), 2011: p. 95-99.

McCarthy, Anna. 'Rhythms of the reception area: crisis, capitalism, and the waiting room tv'. In: Lynn Spigel, Jan Olsson, ed. *Television after TV: essay on a medium in transition*. Durham: Duke University Press, 2004: p. 183-209.

McCarthy, Anny. *Ambient television*. Durham: Duke University Press, 2001.

McLuhan, Marshall. *Understanding media: the extension of men*. New York, McGraw-Hill, 1964.

Mittel, Jason. TiVoing childhood: 'Time-shifting a generations concept of television'. In: Michael Kackman, et al., ed. *Flow TV: Television in the age of media convergence*. New York: Routledge, 2011: p. 46-54.

Parks, Lisa. 'Flexible microcasting: gender, generation, and television-internet convergence'. In: Lynn Spigel, Jan Olsson, ed. *Television after TV: essay on a medium in transition*. Durham: Duke University Press, 2004: p. 133-156.

Shaviro, Steven. *Connected, or what it means to live in the networked society*. Minneapolis: University of Minneapolis Press, 2003.

Smith-Shomade, Beretta E. 'Narrowcasting in the new world information order'. *Television & New Media*, Vol. 5 No. 1, 2004; p. 69-81.

Spigel, Lynn. 'Entertainment wars: Television culture after 9/11'. *American Quarterly*, Vol. 56, No. 2, 2004.

Spigel, Lynn. *Make room for TV: television and the family ideal in postwar America*. Chigago: University of Chigago Press, 1992.

Thompson, John B. *The media and modernity: a social theory of the media*. Cambridge: Polity Press, 1995.

Turner, Graeme. 'Liveness' and 'Sharedness' Outside the Box'. *Flow*, Vol 13, No 11, 2011. available at: <http://flowtv.org/2011/04/liveness-and-sharedness-outside-the-box/>

Uricchio, William. 'Television's next generation: technology/interface culture/flow'. In: Lynn Spigel, Jan Olsson, ed. *Television after TV: essay on a medium in transition*. Durham: Duke University Press, 2004: p. 163-182.

Uricchio, William. 'The future of a medium once known as television'. In: Pelle Snickars, Patrick Vonderau, ed. *The YouTube reader*. Sweden: National library of Sweden, 2009: p. 24-37.

Uricchio, William. 'Television's first seventy-five years: The interpretive flexibility of a medium in transition'. In: Rober Kolker, ed. *The Oxford handbook of film and media studies*. Oxford: Oxford University Press, 2008: p. 286–305.

Williams, Raymond. *Television: Technology and cultural form*. London: Routledge, 1974.