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Introduction: Researching YouTube

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As famously known, YouTube was founded in February 2005 by three PayPal employees. Less than two years later, Google acquired YouTube for a fee of $1.65 billion, at a point when the major significance of a raft of new websites based on user-generated content, such as Wikipedia, Myspace and Facebook, was becoming increasingly apparent. The cover of Time magazine duly announced 'You' as the winner of their Person of the Year Award for 2006, alongside a reflective mirror within a YouTube style of computer screen interface (Time Magazine, 2006).

While many social media proved to be ephemeral, YouTube continues to rapidly expand and has become the second most visited website in the world. It has thereby established a unique role as a repository of popular culture, creating a diachronic archive over time as well as synchronically expanding in its scope. In his paper on 'YouTube Channels, uploads and views' published in this special issue, Matthias Baertl estimates that by 2016 the total number of videos hosted on the site was around four billion. Showing how the quantity of content uploaded on YouTube has expanded exponentially over the years, Baertl also demonstrates the waning probability of being in the top 3 per cent of the most watched videos, which attract 85% of views. 50% of videos uploaded in 2016, attracted 89 views or fewer. Even so, some new channels were able to attract a lot of attention with videos in the Comedy, Entertainment, Gaming, How To, and Style categories having an above-average chance of reaching the top 3%. But this distribution has changed over time. Entertainment has been the most popular category only since 2013, while the popularity of News and Politics fluctuates, with peaks occurring during the political upheavals of 2008 and 2016 as well as in response to shorter news cycles. The majority of newly created channels since 2010 have been in the People and Blogs category, reaching close to 75% in 2016. Despite the attention these channels have attracted from journalists and academics fascinated by the development of a new YouTube type of celebrity, this research shows they have a worse than average chance of reaching the top 3% as the number of channels proliferates.

In its initial phase, scholarly work on YouTube focused mainly on the role of the platform in circulating audiovisual cultural materials generated by its users. For instance, Lange (2007) studied the relationship between video sharing and social networking, and identified varying degrees of publicness that content creators attach to their own videos. On the computer science side, Cheng et al. (2008) amassed a vast array of distribution statistics that were able to offer an early overview on video sharing practices on the platform. Yet, it was two edited books which amounted to be the most significant milestones in early YouTube research. Snickars and Vonderau's edited collection (2009) signposted the relevance of the platform for practices of cultural production, while Burgess and Green's book (2009) foregrounded its unrivalled capacity to host, facilitate, showcase and store 'vernacular' culture. Building on these works, in recent years a multi-disciplinary field of inquiry has emerged which has taken the platform as the chief case study for the investigation of research questions dealing with digital culture and society in a broad sense. Topics such as political expression (Halpern and Gibbs, 2013), masculinity (Morris and Anderson, 2015), monetisation (Postigo, 2016), parenting and digital literacy (Livingstone and Sefton-Green, 2016; Lange, 2014) and music consumption (Vernallis, 2013; Airoldi et al., 2016) have all been studied by looking at YouTube and its platform affordances as a milieu for the deployment of 'the social' (Marres and Weltevrede, 2017) in the digital context.

This special issue arose out of an international academic conference on YouTube that was held in London at Middlesex University in September 2016 that aimed to create a robust overview of YouTube's changing character and significance after its first ten years of development (YouTube Conference MDX, 2016). The conference created a productive dialogue between speakers from different disciplines and cultures, and between YouTube-specific research and wider debates in media and social research on identity, aesthetics, politics, celebrity, production practices, business models, and research methods in digital culture.

Our keynote speakers established the parameters for this dialogue (YouTube Conference MDX, 2017). Jean Burgess (2016) presented a 'platform biography' of YouTube, looking back on what had changed since the publication of her foundational book with Joshua Green in 2009 .She characterised its early days as a web 2.0 widget, before iPhones, smart TVs or social media apps, that encouraged 'vernacular creativity' with its 'Broadcast Yourself' tagline - alongside the unanticipated uploading of clips from TV that led to conflict with copyright owners. She identified 'vlogging' channels as a significant development that has enabled a convergence between user-generated and advertiser-friendly business models. Following on, Stuart Cunningham's (2016b) 'media industries' perspective identified a 'new screen ecology' with YouTube gaining four billion views per day, 50% on mobile devices, while contrasting its short-form DIY practices with Hollywood's lavish quality TV series. The relative freedom of this 'proto industry', with little content or IP regulation, allows for greater diversity – 80 % of videos originate outside the US, while the precarious livelihood of their makers trades on authenticity and community. The first day concluded with Vice Media's Kevin Sutcliffe (2016) and web drama producer and actor Katie Sheridan (2016) explaining how they achieved success in this context from a professional standpoint, being able to offer an alternative to 'the tired formats of traditional TV'.

Research methods to study YouTube were the focus of the second day of keynote talks. Mike Thelwall and Farida Vis illustrated the usefulness of digital and computational research methods for the study of the platform. Mike Thelwall (2017) demonstrated the functioning of Webometric (http://lexiurl.wlv.ac.uk), an automated tool for the collection of social media data through the platform's Application Programmimg Interface (API) and how this enabled his research on YouTube. Farida Vis (2017)presented a thought-provoking account of the challenges of teaching digital methods to students who, surprisingly, know less than commonly assumed about how to navigate the interface and how to use the API for research. Bringing the conference to a close was Sonia Livingstone (2017) who offered an important reminder that our understanding of social media should include ethnographic modes of research that study how these tools come to be integrated into people's everyday lives. Reporting on the findings from her fieldwork with Julian Sefton-Green (2016) of a class of young teenagers in a London school, she noted that YouTube is just one of many social media platforms that permeate these youngsters' networked relationships and activities, although they found that only a small minority uploads their own videos. Trends in young people's media use in the UK can also be gleaned from Ofcom survey data which showed in 2016 that the under-24's spent more time online than watching television and, in the preceding year, their viewing of online video had increased by 25% (OfCom, 2016).

In the sections which follow we focus on four themes that help to contextualise the papers that were selected from the many submitted for inclusion in this special issue. Some of those we didn't have space for, will be published in subsequent general editions of the journal. Inevitably, those we selected don't cover all the potential areas of research about this diverse platform, with YouTube's impact on the wider landscape of the audiovisual media industries a notable absence – it has eclipsed MTV as the music industry's primary marketing outlet, for example (Sweney, 2017).

Participatory Culture and User-Generated Content

What is native to the platform are (what old media would call) amateur videos. User-generated content, a phenomenon initiated by the interactive affordances of Web 2.0 and the widespread availability of portable video cameras, can now be found on multiple social media sites as well as more specialist video platforms. Newsworthy or mundane and everyday, the amateur nature of YouTube videos is what made it distinctive as a platform in the early days rather than uploaded commercial content such as news or entertaining clips from TV. Despite changes in the platform's algorithms, Google's purchase of YouTube in 2006, and the expansion of commercial channels, studies have found that in some genres, such as science communication, user-generated content retains its popularity (Welbourne and Grant, 2016). But there has also been a large degree of cross-influence between amateur and professional content within an increasingly participatory media culture (Jenkins, 2006; Delwiche and Henderson, 2012).

User-generated content for instance quickly established itself as a valued alternative to professional live news reports on television, enabling the fast circulation of footage shot by people who were either already present as events unfolded or on the scene within minutes. As an example, a video shot on a mobile phone inside the train carriage that was bombed in the London underground on 7 July 2005 first established user-generated video in UK news reporting when it was broadcast on television within hours (Allan, 2007). Since then, a body of academic work has developed on the global impact of 'citizen journalism' in crisis situations (Allan and Thorsen, 2009 and 2014), such as humanitarian disasters (Cottle, 2009) or the violent uprisings of the 'Arab Spring' (Gerbaudo, 2012).This development has initiated a transformation in the practices of mainstream TV news (Belair-Gagnon, 2015), but a key difference enabled by uploading videos to YouTube is that events and commentary can be presented from an 'insider' perspective and circulated globally without editorial intervention.

This potential can be used by marginalised and activist communities to engage new supporters via YouTube. This is the subject of Michele Martini's paper in this volume, 'On the User's Side: YouTube and distant witnessing in the age of tech-enhanced media visibility'. He highlights YouTube's declaration of pride on its Creator Blog in being a platform for witnesses to share a 'first hand recording of an important human right issue' and their reluctance to remove videos for security or privacy reasons when responding to government requests. The opportunity to challenge dominant regimes of visibility via YouTube is exemplified by the B'Tselem Camera Project in the Palestinian Occupied territories which aims to constrain military and settler violence by enabling Palestinians to film human rights violations from the victim's perspective. Although the viewer will not always align with the victim, Martini argues that it generates an archive that feeds into wider political debate and potentially works as a constraint on state sponsored or criminal violence when perpetrators know that people's everyday lives are experienced as potentially filmable and shareable.

Further technological advances have enhanced this capacity. YouTube was one of the first platforms to introduce live video streaming as a feature in 2011. Whether one to many or one to a selected few, YouTube Live now competes with Periscope, Meerkat, Facebook Live, YouNow, Glide, Livestream, HangW/, Skeegle (the last two streaming for friends), to mention but a few. Now flying cameras, or drones, have made it possible to offer a bird's eye view which Martini identifies as a 'non-human perspective' that makes visible what is inaccessible to the human eye and body. Whether it's an iceberg breaking in the Antarctic in the Larsen C ice shelf, the destruction of Mosul in Iraq or the burnt out shell of the Grenfell Tower in London, drone footage has been used both for research purposes and as politically powerful iconography - whether of ecological devastation or the human costs of war or social inequality. Live streaming from drones has been used for what Martini calls 'online real time witnessing', by Native Americans in the Standing Rock Reservation protesting against the Dakota Access Pipeline. She argues that this practice creates 'an intimate bond between the event, the filming users and watching users' in real time. The opportunity to engage with the camera operator during streaming strengthens this bond and generates further global support for their cause.

But it would be naïve to assume that YouTube's political potential is only used for 'progressive' political purposes. It is important to consider the range of political activism found on the platform, with ISIS propaganda a notorious example which has led Google to respond to increasing pressure to accept greater editorial responsibility, in the same way that traditional media companies are required to do, by pledging to develop more advanced machine learning systems to identify and remove 'extremist' content (Gibbs, 2017). Although Google wants to maintain the distinctiveness of YouTube's brand as an 'open' platform, the hidden working of its algorithm has always influenced what gains most visibility. In this volume, Fernandez, Coromina and Rieder's study of the ranking of political videos found that the YouTube algorithm prioritized channels with high frequency uploads run by 'native' YouTubers rather than commercially produced news. They also identified a new elite of right wing commentators,'niche entrepreneurs' who 'thrive on controversy and dissent', who were consistently found at the top of the recommendation listings despite their lower number of views.

There has been rising public concern over the political and social impact of 'fake news' and 'hate speech', and the 'filter bubble' that restricts the range of videos we get to see, and this is widely thought to have helped to create the 'post-truth' populist politics that affected both the 2016 elections in the US and the Brexit referendum in the UK. These developments have prompted action from Google (and Facebook) to pre-empt any change to the US legislation that currently protects their immunity from editorial responsibility (Naughton, 2017). In addition to making greater efforts to take down objectionable videos, YouTube in the UK has initiated workshops for 13-18 year olds to teach them how to handle offensive speech online, spot fake news and use videos to increase diversity as part of its 'Internet Citizens' programme (Simon-Lewis, 2017).

YouTube as a Hybrid Commercial Space

YouTube is now characterised as a paradigmatic example of a hybrid commercial environment where user-generated content production is efficiently tied to forms of monetisation. Lobato (2016) has pointed out that the evolution of YouTube through the introduction of paid advertising is shifting academic analysis on YouTube from the context/viewpoint of participatory culture towards an analysis of a 'hybrid cultural–commercial space' (Lobato, 2016:357). YouTube has come to represent a unique middle-ground between industry practices and popular culture that fosters a complex and sophisticated ecosystem of promotional practices. This has been accompanied by criticism of the 'exploitative' practices of value capture by Internet companies that profit from the 'free labour' (Terranova, 2000) of its users who are at the same time both producers and consumers of information and content – a practice variously described as 'produsage' (Bruns, 2007) and 'prosumption' (Ritzer and Jurgenson, 2010). From a political economy perspective the Internet has been described as a 'playground and factory' (Scholz, 2012) whereby the leisure activity of users is subsumed to capitalistic accumulation.

Within this debate, YouTube has assumed a special role, thanks to an advertising model that facilitates new forms of monetisation based on the engagement of users. Studying game-play commentators on YouTube, Postigo (2016) has argued that YouTube's technical affordances enable a smooth translation from distribution of videos and channels into shared revenues through the affective-based monetisation enabled by features of the 'platform architecture'. These facilitate the collection of viewing data which ultimately feeds the platform's advertising-based business model and ignites the value creation processes.

This development has brought about the rise of a set of new intermediaries, known as Multichannel Networks (MCNs) (Cunningham et al., 2016; Lobato, 2016). These are 'third-party service providers that affiliate with multiple YouTube channels to offer services that may include audience development, content programming, creator collaborations, digital rights management, monetisation, and/or sales' (YouTube, n.d.) and represent an entirely new market that negotiates between the various actors involved – creators, large media corporations and the platform itself. Content producers (YouTubers) increasingly rely on these intermediaries in order to grow their audience and manage the complex network of affiliate marketing – the so-called revenue sharing - which is mandatory for them to turn their video production activity into a profitable business. MCNs promise to navigate the 'mysteriousness' of the YouTube algorithm and how it works (Cunningham et al., 2016:381), and thus increase views while also helping YouTubers become professionalised faster (Lobato, 2016).

Yet although the YouTube advertising model is seen as particularly effective for brand awareness (Dehghani et al., 2016) YouTube in 2016 was still regarded by its CEO Susan Wojcick as in an 'investment stage' of development which implies that it has yet to return a profit (Rao 2016). Google has sought to persuade more advertisers to use YouTube through publicising their own research showing YouTube's growing popularity with 18-24 year olds. Although the trends in young people's viewing practices are in their favour in comparison with a decline in TV viewing, other industry researchers pointed to the very low proportion of their viewing time on YouTube that was spent watching ads – a video usually has only one pre-roll ad, many of which are skippable and the majority of viewing is by a small number of heavy users, meaning that TV still has a far greater reach (Spanier, 2016). Corporate concern over 'brand safety'- that is the assurance that

their advertising won't appear alongside offensive or extremist videos - has also underpinned Google's increased willingness to actively manage what appears on the site, especially after a recent instance when major companies pulled their advertising from the platform after they appeared alongside extremist content. 'This marked a turning point for YouTube' (Solon, 2017).

In a process of professionalisation of content creators, including production support from YouTube for vloggers with more than 100,000 subscribers, the amateur aesthetics that characterised YouTube videos in the early days have become institutionalised (Kim, 2012). 'Viral' memes, remixes and mash-ups in many cases do not represent simply forms of disinterested creative expressions by playful users but come to be part of an ecosystem that inducers users to play the game of a 'like economy' (Gerlitz and Helmond, 2013), largely for corporate purposes. Thus, amateur aesthetics often become a chief professional device for YouTubers, insofar as these enable the transformation of the display of intimacy into the perception of authenticity – which remains a powerful marketing tool - in an ecosystem that promotes practices of reputation building and entrepreneurialisation of the self and has affordances that enable its translation into value. Yet, this also creates new forms of inequality since the 'microcelebrity' status that some YouTubers are able to achieve (Senft, 2013; Marwick, 2013) remains out of reach for many, and reinvigorates the discourse around 'free labour' practices on the side of content producers – as further demonstrated by the recent launch of a number of 'union-like' initiatives for YouTubers to protect their revenue flows, such as the Internet Creators Guild, or Union for Gamers. Nevertheless, the aspiration to become a celebrity constitutes the foundation of the contemporary popularity of 'vlogging' practices, which are subject to detailed attention in three articles selected for this special issue.

Vlogging and YouTube Celebrity

The affirmation of vlogging represents the latest byproduct of the dynamics of entrepreneurialisation of the self that connote social media as a whole, and not only YouTube. Since Hearn's (2008) early exploration of the way online affordances fostered the construction of a branded self, several scholars have argued that social media platforms incentivise managerialised practices of celebrity construction (Marwick and boyd, 2011; Senft, 2013; Marwick, 2013; 2015). In the influential 'Status Update' Alice Marwick (2013), outlines how the techniques of self-presentation that are performed by 'micro-celebrities' – whose celebrity status is established through recognition by a niche group of people online - are at once a marketing device and a form of entrepreneurial labor, that requires them to develop an 'authentic' brand (Banet-Weiser, 2012), while Duffy (2016) notes this as a form of 'aspirational' labor. These practices operate within the expanding cultural processes of 'celebritisation', that is the way in which social and economic capital is accumulated across social fields such as politics, fashion, sport, or journalism through hierarchies of visibility that depend on media exposure (Driessens, 2013).

Revenue potential through social media activity however remains highly volatile, and dependent on one's capacity to develop a status and exert (real or presumed) 'influence' within the relevant community. Likes, retweets and mentions or, in the case of YouTube, views, subscriptions and comments, come to represent a proxy for one's reputation, since vloggers can leverage on this process to seek external outcomes such as sponsorship deals and advertising revenues and, for a few, paid work in the traditional media or the wider promotional ecosystem. In a first attempt to regulate this new market in the UK, vloggers have been required by law since 2014 to include 'ad' to their video description when it includes paid-for promotional content. In 2016 the Economist estimated that YouTube 'influencers' earned around twice as much from endorsements on YouTube in comparison to Facebook or Instagram, with the average ranging from $12,500 for up to 500,000 followers to $300,000 for over 7 million (2016).

Vlogging - literally a remediation of blogging (itself a remediation of the diary) grew out of the user-generated content and prosumerism phenomenon and now represents an important subset of YouTube as a whole. There's a plethora of vlogging styles, tastes and preferences based on topics such as games, politics, beauty, fashion, cooking, family, or more general 'lifestyle' vlogs and are often produced in the vlogger's own home, or a set that resembles it (Hillrichs, 2016). It is

symptomatic of more widespread changes in audiovisual media culture brought about by reality television. The global impact of *Big Brother* (2001-) and its direct-to-camera 'diary room' established its 'confessional' ethos. These 'private' moments offered self-reflexive commentary on the more 'public' interactions with housemates continuously live-streamed from fixed rig cameras and then edited into highlights for television. Cultural norms marking the boundary between private and public life shifted to the extent that now, for example, vlogger Rosie Spaughton was reported to be planning to livestream the birth of her child online (Stuart, 2017).

Although currently 80% of the fifty most subscribed vloggers are men, vlogging is a practice with antecedents in 'camgirl culture' when webcams first made 'authentic' life-streaming in video over the internet a technical possibility, albeit at a very low quality and speed (Shields 2008). The gendering of these identity practices is explored by three of the papers collected here, which together make a substantial contribution to our understanding of this aspect of YouTube's cultural influence. All three use beauty vlogs as their examples, a key subset for women vloggers when almost all the most successful are of this type, both in terms of subscriptions and of monetisation through commercial sponsorship of the products used. In 'Self-optimisation, Inequality and the YouTube Algorithm', Sophie Bishop studies the strategies used by successful beauty vloggers and, in particular, how they are influenced by their knowledge and assumptions about the workings of the algorithm to produce videos that are compatible with attracting brands to advertise and thereby share the revenue gained. She identifies longer viewing times, upload frequency, tagging and keyword practices, and 'searchable talk' as salient. She concludes that 'self-optimisation' practices result in self-reflexive modes of postfeminist performance linking empowerment to consumption, but which ultimately conform to normative power relations in relation to gender, class and race.

The relationship between these commercial practices and the strong sense of community on which they depend is the focus of a second case study of beauty vloggers in Rachel Berryman and Misha Kavka's 'Crying on YouTube: Vlogs, self-exposure, and the productivity of negative affect'. This builds on Abidin's field work on influencers in Singapore (2015) in which she identifies 'perceived interconnectedness' as underpinning the affective bonds between vloggers and their followers, generated through intimate revelations of vloggers' everyday lives (2015). Berryman and Kavka focus on the growing tendency for occasional vlogs that are presented as 'really real' in which the performance of emotional vulnerability boosts followers' belief in the vlogger's authenticity. The vlogger's 'affective labour' creates an 'intimate public'- defined as 'an affective scene of identification among strangers' in Berlant's widely cited study of women's media culture (2008). These videos may offer advice based on self-reflexive accounts of struggling with social anxiety and panic attacks, or be recorded in the midst of an emotional maelstrom that potentially acts as a form of catharsis for both the performer and her followers. They cite Trisha Payton's 'crying vlogs', for example, which start with her collapsing onto the floor: 'I don't even care if I'm in frame' and end with her declaring 'I feel so much better'. An aesthetic of 'rawness', emphasised by smudged make-up and messy hair, is an antithesis to her usually glamorous image. The conclusion argues that the vloggers' self-exposure is both the symptom of and the reparative treatment for the emotional vulnerability that vlogging creates.

The symbiotic relationship between beauty and fashion tips and more intimate emotional and physical exposure is also a feature of the videos uploaded by transgender vlogger Julie Van Vu. But the context and meaning is changed by their activist purpose for a marginalised community of 'trans' vloggers. Tobias Raun's 'Capitalising Intimacy' identifies Vu as a 'subcultural micro-celebrity' whose visibility is premised on a 'joint venture of commercial and activist engagement' that is indicative of YouTube's hybrid culture. In the self-reflexive diary form of her 'transition videos', psychologically and physically exposing details of her medical and surgical processes are addressed to a community of transgender insiders. In addition, her beauty and fashion tutorials educate a broader public about trans issues while highlighting the ongoing work of femininity that applies to all women. Sponsored brand promotions help Vu pay for the procedures and products that many trans women struggle to afford. Vu's commodified trans status as a micro-celebrity depends on 'performed authenticity' accomplished through the 'transgressive intimate self' of her transition videos, a term coined by celebrity theorist David Marshall (2010:42-45) to supplement

the binary division between public and private selves that no longer captures the full range of 21ˢᵗ century celebrity personae.

These three papers offer insights on the distinctive characteristics of a specifically feminine YouTube celebrity. But they also support Jerslev's more general analysis of the different temporalities and spatial relationships of YouTube celebrity: she contrasts the distance, scarcity and privacy cultivated by old-style media celebrity with the proximity, accessibility, and immediacy of YouTubers whose high level of interaction sustains their followers' loyalty (2016). Relatively few celebrities transfer across in either direction, with old style celebrities reluctant to devote so much time to their fans, and YouTubers equally reluctant to give up their DIY freedoms, although cross-over stars such as beauty vlogger Zoella (Zoe Sugg) have achieved widespread media celebrity.

The 'Mystery' of the Algorithm and Digital Methods of Research

The logics of entrepreneurialisation that constitute the core of the reputation-based dynamics to which content creators on YouTube are subject are directly intertwined with the technical specificities of YouTube's affordances. We have seen earlier how a YouTuber's success and the outcomes one is able to elicit, are partly dependent on the capacity of a certain video to 'work' the platform's infrastructure to an extent that the processes of affect-based monetisation are enabled. Yet, as noted earlier, a key feature in this process and, more in general, for YouTube's technical functioning is what Cunningham et al. (2016) have called a 'mystery': that is, the algorithm that regulates the viewing suggestions and recommendations.

The main component of the YouTube algorithm is the 'recommendation system' that suggests to users content to access, purchase or view and therefore plays a significant role in determining which videos will be more successful – and remunerated – than others. From papers published by researchers at Google we also learn that the YouTube algorithm is constructed according to the computational principle of 'collaborative filtering analysis' (see Airoldi et al., 2016). The functioning of collaborative filtering analysis therefore implies that the appearance of a video suggestion on a user's screen is not simply the result of an algorithmic elaboration but of one wherein the aggregated practices of viewing are taking into account, thus with an eminently social logic. An example of how this works is given by music consumption. Airoldi et al. (2016) collected a sample of more than 22000 music videos, obtained from a scraping of the YouTube API, and analysed their clustering properties via social network analysis in an explicit attempt to investigate the relationships of relatedness among each video. The authors evidence how, while a majority of the videos cluster together on the basis of usual criteria, such as genre or chronological associations, a significant portion of the videos also come to be associated by what they call a 'situational' mode of consumption, which is a peculiar feature also of dedicated music platforms that aggregate music content for consumption on the basis of the mood or situation (e.g., running, dinner, etc.). What is interesting is that this is the result of a blend of the social practice of co-viewing by users, as well as of the computational effect of the algorithm, which is impossible to estimate, but easily observable in its effect on the groupings of videos.

Yet, like the vast majority of the algorithms that regulate Internet platforms, the actual formulation of the YouTube algorithm is undisclosed and stands as a 'black box' (Pasquale, 2015) of unaccounted power dynamics, the functioning of which has tremendous consequences on the winners and losers of this 'like economy' (Gerlitz and Helmond, 2013). Any changes in its functioning result in more or less significant consequences at various levels for producers and all stakeholders involved, including potential revenue loss. As a consequence, research has to comply with the role of this 'black box' algorithm within the specific dynamics observed. Its closed nature poses a theoretical, but also a methodological question.

Digital methods research (Rogers 2013), which makes use of the systematic application of computational, code-based methodologies to query a platform's API for data collection, has been affirmed as the standard for the study of the meeting of technology and 'the social' across social media platforms (Marres and Weltevrede, 2017). Some light has been shed on the features and functioning of these algorithms but many issues still exist. Collecting large data sets 'scraped'

through the platforms' API is a task that requires programming knowledge that many researchers in the arts and humanities or the social sciences still lack and therefore research teams that combine multiple types of expertise are required to address the complexity of the work. The challenges around the technicality of the algorithms are compounded with corporate decisions that change the functioning of the algorithm or the API interface, which means that data collection and the reliability of research results can also be affected. For example, Baertl's paper in this volume highlights the difficulties in choosing sampling techniques to produce reliable comparable data over the ten year period of YouTube's existence.

Within digital methods research, Rieder (2015) has highlighted how YouTube has been a particularly understudied platform compared to others, such as Twitter. As part of his work at the Digital Methods Initiative at Amsterdam University (wiki.digitalmethods.net), he designed a set of YouTube Data Tools that allow researchers to try out the automated 'scraping' of the YouTube API on the basis of given criteria, akin to the work Mike Thelwall presented at the YouTube Conference at Middlesex. This collection presents the development of Rieder's digital methods work on YouTube, in the paper co-authored with Ariadna Matamoros Fernandez and Oscar Coromina on YouTube's 'ranking cultures'. The authors used a combination of digital and qualitative methods to develop a 'descriptive assemblage' of user practices and creator tactics and how they interact with the computational algorithm on YouTube. Using the platform's API, they collected over a period of time 7,000 videos in the top 20 of the listings using six contemporary and controversial query terms: 'islam', 'gamergate', 'Syria', 'islam australia', 'sanders', and 'trump'. Using computational and visualisation techniques they identified videos that were stable in their position in the rankings, those that were strongly affected by news events, and those that were generally stable but had 'newsy' interruptions. They found that the YouTube search algorithm picks up and amplifies these 'attention cycles', producing 'ranking cultures' that determine the hierarchical listings we can find on YouTube.

This collection also offers a useful comparison of approaches, which we believe contributes significantly to a better understanding of how the YouTube algorithm works. Alongside the 'digital methods' approach, in Bishop's paper – that we introduced previously – we can find find a version of 'the reverse engineering' processes developed by Kitchin (2017) that studies 'algorithmic signals' in order to observe the combined effects of the encounter between socio-cultural practices and technological affordances. Interestingly, the authors of the 'ranking cultures' paper write that reverse engineering techniques are likely to bear shortcomings in the research process. Yet, Bishop contends that it can be enlightening to study not just what the algorithm does, but also what users *think* the algorithm does, and that this may produce a rich baseline for larger studies that make use of digital methods.

In developing this special issue we wanted to publish the very best of current research on YouTube to encapsulate its culture and technical affordances and its wider social and political influence now that it is fully integrated into the hybrid mediascape as a major global force. We hope this overview of the field inspires future research that will deepen our understanding of this complex phenomenon and enrich the body of knowledge about emergent cultures and practices that are developing around platforms and algorithmic affordances.

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