If Content Is King, Context Is Its Crown

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Abstract: The future of television—if former Google CEO Eric Schmidt has his way—will use computational modes to attract viewers, structure results, contextual queries and/or evolving viewing patterns within an emerging televisual datascape. Departing from Schmidt's recent MacTaggart lecture this article tries to track the coded consequences of TV as data, not the least from an audiovisual heritage perspective.
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Some people truly believe that 'the Internet is fundamental to the future of TV'. Be that as it may; given the convergence of televisual and net based interactivity, similar software and hardware screens – or even program formats for that matter – such a claim could, naturally, be regarded as merely stating the obvious. But if delivered by Eric Schmidt, former CEO at Google, it somehow makes a difference. As a television industry outsider, and according to the contextual description accompanying the video of the filmed event on YouTube, in late August 2011 Schmidt presented 'a hard-hitting MacTaggart address to TV broadcasters in Edinburgh'. As the first non-broadcaster to deliver the MacTaggart lecture in 35 years, Schmidt's talk on Google's 'small tube business' has been widely debated, and is, indeed, interesting on many levels. Centered on the ability of viewers to mix web and television content on TV screens via a Google Chrome browser (on a PC, Android smart phone or tablet), it can arguably be perceived as one of the more intriguing speeches in recent years on upgraded forms of television and computational mode(l)s to come.[1]

If the default value of 'digital TV' has shifted towards online, executives within the industry – like in other media sectors – are, nevertheless, still trying hard to think about, and come up with viable commercial and public service strategies for 'old media'. The stakes are high, and as a web tech insider Schmidt's take is, of course, different, literally suggesting new ways of looking. So, even if seen as 'a CompSci guy in the world of telly', as one commentator put it on YouTube, his talk is nevertheless illustrative of a shift in perspective, accentuating a web-centric view of the televisual landscape, notably with various forms of catch-up and on-demand TV services like the hugely popular BBC iPlayer.

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[1] A full, textual transcript of Eric Schmidt's lecture from the 26 of August 2011 can be found at – http://paidcontent.co.uk/article/419-watch-live-here-eric-schmidts-edinburgh-keynote-and-twitter-reaction/ (30 September 2011).

From a Google perspective with its clear cut mission (and commercial strategy) to attract as many users as possible, Schmidt was crystal clear in his talk about the company's absolute commitment to its Google TV launch during 2012, as well as a straightforward acceptance that TV 'is clearly winning the competition for attention'. Despite the hype in recent years around new media in general and the video vortex online in particular, global viewing patterns for traditional forms of television still outnumber web use. All digerati know this; lack of attending eyeballs remains a problem, not the least financially, since online advertisement is liable to follow the decreased formula of trading 'analog dollar into digital dimes'. In the UK alone, for example, adults spend more time watching television in four days then they do using the web in a month. However, according to Schmidt, 'you ignore the Internet at your peril. The Internet is fundamental to the future of Television for one simple reason: because it's what people want. Technologically, the Internet is a platform for things that traditional TV cannot support. It makes TV more personal, more participative, more pertinent.'[2]

1   Televisual Data

If the future of television is located online, Google is bound to have an interest. Then again, the hailed promise of so-called personalisation remains tricky, both on a technological and cultural level—and, as Schmidt repeatedly stressed in his talk, it 'requires data: the more the better'. Google collects data on a hitherto unprecedented scale, and user-generated data is, essentially, what makes this web behemoth tick. All data is used for commercial purposes, including giving it away for free. Google's freely distributed APIs and the increased sharing of networked data has, as a consequence, led to new ways of producing and distributing media content (and metadata) online which, suffice to say, not only pertains to the moving image sector. The Swedish national library catalogue, Libris, for example, uses a Google Book Search API, in order to offer free public domain copies of elderly Swedish books (scanned at American university libraries). Metadata from these (and 15 million other) scanned books are, also, already being widely distributed online. With Google's Ngram Viewer it's possible to visualise the rise and fall of particular keywords across millions of hundred-year-old books. The graph of the very term 'television', for instance, displays an interesting chart, generating some references around 1900 – then, from the late 1920s, use of the term increase, and of course, rises dramatically during the post war years.[3]

Mining textual archives and visualising the results in various ways, is, alas, one contemporary computational strategy of moving beyond the white search box. Moreover, it hints at the fact that the notion of a particular 'search' is probably not the answer to the more or less infinite digital archive. The future of television – if Schmidt has his way – will, likely, use similar computational modes to structure results, contextual queries or evolving viewing patterns within an emerging televisual datascape. There are, simply put, other and alternative ways of analysing and examining digital content through code and binary input rather than sheer human agency. At present, different ways of doing information visualisations like the Ngram Viewer is one illustrative case; various forms of content image retrieval systems is another. Data visualisation is often understood as the mapping of digital data onto a visual image, and so called 'info vis' of large-scale collections of non-numerical information – as files or lines of code in software systems or bibliographic (or televisual) databases – has been a major contemporary trend, all likely to increase in years to come.
Related are, of course, ways of scrutinising 'big social data' – that is, the ability to analyse data in scale within, for example, social networks, thus, 'enabling a range of intriguing and useful applications that can plug into social media networks and make use of the knowledge inside them', as ZDNet put it in May 2011.[4]

However, as Richard Rogers keeps reminding us, there remains an ontological distinction between the 'natively digital' and the 'digitised', that is, between digital objects and content 'born' in new media online, as opposed to, for example, scanned televisual heritage (like the video files at euscreen.eu) that have migrated into the digital domain. Essentially built and based on code, the former material can be analysed (extended and re-coded) in myriad of ways, whereas the latter often takes the form of a digitised .mpg or a Flash video file (to be searched for). In short, digitised material is not 'digital'. New forms of computational models, whether in the form of relational databases or alternative computational logics of media accessibility, then needs to take this particular distinction between the 'natively digital' and the 'digitised' into account. Still, it goes without saying that various

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2 Ibid.

3 A graphically charted search on 'television' at Google Ngram Viewer can be found at –
http://ngrams.googlelabs.com/graph?content=television&year_start=1800&year_end=2000&corpus=0&smoothing=3 (30 September 2011).

4 Dion Hinchcliffe, 'How social media and big data will unleash what we know' ZDNet 12 May 2011 –
http://www.zdnet.com/blog/hinchcliffe/how-social-media-and-big-data-will-unleash-what-we-know/1533 (30 September 2011).

forms of 'digital methods' ought to be used when approaching major media collections or a (televisual) heritage in bits online,[5] thus, hinting at the increasing role that computerised technology plays in humanistic research (whether it wants it or not): hence, the purpose of this article. In short, it tries to reflect on new computational structures, modes and search modalities in relation to digital media collections online (as euscreen.eu), and the ways that 'context of data' might differ and alternate at major media sites as, for example, YouTube.

If the computer is the cultural machine of our age, to invoke the notion of Peter Lunenfeld, the challenges of digital contextualisation in particular are immense, not to mention the issue of making sense of digital sources as thematic clusters of inquiry. These are, in fact, repeatedly posed epistemic questions – in short: what is a digital object? – within the field of digital humanities (which is rapidly picking up speed) – often linked to the cultural heritage sector. Hence, sitting in front of the computer screen, the discursive idea of the lone scholar, working in isolation with his or her own archiving solutions searching one 'item' at a time, will in various computational forms all likely (soon) fade away. As the report, Our Cultural Commonwealth already stated in 2006, humanist researchers and users of 'massive aggregations of text, image, video, sound, and metadata will want tools that support and enable discovery, visualisation, and analysis of patterns; tools that facilitate collaboration; an infra- structure for authorship that supports remixing, re-contextualisation, and commentary – in sum, tools that turn access into insight and interpretation'.[6]

As a consequence, media scholars, digital humanists and researchers working with cultural data sets have be- gan to pose questions as to whether new digital (media) archives, understood in a broad sense as massive col- lections of data, can be analysed and searched at all in traditional ways. If media scholars, for example, previ- ously worked by personally extracting data from archives, gleaning bits and pieces often found haphazardly, the millions of media items at, for example, archive.org, seem to call for, or at least imply a new practice (as well as theory) of doing media research, involving the very machines that transformed heritage into data in the first place. 'Digital archives can house so much data that it becomes impossible for scholars to evaluate the archive manually, and organising such data becomes a paramount challenge', as some humanities–computer science researchers have stated.[7]

2   YouTube And The Context Of Data

In his MacTaggart lecture, Eric Schmidt, explicitly (and extensively) framed web based television within a larger online video context – and, naturally, could not avoid discussing YouTube. Addressing the TV industry, he ironi- cally stated - 'I'd hazard a guess that by now most of you have used YouTube for free promotion – sharing trail- ers and so forth' - since the power of YouTube as a platform to promote different content is well proven. 'Not least by Viacom', Schmidt maliciously noted, 'who found it so valuable they couldn't resist secretly uploading clips even while they were suing us.' From a Google perspective, YouTube has always been promoted as a 'neutral platform', and according to Schmidt, it would be practically impossible to 'exercise editorial control in the way a TV channel can. If YouTube had to prevent every new video – 48 hours every minute – it simply couldn't exist'.[8]

With the advent of YouTube in 2005, an archival database mode of online media emerged, which has gradually developed into a global media phenomena, arguably unparalleled in media history.[9] With its collection of hun- dreds of millions of videos, YouTube is, simply, the world's largest vault for moving image material and is, as such, interesting to study from a more structural and computational archival media perspective. As a global me- dia hub, everyone – from UGC to commercial enterprises and NGOs – uses the site. Even traditional media ar- chives have exploited YouTube for their own benefits, with some also fiercely arguing that the site is hardly an

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5 For a general introduction and discussion on 'digital methods', see Richard Rogers, 'The End of the Virtual – Digital Meth- ods' (2009) – http://www.govcom.org/rogers_oratie.pdf – as well as the site Digital Methods Initiative – https://www.digitalmethods.net/Digitalmethods/WebHome (30 September 2011).
6 Our Cultural Commonwealth ed. Marlo Welshons, American Council of Learned Societies, 2006, 16 – http://www.acls.org/cyberinfrastructure/ourculturalcommonwealth.pdf (30 September 2011).
7 Michael Simeone et al., 'Digging into data using new collaborative infrastructures supporting humanities-based computer science research' First Monday no. 5, 2011 – http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/3372/2950 (30 September 2011).
8 Schmidt 2011.
9 For a broad introduction to the phenomena of YouTube, see Pelle Snickars & Patrick Vonderau, eds, *The YouTube Reader*, National Library of Sweden, 2009. The book has recently been CC-licensed, and can be downloaded for free from – http://pellesnickars.se/index.php?s=english (30 September 2011).

archive in a traditional sense. Many have, indeed, criticised YouTube's lack of quality, inadequate metadata and missing strategies for preservation. Yet, whether or not one likes the distinctiveness of media dissolving into a pulsing video stream of bits and bytes, traditional media archives, simply have to acknowledge that YouTube has become the new default media-archival interface.

The site, thus, poses numerous challenges, ranging from transformative web based practices as (social) tags, to methods to annotate and categorise information and media content, all in an effort to collectively classify, tease out and find data in other ways than simply through the mantra, 'search the collections'. Arguably, YouTube has in more than one way moved beyond 'metadata' as a catchall term for a variety of digital information that can be used to describe, organise and find video material. Online browsing is, for instance, a widely used option on YouTube, as well as simply 'clicking'. Within this quintessential new digital 'archive', one textual search is often enough, and then tags, suggested and linked videos lead users into a streaming vortex of differentiated media. Results are regularly filtered (based on previous algorithmic queries), still navigation more often than not becomes a process of the unintended, since there are so many videos on display with access just one click away.

Context of data content is often fleeting and arbitrary at YouTube: odd juxtapositions are the norm rather than the exception. Material is regularly detached from its place of origin. Clicking rather than searching, then, becomes an epistemic way of locating and perceiving media material, sometimes in coincidental ways. In fact, usage resembles that of walking around in (weird) open library stacks, even if the much praised digital 'openness' on the net in general, and on web 2.0 platforms (such as YouTube) in particular, always remains modulated on a protocological basis. A web browser is, after all, a translator of code and an interpreter of digital data that profoundly shapes user experiences. On the one hand, and from a strict computer-science perspective, user generated and participatory platforms like YouTube are nothing but databases. Yet on the other hand, in any given cultural context, surfing onto a platform and watching a video obviously entails more than that. From a media studies perspective it is therefore debatable whether we 'watch databases' only (Lovink 2008), or claims that there is 'no content, only data and other data' (Galloway & Thacker 2007), should have relevance regarding YouTube, or for that matter other cultural heritage or social media sites.[10]

Still, new media archives are essentially stacks of data and, from now on, every initiative a media archive ever initiates on the web will be measured against YouTube's ease of access – or as one commentator put it online: 'Why pay an institution to archive media from around the world when users seem to be doing it for themselves? Open source archiving I suppose it is.'[11] Then again, criticism is abundant, especially from the film archival sector and organisations as FIAF, traditionally centred on storing reels on shelves (and as a consequence drastically minimising usage). Yet, as a semi-commercial enterprise – a 'hybrid economy' to use Lawrence Lessig's term[12] - YouTube (nor Google) has never promoted the site as archive for preservation; rather, YouTube has always been about access only. Still, one critical remark often brought forward with regards to YouTube's graphic video display mode is the lack of contextual descriptions (metadata) in general, and the missing provenance of videos in particular. Regularly – as within, for example, a EUscreen project context(!) – the issue is brought up as being the major concern with YouTube video material, and especially, then, from a media research perspective. Unknown videos of uncertain origin, basically, cannot (at least in a scientific sense) be used as original digital sources, or so goes the argument.

Since the bulk of video material on YouTube is made up of user-generated-content (UGC), apt descriptions of producer, actors, transmission dates etc. often miss the point. And when heritage institutions do use the site, as for example the Library of Congress, they normally provide useful metadata and descriptions of their videos. Metadata is, of course, often missing on YouTube, and in a UGC context, with innumerable infringement uploads, how could it be otherwise? Users providing video material are normally more interested in the actual content than descriptions of it. A broader question, then, relates to what type of metadata can actually be described as apt, essential or even normative. Naturally, the issue is complicated, and answers differ according to who is being asked. Within the EUscreen project, for example, a research questionnaire was sent out, where some commentators were critical of the metadata standards applied in this very project, even if these are way more structured than on YouTube: 'Metadata is generally 1) too thin; and 2) too historically bound, reflecting the

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10 For a discussion, see Geert Lovink & Sabine Niederer, eds., *Video Vortex Reader: Responses to YouTube*, Institute of Network Cultures, 2008 – http://networkcultures.org/wpmu/portal/files/2008/10/vv_reader_small.pdf – as well as, Alexander R. Galloway & Eugene Thacker, *The Exploit*, University of Minnesota Press, 2007.
11 Lawrence Lessig, *Remix. Making Art and Commerce Thrive in the Hybrid Economy*, Penguin Press, 2008. A CC-licensed free copy can be downloaded at: http://www.lessig.org/blog/2009/04/remix_now_ccfree.html (30 September 2011).
12 See, 'The Great YouTube Archive' 23 July 2007 – http://www.vi-r-us.com/the-great-YouTube-archive/ (30 September 2011).

interests of its moment of genesis. Most of my work comes from looking outside the box, but this is admittedly pretty nichey work.'[13]

What constitutes ample descriptions of moving image material is, hence, in many ways an unanswerable question. It is worth noting, however, that the context of (meta)data in an online environment (a database) is quite different from traditional (media) archives. If someone is interested in, for example BBC Panorama, he or she will naturally find plenty of video material on YouTube (1,880 results as retrieved on 30 September 2011), but less descriptions and metadata, not to mention the apparent lack of more general information around the program series. The latter can, however, easily be found at Wikipedia, and the same goes for, say, film magician, George Méliès – 2,780 video results on YouTube as retrieved on 30 September 2011 – with plenty of accompanying information elsewhere online at the Internet Movie Database for example. For particular video items on YouTube, it may, of course, be frustrating for users (and researchers) to be unable to grasp and identify provenance, original date of transmission, technology used, etcetera – let alone finding the video in the first place – but on a more general level information is hardly a scarce commodity online, and especially not on 'open' platforms as YouTube. Rather, it is the various filtering mechanisms that pose problems. Even if it goes without saying that the web is an interlinked repository of information, always one search –or two clicks away. The context of data is, then, infinite in the digital domain, basically since Hypertext Markup Language (HTML) – the building blocks of all web pages – by nature is interlinked. Hypertext markup, in short, makes parts of a document into links to other documents, and the real challenge, in fact, regarding the 'archival' document or record is rather to place a structure of archival stability over what seems to be an endless flow of infinite possibilities within the digital domain. The digital (and sometimes the digitised) object can always be enhanced with new layers of protocol or code, and potential meanings and context can easily increase at an exponential rate.

Going back to Eric Schmidt, the 'context of data' was, in fact, framed in his talk as a contemporary tendency. Explicitly addressing new televisual forms, Schmidt rhetorically asked his audience in Edinburgh what computational trends there are to watch? 'I can sum that up in 3 words: mobile, local and social. If content is king, context is its crown – and one of the most important contextual signals is location.' Schmidt, thus, added mobile data transfer – and moving data is, essentially what Google does – as another layer related to the porous context of data. The notion of media as code, in fact, suggest that all data transfer related to the production, distribution and consumption of media content can be perceived as 'contextual'. Schmidt's remark, however, was not theoretical; rather he concretely stated that a 'mobile context' basically meant that if anyone searches for 'coffee' from their smart phone, 'odds are you're looking not for a Wikipedia entry, but for directions to a nearby cafe.' In addition, and related to the line of thought, social signals was another 'powerful driver of behaviour', for Schmidt. 'If three of my friends highly rate a TV series, odds are I'd check it out even if reviewers say it's rubbish.' The notion of the 'context of data' can, thus, potentially be expanded to include how 'best to use social signals and other taste indicators to provide more personalised content and services', following Schmidt. These involve everything from algorithmic recommendations to media material – with sixty per cent of Netflix rentals now being the result of such sophisticated code – to curate and social 'search'. Schmidt, in fact, envisioned the 'perfect TV channel' where being online and through 'a combination of algorithms and editorial nudges', suggestions might be individually crafted to, basically, suit anyone's interests or needs.[14]

3 Conclusion

Eric Schmidt will in all likelihood be dead wrong about the future of television. His contemporary visions, however, are interesting since they accentuate that TV is no longer what it used to be. And (in digital form) the same goes for its past. A televisual heritage transformed into bits, thus, needs to be analysed with care, and in a sense 'follow the medium' which it nowadays reappears in. Digital television does not come in the same format as a digitised TV clip from the past – digitised material is not digital.

As a consequence, making sense of digital objects in an online environment is, indeed, cumbersome. This article has tried to use a televisual talk of a former CEO at Google to highlight various contextual aspects of media as code, which more often than not are seen as unproblematic from a media research perspective. Digital objects, whether in the form of old digitised television or as YouTube videos are truly tricky sources – both from a research and contextual perspective. However, leaving aside the fact that historical source critique is often prob-

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13 See, EUscreen 'Content Selection Questionaire' Summary, 13 January 2011, as well as the Questionnaire Report at – https://beeldengeluid.basecamphq.com/projects/3983410-euscreen-wp3/posts/28120261/comments#57373862 (30 September 2011 (restricted access)).
14 Schmidt 2011.

lematic especially when applied to dynamic 'digital objects' – the 'source' of the single Wikipedia article on the 'The Iraq War', for example, contains 12,000 changes, all kept by the wiki version tracker (with many changes done by nonhuman, automatic bots)[15] – and not to mention the fact that what designates a 'source' is simply the way certain material can be used to answer a particular set of questions, all source code can always be displayed online (as at YouTube) in an instant. The 'digital' has a tendency towards detached flatness. But all code is deep – in contrast to flat print (Hayles).[16] Hence, it's only the appearance of the pixels that are shallow. At 'view-source:http://www.YouTube.com/' line 10 to 14, for example, display:

<title>

YouTube - Broadcast Yourself.

</title>

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<link rel='alternate' type='application/rss+xml' title='YouTube - Blogg' href='/rss/global/our_blog.rss'>
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Hence, media specific analyses of videos at YouTube – or euscreen.eu, for that matter –have to take into account their contextual nature as coded digital objects. Code, for instance, works to relocate relations within and between moving images, whereas the code used in MPEG-2 codecs, for example, reorganises images at many scales and combines many distinct compression techniques. The context of data, in other words, is not only about apt metadata and its potential empirical 'thickness'. Such a claim totally misses the specificity of 'the digital'. Rather, the context of data can be understood in alternative ways, taking advantage of the opportunities of digital media. Accentuating the inherent context of data (and code), thus, hints at the rich potential of the 'digital object', which in turn might lead towards a more dynamic understanding of, for example, a digitised televisual heritage.

Biography

Pelle Snickars is head of research at the National Library of Sweden and coeditor, with Patrick Vonderau, of The YouTube Reader as well as the forthcoming, Moving Data. The iPhone and the Future of Media (Columbia UP). Snickars is a media scholar, with numerous published books on Swedish media and media history, from digital photography and file sharing to early TV, amateur film and lantern slides. His work can be found at www.pellesnickars.se.

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15 See James Bridle, 'On Wikipedia, Cultural Patrimony, and Historiography' 6 September 2010 – http://booktwo.org/notebook/wikipedia-historiography/ (30 September 2011).
16 N. Kathryn Hayles, 'Print is Flat, Code is Deep: The Importance of Media Specific Analyses', Poetics Today, No. 1, 2004.