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## PLATFORM STUDIES: THE RULES OF ENGAGEMENT

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### Panel Overview

Social media platforms like Twitter, Facebook and YouTube are central to people's experiences of the internet and mobile media, and increasingly extend far beyond communication or entertainment, into transport, health, and finance. These platforms also serve up and serve as data for internet scholars and practitioners. How should we best approach platforms as objects of study? How do platforms' rules and norms for engagement shape the practices we study? How do the material rules of these systems – their algorithms, their APIs, the analytics they provide – shape what we can know about them?

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While the importance of and methods for studying platforms have long been debated in game studies (Bogost & Montfort, 2009; Apperley & Parikka, 2015), this panel represents a more inclusive and deeper iteration of platform studies, one that focuses on thinking critically about the best ways to understand the roles platforms play in mediating our media, communication and cultural environments; and one that integrates materialist approaches such as software studies with the core concerns of the media and communication disciplines understood more broadly. We bring together four papers that examine, first, how platforms shape what can be known about them; and second, to what extent we can understand them not only despite but *through* those processes and the traces they leave behind.

Each paper models a distinctive theoretical and/or methodological approach; and they collectively engage with and across diverse media cultures, paying specific attention to the sociotechnical arrangements that coordinate and influence them.

1. How affordances arise through relations between platforms, their different types of users, and what they do to the technology;
2. How the social media APIs that scholars so often use for research are—for commercial reasons—skewed positively toward ‘connection’ and thus make it difficult to understand practices of ‘disconnection’;
3. A biography of Twitter (a story told through the intertwined stories of its key features and the social norms that give them meaning, drawing on archival material and oral history interviews with users); and
4. Insights into the actual uses to which audience data analytics are put by content creators in the new screen ecology (and the limitations of these analytics).

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# 1. A PLATFORM-SENSITIVE APPROACH TO ANALYZING THE AFFORDANCES OF SOCIAL MEDIA PLATFORMS

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## Introduction

The concept of affordance has emerged as an important keyword within media and communication studies to describe the relations between technology and its users. Originally developed in the field of ecological psychology (Gibson 2015) and later adopted in design studies (Norman 1988), the concept of affordance is generally used to describe what material artifacts like media technologies afford people to do. In this paper we will suggest a platform-sensitive approach to affordance as an analytical tool for examining social media platforms with a case study on Twitter.

As we will highlight, however, the concept of affordance an ambiguous concept. In outlining its specific intellectual trajectory from psychology, technology and design studies, sociology, to communication and media studies, our intention is to focus on some of the many (and sometimes conflicting) ways in which affordance has been conceptualized and operationalized across various disciplinary boundaries. Even within the field of communication studies there is not one single way in which scholars have come to understand the concept of affordance. Following the renewed debates over affordances in recent scholarship on social media, this paper addresses some of the new directions in which scholars have proposed to define and analytically deploy the concept in media and communication studies.

## Conceptualizing affordances

We first describe how the concept of affordance has been used to study the relations between technology and users through the notions of affordances as a relational property between actors and their environments (Gibson 2015), perceived affordances (Norman 1988), technology affordances (Gaver 1991), social affordances (Wellman 2003), and communicative affordance (Hutchby 2001). Subsequently we address how it has been employed to analyze social media in particular with ideas of imagined affordances (Nagy and Neff 2015) and vernacular affordances (McVeigh-Schultz and Baym 2015) to better account for the complex relationships between technology and sociality.

## The multi-directionality of agency and connectivity

Our purpose with outlining the different conceptions of affordance is to point out its intellectual history, ontological status and analytical value. The different concepts outlined above seem to focus on what technology does to users, and not for instance the other way around. Given the relational ontology of Gibson's original concept, it

seems somewhat surprising that the relationality in question often seems to be applied rather unidirectional. The question is seldom what platform users such as end-users afford or do to technology (not to be confused with the rather popular question of what users do with technology), or even what a technology affords another piece of technology. In order to do the concept of affordance justice we need to think much more relationally and multi-layered about the concept and retain a sense of platform-sensitivity.

If Actor-Network Theory (ANT) and similar approaches have taught us anything, isn't it to think more fully-fledged about agency and connectivity? ANT, while not a coherent approach, holds that agency is distributed and relational, and that non-humans are actors with agency too. As Latour suggests, their agency refers to the ways in which 'things might authorize, allow, afford, encourage, permit, suggest, influence, block, render possible, forbid, and so on' (2005: 72). As Latour acknowledged in a footnote to this much-cited reference on the idea of non-human agency, it is highly indebted to Gibson's notion of affordances and the question of what technology does to users. This may also be where some of the overemphasis on affordance as something seemingly tied to the agency of technological objects comes from. While we are deeply sympathetic to the notion of non-human agency and its importance in studying social media platforms, we should also not lose sight of the multi-directionality of agency and connectivity at work in approaching questions of affordances.

### **Introducing a platform-sensitive affordance perspective**

Rather than introduce yet another concept of affordance, we aim to contribute one way of approaching the empirical analysis of affordances in social media by being sensitive to platform specificities. Our approach is sensitive to the medium-specificity of platforms, as technological intermediaries and entities that can be built upon draw different stakeholders together and orchestrate their relationships to each other (Gillespie 2010). Affordances, we argue, manifest in relations between platforms and their different types of users such as end-users, advertisers, developers, and researchers. We extend previous conceptualizations of affordances understood as the action possibilities made available to users by means of technology, not only by expanding the notion of the user, but also by considering the inverse question of what users do to the technology.

We suggest a platform-sensitive perspective that take four aspects into account: First, it considers how social media platforms do not only afford things to end-users but also to other actors such as developers who can extend the affordances offered by the platform, advertisers who can monetize on platform activities, as well as researchers who can collect and analyze platform data for studying social issues. Second, it examines how these actors are addressed by distinct surfaces, platform interfaces, and explores what these surfaces afford. Third, it sees these surfaces as malleable and relative to the actors as, contra's Gibson's natural environment which is the same for all actors, social media platforms provide highly personalized environments. Finally, a platform-specific approach acknowledges how platforms are inhabited by both human and non-human actors which hold agency and also afford things back to the technology.

To operationalize our case study on Twitter, we make use of the platform's own developer and help documents to uncover the platform actors and their action possibilities. In addition, we examine the different surfaces that the actors of the Twitter platform inhabit and how actors are connected through their respective interfaces. In order to do so we focus on one specific feature, the Twitter like, in order to map the relations between the different users as a way to map out the 'platform politics' (Gillespie 2010) of these relations. The entry points are the different interfaces/surfaces, the end-user interface, advertising interface, developer/researcher interface, which are seen as distinct 'zones of affordances' (Drucker, 2011).

To conclude, we reflect on what our platform-specific affordance approach may bring to affordance theory, platform studies and studying social media platforms in particular.

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# UNOBSERVABLE UNFRIENDING: AN AGNOTOLOGICAL ANALYSIS OF APIs

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This research examines the role of Application Program Interfaces (APIs) in the production of knowledge based on use of social network sites (SNSs). Taking its lead from scholars of disconnectivity (see esp. Karppi, 2014; Light, 2014), this study shines a new kind of critical light on APIs. Following an analysis of API documentation for 12 SNSs, we find that data related to disconnectivity (unfriending, unfollowing, etc.) are unattainable to researchers. We argue that this is a function of a culture of connectivity and positivity that reflects the commercial interests of SNSs and marketers.

Big data and its associated research practices have been under scrutiny right from the off (e.g. Bodle, 2011; Bucher, 2013). One problem is posed by what Burgess and Bruns (2015) call 'regimes of access', referring to scholars' differential access to Twitter data (and other social media). Because of this, most research is either based on hashtags (which entails missing out on broader context), or is limited to 1% of the Twitter stream in a fashion that raises questions about the validity and representativeness of the data. In addition, precise modes of data collection and analysis tend to remain opaque, making replicability almost impossible (Bruns, 2013; Bruns & Burgess, 2016).

APIs are a key feature of big social data research, as it is through them that researchers often collect their data in the first place. Bruns, Burgess and others acknowledge the lack of researchers' control over the APIs they use to collect data, and the fact that they are rarely unrestricted (Bruns & Burgess, 2016). It has also been noted that the way APIs are shaped favors certain methodological choices. For instance, since much of the data available do not allow for archival browsing, researchers focus on the present or the recent past (boyd & Crawford, 2012). Yet another example are the interactions SNSs include, which are mostly positive and approving (Baym, 2013; Gerlitz & Helmond, 2013).

So far, however, the critical literature on APIs has paid insufficient attention to a large blind spot in big data collection: disconnectivity. We make two claims in this regard: (1) SNSs are purposely selective in the information they make accessible through their APIs; and (2) they are biased towards connectivity, and against disconnectivity. To explore these claims, we analyzed the APIs of 12 SNSs to see what information they enable users to glean. The SNSs were selected by triangulating sources (Alexa, Wikipedia and also Web of Science) to establish which are the largest and most

significant platforms. The 12 sites with the highest average ranking according to these three sources were included in the study.<sup>1</sup>

The findings show that there is indeed a strong bias towards connectivity. While sites regularly list current friendships, followings, group memberships, and so on, APIs hardly include any information about blockings and disconnections, along with an inability to track changes in connections over time. However, this bias is far less pronounced when it comes to businesses. For instance, the owners of Pages and Apps on Facebook *can* get information about unlikes and various other kinds of negative feedback. Furthermore, businesses are afforded a diachronic view that users (and researchers) are denied. Thus, businesses on LinkedIn and venues on Foursquare are able to track engagement over time and discern downturns. Evidently, this information is technically deliverable, making its unavailability to a wider audience a choice based on the interests of SNSs.

These findings are significant for a number of reasons. First, if *what* we can know is a function of *how* we can know, this study has implications for our ability to research what we do with SNSs, and, to the extent that they are a proxy for broader social processes, for those processes as well.

Secondly, the findings suggest that researchers, marketers and the SNSs industry are partners - often unwittingly so - in promoting a culture of connectivity. This is not unique to the contemporary SNS scene; social scientists have always been interested in connectivity. However, breaking up, quitting a workplace, cancelling subscriptions, and dropping out are all meaningful social actions to which SNSs' APIs are blind.

This has practical implications for social science researchers. (1) Because negative data are unattainable through APIs, researchers must seek alternative means of attaining them, such as surveys. These are both costly and are liable to be perceived as less reliable. More generally, APIs' failure to provide access to negative activities means that researchers interested in them have to forego the considerable advantages offered by APIs. Take unfriending in the context of the US elections, for instance. Commentators have started writing about it, but measuring it (and similar acts) is not possible using the tools provided by the platforms themselves, *even though the data exist*. (2) This also makes for worse science: if we want to know how many negative interactions people have been involved in, we would have to rely on the memory of survey participants, or other external and less reliable sources. (3) Moreover, researchers run the risk of their survey-based data becoming utterly redundant should the platform decide to publish the data it rendered inaccessible through its API protocols. Given all this, researchers might decide that these directions are less worthwhile to pursue.

Obscuring negative social dynamics may benefit the advertiser-friendly atmosphere SNSs try to create, but it comes at the price of misrepresenting social realities—imagine if stock markets only reported on prices rising. The deeper implications of various

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<sup>1</sup> The SNSs are: Facebook, Google+, Twitter, LinkedIn, Sina Weibo, LiveJournal, Habbo, Foursquare, Flickr, Pinterest, Instagram, Tumblr.

conflicts may be hidden behind this façade of connectivity and positivity, and this should be a concern for society at large but even more so to the academic endeavors utilizing SNSs' APIs for social science.

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### 3. @RT#: TOWARDS A PLATFORM BIOGRAPHY OF TWITTER

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#### Overview

In late 2015, the Twitter user community briefly flared up in passionate reaction to changes Twitter had made to the platform—switching out the ‘favorite’ star and turning it into a ‘like’ feature represented by a red heart; there has been a steady stream of tech and mainstream media stories on the social ‘decay’ and ‘death’ of Twitter in a range of media outlets as well.

Across these discussions, a core narrative of decline is emerging: people feel that something fundamental has gradually but inexorably shifted in Twitter’s *structure of feeling*, to borrow loosely from Raymond Williams (1977). Commentators seem to broadly agree that Twitter has become less intimate and more public; less personal and more political; less sociable and more newsy. Is this even true? If so, how did it happen? Given the challenges of getting beyond our own ‘front stage’ experience, let alone gaining access to the ‘back stage’ of the platform’s developer culture and technical infrastructure, how would we even begin to ask this question empirically?

We demonstrate a way of doing so through the story of Twitter’s oldest continuous key features: those ‘objects of intense feeling’ that act as mediators between multiple media ideologies, individual human desires, and business logics: the @mention, the #hashtag, and the Retweet.

#### The platform biography approach

The distinctive cultures of social media platforms owe much to the particularity of their key sociotechnical objects – Facebook’s ‘like’ button and status update box; Tumblr’s ‘reblog’ feature – and Twitter’s @mention, #hashtag, and Retweet. We argue for an approach to understanding these features through multiple data sources that allow researchers to get at many intertwined levels that together comprise their meaning and show how innovation happens over time. These levels include the material affordances of the site and its third-party clients, the media ecosystem within which the site operates, the company’s changing and sometimes competing business models, and the experiences of users embedded in social practices of which the platform is only a part.

Especially in Twitter’s case, the existence, meanings and uses of features such as @, # and RT are as much a product of third-party innovation and competing community uses as they are of in-house design and development. Practices that emerge organically (like reposting friends’ tweets) have a range of competing conventions associated with them; closely connected subcultures of early adopters (and/or ‘lead users’) influence which conventions come to dominate (Kooti et al, 2012); these functions/practices only *then* get turned into platform ‘features’ through being embedded into the functionality of third-

party apps or the Twitter architecture itself (Bruns, 2012; Halavais, 2014). These features are also ‘objects of intense feeling’ (Bucher, 2013), and controversies to changes made to them are both revealing of these relations and transform them—so they are extremely useful sites of investigation.

In telling the stories of the @mention, the retweet, and the retweet, we build a ‘platform biography’ of Twitter. The term ‘biography’ is chosen deliberately to invoke both the historical and the social aspects of how things are created, how they are used, and what they mean, while recognising that, as with all biographies, the account is inevitably partial.

In constructing this account, we combined web history, digital methods and qualitative research approaches. We collected data from a range of sources:

- a. Complete archives of the official Twitter blog (mined for references to the @mention, hashtag and retweet features);
- b. Internet Archive (especially for the Twitter landing page, home page, instructions/tutorials), tech industry and third party developers’ blogs and published company histories (eg crunchbase; Nick Bilton’s (2014) book *Hatching Twitter*);
- c. Existing scholarly research on Twitter’s features and users covering its entire history; and
- d. Interviews with users about their Twitter ‘careers’, using personal Twitter archives as prompts.

### **Three features, three phases**

We trace the life stories of each of the three features across three key phases: first, its origins and emergence as a novel user convention (including the alternative ideas and solutions with which it competed); second, its mainstream adoption by the Twitter community and experimental, early embedding into the platform by the company; and third, its retention, or ‘hardwiring’ into the platform, later changes made to it alongside changes to Twitter’s business model, and moments of continuing controversy surrounding its conflicting meanings and uses.

In all three cases, there is a consistent pattern of change: first, a set of conventions that will eventually become codified as a feature emerges through user experimentation, as people seek to concretise the platform’s emerging uses and norms, and in some cases to develop tools to enhance and better coordinate these conventions. Different sets of users with different practical solutions in effect compete in an origin period of relative interpretative flexibility (van Dijck, 2013). In the most well-known, canonic version of this narrative, tech-savvy “lead users”, in conjunction with the media whose attention they are able to elicit, win the day and Twitter adopts the practice in a form built into the interface. But, far from being settled at that point, a third phase of retention and controversy continues in which diverse communities develop diverse cultural applications of these features, thereby continuing to experiment with their affordances, both adopting and pushing back against how Twitter has institutionalized the feature.

In this ongoing process that can involve deeper embedding or other interface changes, controversies can reignite or reveal competing norms, meanings and understandings of each feature and, by extension the Twitter platform more broadly.

### **Competing uses, competing futures**

We see constant and ongoing struggles among all stakeholders over the purposes, meanings and value of Twitter—and this is not simply a matter of market-oriented business goals versus non-market communitarian ideals. Rather, there are a number of competing visions of what Twitter should or could be for that have always co-existed and continue to compete within the company and among the increasingly diverse user community: Was it a personal messaging service – and then maybe a social networking site? Was it a platform for creating and sharing media and entertainment? Or was it a global news dissemination network that would one day “fade into the background” and become an invisible utility as co-founder Jack Dorsey had fantasised (in van Dijck, 88)?

This dual struggle between, on the one hand, social network-oriented models and media-centric business models for the platform, and on the other (especially among users), between different understandings and values of courtesy, respect, sociability, intimacy, and publicness, has been a constant baseline underscoring the history of Twitter (Bilton, 2014). It continues to play out, increasingly publicly, and the core mediating features of the platform – where business and back end meet a diverse range of users and their practices and understandings – are the battleground.

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## 4. QUALIFYING THE QUANTIFIED AUDIENCE

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'Critical algorithm studies' is a burgeoning field. There are about 150 items on Tarleton Gillespie and Nick Seaver's (2015) recent 'Reading List', and it is growing strongly. As Elmer et al (2015) point out, big data analytics can give us authoritative pictures of global warming and the effects of armed conflicts. Nevertheless, the focus in the field is very much on the power of the algorithm as 'a tool of predictability and therefore as a tool for social and economic control' (Elmer et al 2015).

But we need to specify better which groups are impacted, in what ways, to what extent, and with what outcomes, through surveillant algorithmic cultures.

This paper takes a significant cohort working within, and superintending, algorithmic culture, and offers an immanent critique pointing to limits to the power of the algorithm as 'a tool of predictability and therefore as a tool for social and economic control' in what we call social media entertainment (SME).

A new screen ecology (Cunningham & Silver 2013; 2015) is spawning rapidly around the major social media platforms – YouTube, Facebook, Instagram, Snapchat, Periscope– which is bringing entertainment and information content together with social media connectivity coupled with powerful data analytics to provide opportunity for previously amateur, newly professionalizing and commercializing, content creators. There are now more than 1 million YouTube creators receiving some level of remuneration from their uploaded content; more than 1500 YouTube channels have at least a million subscribers (and many of the more influential creators have less than a million subscribers). We differentiate this emerging social media entertainment proto-industry from the professionally-generated content which is the core product of the other component of the new screen ecology – the major streamers Netflix, Amazon, HBO Now, and their national epigones.

This paper steers between positions of celebration and critical suspicion, offering an immanent critique of the limits of data analytics in shaping SME and controlling its participants. Our theoretical framework draws on Foucault's (1991) distinction between power and domination. Power is relational, contingent, unstable and reversible - power produces resistance – whereas there is a tendency in critical algorithm studies to view the power of agents in algorithmic culture such as the platforms as domination – one way, supervening, and controlling.

Based on this framework, an 'immanent' approach to social and industry critique works within the terms set by the object of critique in order to expose its own internal contradictions. We offer an immanent critique of the limits of data analytics and a broader algorithmic culture in shaping SME from within the industry on both the creator

(bottom up) and platform (top down) side. This is a limited, but strongly evidenced, critique of the tendency to totalise notions of surveillant power and therefore treat resistance as standing outside of such power.

Based on extensive field research conducted collaboratively in 2015 and ongoing (more than 100 interviews with new screen ecology players from creator to platform executives), the paper offers a thick description of how YouTube (and crossplatform) content creators manage the relationship between the quantitative feedback generated by the data analytics stream from Google's AdSense and many Multichannel Networks' suite of business analytics, and the qualitative feedback offered freely by the fan base.

The findings – many of which are now outlined - suggest creators spend at least half their working week interacting directly with their crossplatform communities and cannot rely on data analytics alone for either management of their channels or adequate revenue derived from programmatic advertising. Single-platform analytics (such as the standard dashboard available to YouTube partners) are not sufficient and often induce information overload without real analytical insight. Managing community interaction cross platform –vital for maintaining authenticity and maximising promotion – significantly extends creators' workload. Unlimited word counts on Facebook often mean trying to limit the workload by attempting to direct engagement to Twitter, for example.

There is a range of non-scalable practices essential to success. A 'trial and error' approach is prevalent; lots of time is spent 'tweaking' various elements to ensure content is able to find a place in a crowded cultural space across numerous countries. This means ensuring that their work is contextually relevant, which is in turn dependent on mastering metadata, video tagging, and copywriting for search engine optimization, including understanding different cultural nuances and modes of engaging in multiple national contexts simultaneously. Creators spend much time in trial and error, learning when work should be uploaded and amplified, while working in seasonal, regional and national references targeting key viewerships in dozens of countries.

At the same time, the massive growth in scale of SME content has destroyed value – the click-per-thousand rate that drives Ad Sense revenue-sharing on YouTube has bottomed out, driving creators into further non-scalable engagements to restore value (brand deals, merchandising, television and cable options, and live appearances, licensing content).

This is the bottom up dimension of an immanent critique. Looking at the top-down dimension, our critique extends to the way in which the IT behemoths, pre-eminently Google, are having to come to terms with both the old and the new fundamentals of media entertainment: the messy idiosyncrasies of taste on the consumer side that has given rise to established media's ways of dealing with radical uncertainty of demand. It also includes the wary conservatism about the digital harboured by brands and advertisers – which are the source of virtually all funding; as well as the new power and agency of content producers. Google's engineering culture has to come to terms with non-scalable branded content.

This is the challenge of 'monetisation after [Google's] AdSense', in the words of digital executive Jordan Levin (2014) - marketing and advertising that cannot be massively scaled-up through automation (or 'programmatics', as it is called in the industry). Indeed, it is our contention that the ten year history of YouTube since Google's takeover can be written as a history of Google seeking to come to terms with the non-scalable fundamentals of entertainment, notoriously fickle consumer taste, and content and talent development, from its base as an information technology/engineering company dedicated to scale, automation, permanent beta, rapid prototyping and iteration. The regular strategy shuffles between its core IT business models and entertainment industry plays will be outlined.

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