Technologies of Engagement: How Hybrid Networked Media is Not (Just) Remediation

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This paper discusses how networked media via the Web is providing the realisation of media hybridisation (Manovich) that began when genres and formats became functions of software. Beginning with an overview of how media formats came together during the 20th century, the paper argues that the Internet now provides a distribution system that allows for the hyper-hybridisation of media formats alongside more fluid two-way participation than the previous broadcasting and mass distribution models. The paper will look at examples from the author's own recent work – ongoing video streaming activities with the Royal Shakespeare Company, a "virtual gamelan" for the London Symphony Orchestra, and the Temporal Chaos installation. The paper concludes that our traditional media forms are in a phase of ongoing disruption, which transcend merely updating existing media forms for a digital online era (Bolter and Grusin's "Remediation").

Keywords: hybrid media, software studies, Internet, digital content creation, online, participatory culture

Introduction

We now take 20th Century media formats for granted. Television is a box in the living room, and films are audiovisual experiences around two hours in length that we see in large darkened public rooms. Yet film was a format that took a few decades to form. Before D W Griffiths' seminal 1915 epic Birth of a Nation proved that films longer than an hour could garner large audiences, movies were much more varied in length. Indeed the first actualité movies were just the duration of a single reel of film. Edison also conceived of the movie as a personal viewing experience rather than a theatrical performance to be seen by large groups.

There was no guarantee at the beginning of the 20th Century what forms our foremost duopoly of audiovisual entertainments would take[i]. During the 1936

Olympics, for example, Germany broadcast near-live footage of sports events to salons and clubs equipped with screens, in an early precursor of today's sports pubs and bars. Television wasn't conceived as a home device, but a public experience. It was only after the Second World War that this new medium became a more domestic and individual experience.

Since then, TV and film have settled into relatively stable forms during the 20th century. More TV channels, and the remote control's ease of changing between them, have given viewers greater control over what they watch, further accentuated by the VCR and PVR. Satellite, cable and digital TV have expanded the choice still further. Yet we still regularly watch TV programmes on the (increasingly large) screens in our living rooms with similar content genres to the 1950s. There are game shows, dramas, news, documentaries, and comedy - not too different to 60 years ago.

However, as the 21st Century gets into full swing, TV and film's dominance has come under increasing attack. Thanks to the rise of the home computer, Internet and smartphone, more and more of us are obtaining our audiovisual content in heterogeneous ways. YouTube now delivers billions of videos a day to over a billion users a month. By May 2010, less than three years after launch, BBC's iPlayer was receiving 123 million play requests a month. According to Comscore, by mid 2007, 75 per cent of Internet users in the US were watching 181 minutes video per month online[ii]. An ICM survey for the BBC as far back as 2006 found that nearly half of those watching video online consumed fewer hours of television as a result of their online viewing[iii]. The trend has continued upwards since all these statistics were reported, with regular TV viewing down to 76 per cent of video consumption in 2016.[iv]

In this context, Jay David Bolter and Richard Grusin have argued that new media "remediates" forms that have gone before, stating "this is all *any* new technology

could do: define itself in relationship to earlier technologies of representation".[v] However, whilst services like BBC iPlayer, Hulu, and Netflix are essentially repackaging familiar types of TV for online distribution, the formats of audiovisual content are changing to fit the new way we're watching, too. YouTube's focus on short pieces has encouraged a rather different range of formats than has dominated TV or film over its reign. Short comedy sketches, video blog diaries, favourite clippings from popular TV shows, and – most importantly – opportune moments from everyday life best epitomised by *Charlie Bit My Finger… again!*[vi] have racked enormous viewing statistics, with a few topping hundreds of millions of plays. Game-related videos are hugely popular, with some gaming video bloggers achieving hundreds of millions of views a month. A cat with seemingly ninja-like skills of stealth[vii] may be considered puerile compared to carefully constructed drama, but people want to watch such things, often in great numbers.

Together, these factors raise the question: are these new forms merely "remediations" of what went before, so that old formats and production hierarchies still apply? Those with vested interests in the technology and commerce of traditional media hope the latter is true, but there are many indications that we have entered a stage of extreme flux in audiovisual formats and viewing habits. The figures show that for decades in the UK we have been watching an average of 25-35 hours of TV a week[viii], depending on the time of year, and that has been spreading over an increasing choice of channels. This trend is mirrored in most developed nations. The real growth in media consumption is elsewhere. This paper looks at how alternative viewing modes and novel formats have become possible in the Internet Age, with particular focus on three of the author's own experimental projects at Ravenbourne, before turning to the technical reasons why the Web has become the perfect venue for what Lev Manovich calls

"hybrid media"[ix]. Manovich argues that since media are now in the digital realm, features from one form can be used on another, blurring the boundaries between them. This would imply that, although some form of "remediation" is taking place as new borrows from old, to state that this is all or even primarily what is going on would be a major oversimplification.

The Internet Effect

The Internet has had a huge impact on all the media industries, and indeed any industry dealing with content. It may only have existed for a short time within the history of mankind, and even the history of media, but the Internet's radically different structure compared to traditional distribution systems has made it enormously disruptive. The contrast is best illustrated by comparing the BBC's iPlayer with YouTube. The first repackages familiar TV content for the Internet, making it simply a more convenient PVR. You don't even need to remember to set your machine to record, as everything broadcast will be available for you to watch online. With YouTube, in comparison, the variety of user-generated content has gone far beyond what we're used to seeing on TV, and a fair proportion of it exists as a dialogue between "YouTubers" that is hard to understand out of context.

You could see much of this content as merely individual examples of the kinds of clips already featured on TV programmes such as *America's Funniest Home Videos* or the UK's *Adam and Joe Show*. However, there are numerous differences, and where these kinds of TV programme do feature Internet-originated clips, they strip them of their context within the dialogue of Web culture. Video bloggers or Internet characters

such as Annoying Orange, Smosh, Yogscast or PewDiePie are in constant dialogue with their viewers. These series can garner huge followings due to their status within a community of sharing, although they can also lose them via the same mechanisms, and it's hard to understand this dynamic from outside the communities that share these clips alongside their own commentary. As Henry Jenkins has argued[x], one of the primary reasons why YouTube succeeded amongst numerous other similar video streaming websites was thanks to its built-in social facilities. A comments system was built into YouTube at an early stage. Even more importantly, the code for embedding clips in external websites was made extremely easy to extract (just copy and paste) and its use actively encouraged.

So although YouTube is still very much a destination site that you are meant to go to in order to browse for content, which has made it one of the top three websites in the world, the true secret of its success is the facility of using YouTube content elsewhere, as part of a wider cultural conversation. It's the underlying engine for most video embedding, at one point accounting for around 82 per cent of this activity[xi], and early on provided the tools for sharing favourite clips you have discovered via all the many available channels – email, blogs and social networks. The strength of a clip is increasingly not so much how many people have watched it, but how many pass it on to their friends. For this reason, online video tracking company Unruly Media's Viral Video Chart[xii] switched to counting shares rather than views in its listing of the most significant clips of the moment.

With sharing comes re-contextualisation, re-use and even remixing, and it's simply no longer true to say, as Bolter and Grusin have about earlier phases of the Internet, that, "the electronic medium is not set in opposition to painting, photography, or printing; instead, the computer is offered as a new means of gaining access to these

older materials, as if the content of the older media could simply be poured into the new one."[xiii] This might have seemed true in the 1990s when Bolter and Grusin's book was written. But in the more recent phase of the Internet, the ability to reconfigure content discovered online, so that it is part of a personalised conversation, has become the predominate form, as Jenkins explains in great detail in *Spreadable Media*[xiv]. Bolter and Grusin's dismissal of Steven Holtzman's arguments in favour of repurposing in digital media[xv] seems even more glib and ideological today than when it was originally written. When they argue that "Repurposing as remediation is both what is 'unique to digital worlds' and what denies the possibility of that uniqueness",[xvi] they merely restate the shallow insight that for any communication to function it must have some reference to what went before, in order to provide a context for understanding. But this dialectical process in no way means there is no uniqueness.

New media forms aren't necessarily about fulfilling the same old dreams of mass media stardom and financial success, although YouTube brands do end up with mainstream media success, for example Annoying Orange's series on Cartoon Network. As the Arab Spring[xvii], the riots in the UK in the summer of 2011[xviii], and 2016 US presidential election have shown, the relevance of mass communications can easily be side-lined in important political situations by networked social media and viral usage of one-to-one or one-to-few communications. It's a powerful thing when networks of individuals can be mobilised to mass effect in a relatively non-hierarchical manner. This idea should be considered alongside digital media software's inherent ability to combine techniques from one format or media type with another[xix]. The ability to share and the ability to repurpose what is shared work hand in hand, since both are products of digital technology. For example, painterly effects can be applied to films, text input can be made available to video, and music for passive consumption can become music the user

can customise themselves for their own personal experience – with the end results then re-shared on social media. These are the contexts and inspirations for a variety of projects Ravensbourne has engaged with in the last few years, which illustrate the flux state of media in the contemporary Internet era.

Case Studies: Shakespeare's Biggest Classroom

Since late 2011, Ravensbourne has been working in partnership with the Royal Shakespeare Company, developing a platform for streaming theatrical productions into schools as part of a live interactive event. This began with an initial project as part of the Cultural Olympiad in June 2012, based around Tim Crouch's *Julius Caesar*-inspired play *I, Cinna: The Poet*. Like many of the big brands in traditional performance culture, the RSC has seen how the Metropolitan Opera in New York, USA managed to expand its market and revenue by taking a new approach to distributing its content, via live broadcasting to cinemas. “Concerned about its future, the Met conceived of the program as a way to attract new audiences to the opera,” argues Anita Elberse in *Blockbusters*[xx]. The RSC began its own similar strategy with *Richard II* starring David Tennant in November 2013, but also realised that the content could enable an enhancement of its educational remit. As Elberse states, “when thinking through the effect of new distribution channels, it helps to consider the 'bundle of benefits' delivered to the customer in each context.”[xxi] With its non-profit status and position as chief maintainer of the Shakespearean heritage, the RSC could see how the commercial benefit of cinema broadcasts could be bundled with the low cost of Internet distribution to create a new hybrid experience for education.

At first glance, this would seem like a classic example of remediation, where an older form (the traditional theatrical play) is brought into the new one (Internet video streaming). However, through their partnership, Ravensbourne and the RSC developed an integrated Internet platform, which brings online streaming video functionality together with a system for submitting questions during the performance that could be answered live, providing an aspect of the participatory read-write culture that is prevalent on the Web[xxii]. There is also an elaborate moderation back end so questions can be vetted as they come in, and a choice made as to which ones should go through to the Ravensbourne TV studio, where a presenter borrowed from the BBC poses the questions live to members of each play's cast.

Over the course of the six projects completed by June 2015, the RSC estimated that 70,000 UK school students had seen one of the streaming plays, which is more than twice the number that physically visit Stratford-Upon-Avon in an entire year. Over two years of streaming Shakespeare's works, the projects approximately doubled the audience of the RSC's works of literary cultural heritage. These projects are more than just putting a full-length play on the Web and making it available to watch. They are not merely remediating theatre. By creating a live event, and using the facility of the Web to hybridise media with other forms, in this case quasi-live chat and discussion, a new form has been created, where the students experience something related to the direct conversational access they have become used to from YouTube and the social media that they use on a daily basis in their personal lives.

The Web is now providing the perfect vehicle for hybrid media content, since it brings content produced using digital software into a software-based distribution system. As Manovich argues in *Software Takes Command*, "Software has become our interface to the world, to others, to our memory and our imagination — a universal

language through which the world speaks, and a universal engine on which the world runs."[xxiii] He continues, "at the end of the twentieth century humans have added a fundamentally new dimension to everything that counts as 'culture.' This dimension is software in general, and application software for creating and accessing content in particular."[xxiv]

Case Study: Virtual Gamelan for the London Symphony Orchestra

This idea of media consumption as software usage was brought to the forefront in another project, when Ravensbourne was approached by the London Symphony Orchestra (LSO) to create a promotional website for its St Luke's venue, including videos explaining the use of the various rooms at the premises. Ravensbourne suggested the idea of a map-based interface using the plans of St Luke's as the route to the videos for each room. The LSO also owns a Balinese gamelan, a gong-based instrument that a group of people play in loop-like patterns. So Ravensbourne also suggested recreating something simulating this online, in order that users could get a sense of what the instrument was like by composing their own gamelan music, and then sharing their compositions with their friends, harnessing the participatory trends of the Internet.

In the resulting site[xxv], the videos available from the map tell the tale of St Luke's and its many possible uses in a non-linear, participatory fashion along four basic themes. The gamelan section further encourages exploration, with two levels. The learning page introduces examples of the instruments and the sounds they each make, with a description of each one, and there is an example recording of the LSO's gamelan in action. But it's also possible to use the Compose page to create a pattern with the

simple online sequencer, and then listen to the results as well as share the compositions via social media posts, so that the site's reach spreads virally. Recipients of these posts will be drawn to the composition sub-site, where they can remix the composition they have received or create their own. With this LSO project, a blend of many different media types, experienced in an exploratory fashion, again shows a hybrid media form delivered via the Internet. On one level, it remediates and provides an interface to existing forms – video and music. But the composition sharing feature allows users to take a much more proactive role than mere media consumption.

Technological advances on the Web are inexorably enhancing the integration between more traditional media formats and the Internet, in a transformational manner. Audiovisual content can now be directly integrated into website designs, so as to react seamlessly with other content types. The Internet is therefore the most fully realised example yet of what computing has long been heading towards, as defined by early computing researchers such as Alan Kay. As Manovich argues, "Kay's paradigm was not to simply create a new type of computer-based media that would co-exist with other physical media. Rather, the goal was to establish a computer as an umbrella, a platform for all existing expressive artistic media."[xxvi]

A classic example is British pop group Arcade Fire's seminal *Wilderness Downtown* website, created by Chris Milk and a team from Google[xxvii], where users input an address and see multiple video events unfold on Google Maps representations of their chosen location. The site blends the linear song playback with interactive animations, content from Google Maps that is tailored to the individual's input, and 3D objects dynamically inserted into the maps. Similarly, in US pop group OK Go!'s *All Is Not Lost* site[xxviii], users see a message they have typed into their browser formed by the bodies of the group members in the video. This site combines multiple synchronised

video streams that are also contained in animated windows that move around alongside the audio playback. These are still noticeably videos, but also something else, as Manovich argues: “Putting all mediums within a single computer environment does not necessarily erase all differences in what various mediums can represent and how they are perceived— but it does bring them closer to each other in a number of ways.”[xxix]

Case Study: Temporal Chaos

The Temporal Chaos project is a little different from the previous two examples in that the Internet is used to deliver content to physical spaces, rather than the Web being the locus of where the media is encountered. It comprises two video-driven installations, one each in London and Singapore, posing socio-cultural questions about our developing technology of global communications, whilst placing it in historical context. The project is a collaboration between Ravensbourne, Nanyang Technological University in Singapore, and Sunway University in Malaysia. The Temporal Chaos installations use projected lighting to replicate the equivalent of the sunlight in different places on Earth. This is communicated to the viewer through the "shadows" of the objects in the room, although these shadows are in fact video projections. The inner areas of the shadows are filled with a live video stream of a different location from a different time zone (Singapore in the UK, and the UK in Singapore). The blended temporality and space in the installations is accentuated by audio recordings of modern and historical accounts of the experience of globalisation, projected using directional audio devices, so that visitors will hear different sounds as they move around the installation.

With Temporal Chaos, the Internet is being used as a transmission system rather than providing the main location for consumption. However, the project hybridises media, with the Internet as its main facilitator, and provides some participatory possibilities, illustrating another dimension of media format flux. Bolter and Grusin would argue that Temporal Chaos is an example of hypermedia, which "seek the real by multiplying mediation so as to create a feeling of fullness, a satiety of experience, which can be taken as reality."[xxx] However, Temporal Chaos remediates other media forms only in a very minimal way – and then repurposes them into its own novel form of media. It's not a remediation of cinema projection, nor fundamentally trying to act as an interface to other media forms; the interface itself is the artwork.

Conclusion: The Future of Hybrid Media via the Internet

The two common (and related) factors in these three primary examples are digital media content creation software and the Internet. All media types, and operations that can be performed on those media types, have become data and algorithms performing functions on that data respectively. "As defined by application software and experienced by users, a 'medium' is a pairing of a particular data structure and the algorithms for creation, editing and viewing the content stored in that structure."[xxxi] So film becomes a video data structure plus the editing algorithms that simulate the way film was created in the pre-computer age, and digital painting becomes still image data plus tools to transform that data in a simulation of traditional painting methods. But tools from one can be used on the other, with film frames being painted upon using tools from painting software, and paintings turned into animated frames that become part of a film.

However, Manovich's *Software Takes Command* looks primarily at the tools of professional creation, whilst the Internet revolution is about putting more of these tools in the hands of everyone, and then giving them the ability to share freely the end results across the globe, for example Snapchat's face swapping. By turning all media into different collections of data structures and algorithms, not only can media be remixed and combined, but also extended, in a process that never seems to reach a point of completion. This leads to radically different forms of experience than traditional, primarily passive audiovisual broadcasting.

Our historical media forms are in a phase of ongoing disruption, as Manovich argues: "Rather than arriving at a particular language, we are gradually discovering that the computer can speak more and more languages."[xxxii] Whilst the familiar media forms of the 20th century - film, TV, radio, music, photography and so on - are likely to persist as discrete entities for the foreseeable future, they will increasingly also be blended online with participatory interaction and services aimed at locative multi-screening, going well beyond remediation. The format distinctions that characterised the 20th century are becoming blurred, as experiences are developed that are aimed at cross-platform scenarios as well as a combination of shared and personal consumption. New species of online media will appear, too, because "many algorithms only simulate the effects of physical tools and machines, materials or physical world phenomena when used with particular parameter settings; when these settings are changed, they no longer function as simulations."[xxxiii] Different parameters mean the algorithms no longer generate a traditional media form, but something else.

Looking at current trends at the time of writing, in early 2016 Virtual Reality (VR) was receiving a huge amount of interest, with multiple product announcements, and many experimental productions. VR had already come and gone once before in the

early 1990s, and Bolter and Grusin made it one of the case studies in *Remediation*. They argued that like many other media forms VR is an attempt to make the viewer experience more immediate, so that the medium disappears and the participant feels directly connected to the mediated reality. This is opposed to hypermediation, where multiple media are brought together to make the interface as transparently evident as possible, epitomised by the windowed graphical user interface.

However, this is peripheral to the argument that VR is remediation. In the early 1990s, VR proponents were struggling to find a valid reason (or reasons) for the VR media form to thrive, and this wasn't helped by the inability of 1990s technology to deliver on the immersive promise of the concept. But VR's resurgence in 2016 has come after two decades of improvements in technology. Early-adopting VR content may well be remediating games and films, but the latter in particular is finding itself in conflict with the fact that VR is fundamentally interactive. A VR film must make the viewer a participant, even a character within its world – and that's almost diametrically opposed to the spectator position offered in most mainstream film language. At the very least, VR films will have to be hybridised with games, but will probably diverge so much as to make the use of the word "film" to describe them misleading and nonsensical. There already are many new experiences incorporating different types of VR, and there will be many more. With Facebook owning one of the leading VR brands, social media interaction is highly likely to be central to what VR will be used for in the future, but it will be a stretch to argue that it will be a remediation of the Facebook timeline.

Returning to the three examples of Ravensbourne projects, in each case participatory elements allow viewers/users greater involvement. With the RSC projects, the viewers can send in questions that are answered live on video as they watch. With

the LSO Virtual Tour, they explore videos via a map and compose their own gamelan pieces to share with friends. With Temporal Chaos, unlike a cinema projection, they can walk around the installation to hear directional audio and view the video presentations from different angles. So these works can form part of a user's own construction of their experience of the world. These facilities have been made possible by the hybridisation that is now the norm for digital, software-generated media. Many traditional media forms look set to remain relevant for years to come. But emerging hybrid media takes account of the fluidity of forms, driven by how people in the Internet-connected gadget-laden contemporary world construct their images of self – for themselves.

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