



Ethical implications of affordance change in contemporary social media platforms

Stefan Werning

ABSTRACT

The article at hand investigates how changes and additions in affordances across online social networks (OSNs) over the past five years have increasingly framed communicative practices in terms of “attention economies” (Harsin, 2015), inherent competition and the “neoliberal self” (McGuigan, 2014) without presenting viable alternatives. Online social interaction is undergoing constant change: gamification schemes such as Snapstreaks become increasingly explicit, platforms offload features aimed at specific audiences into companion apps like Viber Wink and startups like Bux use social features to turn activities like stock-trading into quasi-communicative activities, thereby becoming specialized OSNs in their own right. Further, the article aims to show how affordance changes in OSNs can a) propagate notions of the neoliberal self, b) constrain the users’ means of self-expression, and c) blur the boundaries between OSNs themselves and between online social interaction and other platforms, e.g. dedicated to activities like writing or stock trading. For that purpose, a diachronic affordance analysis is conducted to investigate how social media platforms reframe communicative practices over time, using an updated technological determinism framework (de la Cruz Paragas & Lin, 2016). Social media affordances have been researched in terms of how they affect knowledge sharing (Majchrzak et al., 2013) or political expression (Halpern & Gibbs, 2013). However, these critical uses of affordances to analyze software (Curinga, 2014) only investigate their case at one point in time. Yet, social media startups are characterized by constant ‘tweaking’ (Bogost, 2016) and shifting alliances (e.g. between Spotify and Tinder or Twitter and Stripe) and these ‘evolutionary’ dynamics have not been systematically reflected. Rather than looking holistically at one service, the analysis pursues a novel comparative approach, focusing on patterns of affordance change over time, according to patterns such as the ambivalence of online metrics, the relationship between playfulness and control (e.g. Gekker, 2016), and notions of self-branding, which have been discussed in cases where personal identity and entrepreneurial activity overlap (e.g. Duffy & Hund, 2015) but not in everyday communication. This comparative approach demonstrates the ethical challenges that the synchronized development of social media affordances across platforms poses, making it difficult for users to become literate in the mechanics of “social media logic” (Poell & Van Dijck, 2013).

Keywords: social media ethics, diachronic affordance analysis, neoliberal self, convergence, online social networks, rhetoric

Stefan Werning is an associate professor for new media and game studies at Utrecht University, where he founded the Utrecht Game Lab (2014) and co-coordinates the graduate program Game Research. He previously worked as an assistant professor for digital media at the University of Bayreuth (2009-2014), at the University of Bonn (2004-2006) and at the Fraunhofer Institute Media Communications in St. Augustin (2002-2004). While completing his PhD thesis on game technologies and concepts in the military entertainment complex, Stefan worked in the digital games industry, most notably at Nintendo of Europe (2007-2009). Since completing a DAAD-funded visiting scholarship at MIT in 2005, he has been a fellow of its Convergence Culture Consortium.

Introduction

The article at hand investigates how changes and additions in affordances across the major online social networks (OSNs) over the past years have increasingly framed communicative practices in terms of “attention economies” (Harsin, 2015), the commodification of self-expression and the “neoliberal self” (McGuigan, 2014) while discouraging users from seeking viable alternatives.

Over the years, the illegal repurposing of OSNs has created cause for very direct and, in some cases, severe ethical concerns, as evidenced by the use of Instagram for illicit drug sales in 2013. Yet, while these individual cases have garnered a lot of public attention, the argument below focuses on minor but much more frequent ethical quandaries in everyday OSN use. Since its inception, online social interaction has been undergoing constant change. Initially, feature changes and the introduction of new paradigms occurred at a rate at which they were still discretely perceivable. Early paradigm shifts include for instance the transition from early topic-specific OSNs towards facilitating topic-based discussions on general-purpose platforms or the remediation of ideal-typical real-world places such as a café (Boczkowski, 1999, p. 94) or a whole city. In recent years, though, the constant flurry of new features (and the often quiet removal of others) has produced such a frantic pace that these changes gradually appear ‘natural’, similar to how the rapid succession of movie stills creates an impression of ‘natural’ motion that transcends the individual images. Gamification schemes such as Snap Streaks increasingly permeate day-to-day interactions. OSNs ‘offload’ features aimed at specific audiences into companion apps like Viber Wink, and startups like Bux use social features to turn activities like stock-trading into quasi-communicative activities, thereby becoming specialized online social networks in themselves.

A 2009 special issue of the *Global Media Journal - Canadian Edition* already tentatively acknowledged potential ethical implications of online social technologies. While the editorial (Eid & Ward, 2009) demonstrates the multiplicity of potential angles on the subject, from copyright laws to the protection of young users in browser games (3), it also emphasizes that all aspects of social media ethics “should go hand-in-hand with the freedom of new media and social networking use” (2). Accordingly, the aspects selected for the critical comparison below are concerned with various ways in which affordance changes threaten or even diminish that freedom. The goal of this article is not to determine the “social responsibility” (Fackler, 2011) that social media companies, especially those that all but ‘monopolize’ a particular form of online communication have, and the practical ‘duties’ that come with that. Instead, by assessing how ecosystems of social media affordances change over time, it aims to provide the necessary foundation to properly answer these questions.

Towards a comparative, diachronic affordance analysis

For that purpose, a comparative affordance analysis (cf. e.g. Bucher & Helmond, 2017) will be conducted. Affordances are defined by Curinga (2014) as a mode of critically investigating software since “every piece of software reflects an uncountable number of philosophical commitments and perspective”. Curinga illustrates that point, and the relationship between affordances and technical features using a hypothetical example, i.e. being able to “post [...] directly to the billion people who use Facebook”. The designers of the platform did not afford that use case because it “would most likely degrade Facebook in a matter of hours”, overwhelming every users with a torrent of unwanted messages. From that angle, functionalities that significantly affect or frame the use of a software platform will be regarded as an affordance. For example, while the basic Google search function in itself is too generic to have plausibly projectable implications for user

behavior on the platform, the iconic “I’m feeling lucky” search button, which does not show search results but directly leads to the top page, is not. It encouraged users to play with random terms, trying to anticipate which page might come up as the most ‘relevant’ and, initially, served as a demonstration of confidence in the PageRank algorithm towards Google’s competitors. As such, affordance analysis appears as a form of textual analysis (McKee, 2001), which frames an OSN as a ‘text’ and “make[s] an educated guess at some of the most likely interpretations that might be made of that text” (p. 140).

As Nagy and Neff (2015) point out, the notion of affordances traditionally referred to how users perceive action possibilities in an environment while the more recent use of the concept in design studies has shifted the focus to the designer, i.e. the “perceived affordances” (p. 4). Therefore, they propose to contemplate “imagined users and uses” (p. 4) as “Facebook privacy settings may or may not be adaptable by users, but there is value in examining the pragmatics of such adjustments and settings - as users practice them - as the ‘affordances’ of Facebook” (p. 5). Depending on how the settings are implemented on the platform, they become more or less part of the ‘imagined uses’ on behalf of the user. These imaginations are also shaped by emotional reactions, as “users may experience technologies as having emotions or being “social actors” and interact with technologies as if the tools themselves were social beings” (p. 7). This particularly applies to OSNs since their key personnel, public figures like Mark Zuckerberg, Twitter’s Jack Dorsey or most recently Snapchat’s Evan Spiegel lend a ‘face’ to the platform and thereby channel “emotional relationships with [the] technologies” (p. 7).

Following that definition, the article at hand proposes to combine the notion of affordances with that of proceduralist readings (Treanor, Schweizer, & Bogost, 2011), which has so far been applied primarily to games (Bogost, 2008). It allows for conceptualizing how both games and OSNs implement procedures that constrain ‘player behavior’ and foster “communit[ies] of practice” (p. 119) that frame their subject matter at hand in a distinct way and create a dialogical (or, more specifically, rhetorical) situation, in which the anticipated user behavior and corresponding response of the software become part of persuasive strategies. By offsetting affordances and proceduralism, the analysis subscribes to an updated, self-aware technological determinism framework (de la Cruz Paragas & Lin, 2016), which can be described as “functionalist” rather than “radical structuralist” (p. 1539).

Social media affordances have previously been researched e.g. in terms of how they affect knowledge sharing (Majchrzak, Faraj, Kane, & Azad, 2013) or political expression (Halpern & Gibbs, 2013). However, these critical uses of affordances to analyze software investigate their case at one point in time. This used to be applicable for desktop software, when a new version with incremental changes would be released every one or two years ; however, with regard to OSNs it appears much less valid. These types of platforms are characterized by constant ‘tweaking’ (Bogost, 2016) and shifting alliances (e.g. between Spotify and Tinder or Twitter and Stripe) and these ‘evolutionary’ dynamics have not been systematically reflected so far.

Corpus

As this analysis foregrounds affordance change across OSNs, it is important to consider that not only adding but also curtailing, removing or simply omitting “imagined” functionalities (according to Nagy & Neff, 2015) can constitute a meaningful affordance. For instance, the already discontinued photo sharing app Color differentiated itself (and acquired substantial VC funding) by omitting social functionality such as friend or follower statuses. The proposed diachronic affordance analysis is different from approaches like the “walkthrough method” (Light, Burgess, & Duguay, 2018), which draws on the notion of cognitive walkthroughs in

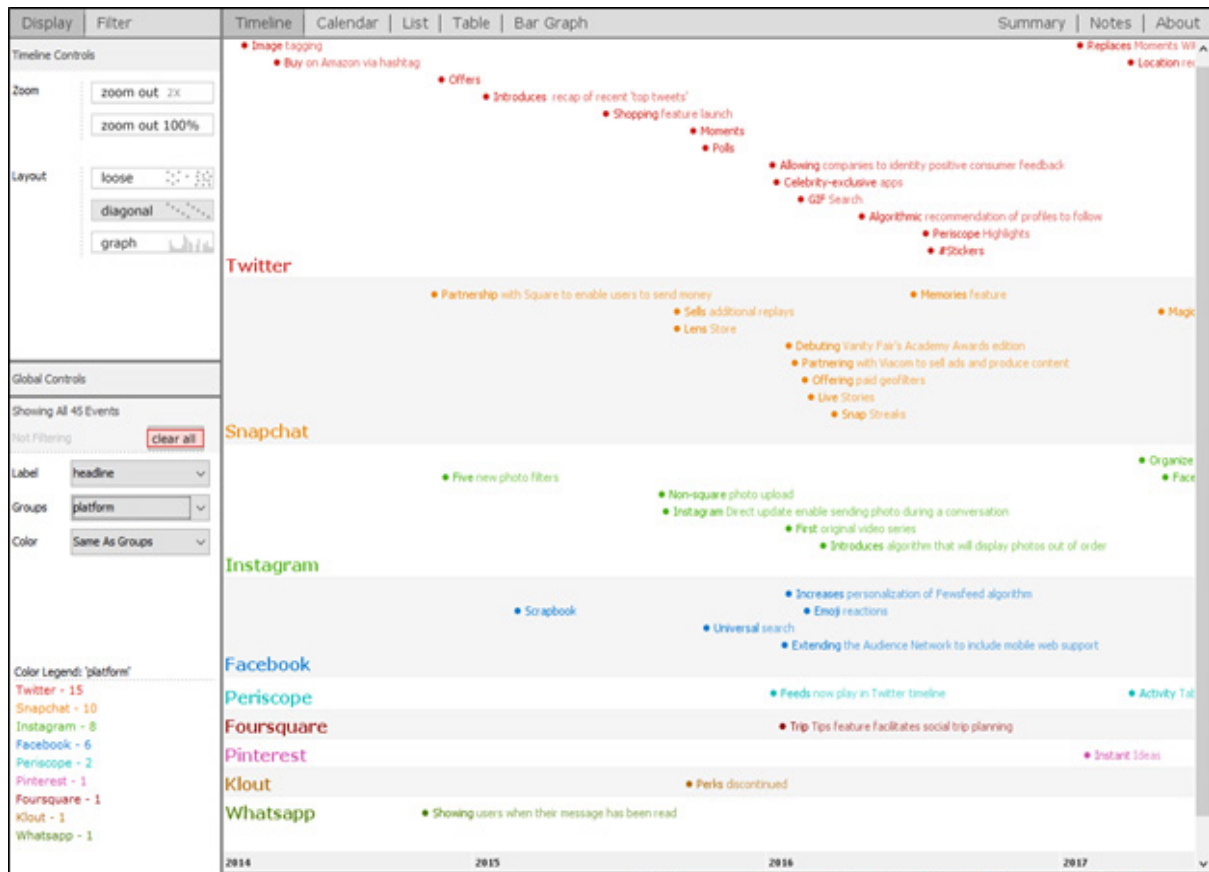


Illustration 1: Sample visualization using Timeflow (grouped by platform)

usability studies and user-experience design to analyze one particular software application, because it cannot be based on actual reflective use but requires retracing past affordances from external sources.

For stand-alone software applications, version histories that document functionality changes over time are officially released or compiled by users. However, OSNs usually do not provide this information, with few exceptions. Thus, overlapping timelines of affordance changes will be created manually by way of a diachronic content analysis (Riffe, Lacy, & Fico, 2014) of tech blogs like Techcrunch or, if possible, the official developer blogs. The corpus will include major affordance changes in a) the four most popular social networking sites as of writing, i.e. Facebook, Youtube, Instagram, and Twitter, as well as b) popular services that focus on self-broadcasting such as Snapchat, Periscope, and Swarm. While this approach yields a multiplicity of small changes, for the purpose of this article only affordances that are relevant from an ethical standpoint have been included.

To do that, a list of ethically relevant patterns, which emerged over the past years across the aforementioned OSNs, was created and iteratively refined while compiling the corpus. This taxonomy needed to be granular enough to allow for sufficient nuance but still manageable; the individual patterns were grouped according to three basic trajectories that are relevant from an ethical perspective, i.e. a) the propagation of the neoliberal self, b) forms of constraining self-expression, and c) the implications of blurring boundaries, e.g. between OSNs or even between online social interaction and related practices such as stock trading.

To help correlate recurring patterns of change, the affordances have been collected in a spreadsheet which affords visualization, e.g. using the open-source tool Timeflow as shown in Illustration 1. As the corpus for this paper is comparatively small, the visualization is only

included as proof-of-concept, while for a more thoroughly diachronic application of the method it can be essential (especially as the data can be grouped not only by platform but also e.g. according to the list of ethical implications).

Below, the affordance changes are referenced by an index in square brackets (e.g. [15] for the Snapchat lens store). Further information, including the URLs to the corresponding websites, can be obtained from the spreadsheet itself, which is available online at <http://bit.ly/2r3W9XJ>. The goal was not to compile a large corpus suitable for semi-automated ‘digital methods’ (Rodgers, 2009) but to manually assemble and visualize a smaller, more targeted corpus that serves as a blueprint to illustrate the applicability of diachronic affordance analysis as a method. In this case, it helps outline the ethical challenges inherent in the almost synchronized development of social media affordances across platforms, which can make it difficult for users to become literate in the mechanics of “social media logic” (Poell & Van Dijck, 2013).

Social media and the neoliberal self

Neoliberal rationales and corporate values

First and foremost, the affordance changes arguably frame user behavior in terms of neoliberal rationales, a term defined by Michel Foucault in his *Birth of Biopolitics* as a way of pointing out how individuals come to regard the “self as enterprise” (McNay, 2009). Accordingly, corporate terms like productivity or return on investment have gradually permeated personal discourse among family and friends. For instance, Badhwar(2008) argues that in commercial societies “the nature of the market and of friendship” (p. 302) need to be assessed in similar terms, leading to an overlap between “market norms and the norms of friendship” (p. 307). Affordances that quantify online social interaction stabilize this terminology e.g. by encouraging users to ‘manage’ and ‘optimize’ their OSN use via these numbers. As a consequence, the time ‘invested’ in individual acquaintances is being reinterpreted as a ‘resource’. The Snap Streaks feature [40] of Snapchat illustrates this principle because it requires users to respond to messages within a window of 24 hours to increase a ‘counter’ that especially younger users have adopted as “a kind of measurement for how close they are with someone” . The pressure exerted by keeping up Snap Streaks is particularly high because, as one user argues, “it actually takes time [to] get the numbers”; thus, the artificial penalty imposed by the counter makes it plausible to adopt ‘cost-benefit’ calculations as a viable form of assessing online social interaction.

This logic of quantification is further stabilized through external aggregators like Klout that accumulate social media activity across several OSNs in one final ‘score’. Quantizing that score to a maximum of 100 is an additional evocative design choice that evokes direct comparison with the quintessential metric for evaluating media products. For instance, Metacritic expresses the average score of films, games and television seasons on a scale from 1-100, even ‘translating’ other metrics used by individual publications (or even non-quantitative ratings) into that number range. Accordingly, that quantization fosters the perception of online social activity as a ‘product’ in itself. The commodification of the user and their activity is further substantiated by companies like Snapchat, whose characteristic affordances revolve around creating artificial scarcity. For instance, in September 2015 began selling additional replays of snaps, thereby putting a price tag on user-created data and framing them more completely as products [5]. Klout itself actually relativized its own role in incentivizing social media use as ‘market behavior’ in October 2015, when it quietly discontinued its Perks program, which had previously enabled active users (i.e. valuable multipliers) to receive benefits from partnering companies .

More broadly, platforms that were created for ‘business purposes’ gradually include social functionality or partner with OSNs. For instance, the online marketplace for short-term lodging Airbnb includes affordances such as price comparison per area and especially its Superhost program that enable individual users to operate as businesses. Yet, after gradually adding features such as Social Connections (2011), which exchanges data about friend relationships but also recently visited Airbnb locations with Facebook, the company expressly began “transforming their site into a social experience rather than a search portal” in 2012, gradually becoming a quasi-OSN in the process.

According to Foucault, neoliberal rationales originated with the German ordoliberalists in the 1930s and 40s but anticipated “the hegemonic consolidation of the New Right political agenda in the early 1980s” (McNay, 2009, p. 56), which brought them to fruition. Traditional businesses and the multinational corporations, which became the iconic company type of the 1990s due to innovations in information technology and logistics, became metaphors for neoliberal subjectivity. Accordingly, in the early days of online social networks, users obtained the tools to organize their self-presentation in a similar manner as multinational companies, e.g. through Facebook’s introduction of a news feed (Sep. 2006) or an internal currency (Nov. 2008). This metaphor has shifted, not least as a consequence of OSNs, to startups, i.e. flexible and highly networked businesses that usually monetize one software platform.

Accordingly, as e.g. Hong (2013) shows using the example of game modding, neoliberal subjectivity in the context of digital practices expresses itself primarily in the form of entrepreneurialism. The fact that many OSNs gradually eliminate established practices, which had been constitutive of the culture within a social ecosystem, in favor of values such as ‘efficiency’ and ‘standardization’ exemplifies this entrepreneurial mindset. For instance, Twitter argues that finding relevant profiles to follow “used to require jumping through a few hoops and a dash of luck” and implemented algorithmic recommendation of profiles to follow [13] based on the characteristics of previously followed accounts. This affordance harnesses economies of scale and ‘translates’ that principle to online social interaction, i.e. it suggests to the users that maximizing the number of profiles they follow is inherently desirable. Finally, the same algorithmic principles that underlie this recommendation feature had originally been devised and used to recommend products on ecommerce platforms like Amazon (C. C. Aggarwal, 2016, p. 5). Accordingly, user accounts to follow are framed in the same way as ‘products’, i.e. they become commodified by way of affordances.

Shopping-as-interaction

Affordances like the aforementioned Snap Streak or the basic function to tag other users in photos on Facebook are intended to produce lock-in effects, i.e. to keep users coming back to the platform and contribute (if only to check and potentially comment on an unfavorable tag). Many OSNs propose to ‘relieve’ users of the pressure to constantly interact by transforming brand engagement (including online purchases) into mediated forms of social ‘interaction’ (shopping-as-interaction). This finding is in line with the proposition by Fornäs, Becker, Bjurström and Ganetz (2007, p. 43) to consider “consumption as communication” and vice versa, as both becoming increasingly intertwined as deeply mediated activities. For instance, Twitter introduced purchasing offers in November 2014, enabling businesses to effectively turn tweets in coupons [18].

Offers appeared formally similar to regular tweets, coming from regular user accounts and including retweets and likes, which blurs the epistemic boundary between online communication and ecommerce. At around the same time, several OSNs experimented with buying or

transferring money directly on their platforms. Snapchat established a partnership with Square to enable users to send money via snaps during the same month [19]. In May 2014, Twitter enabled users to put Amazon products referenced on the platform in their shopping cart via a tweet by using a specific hashtag [43]. Even earlier, the epistemic conflation of communication and consumption manifested itself in changes to other functionality, as in Facebook expanding photo tagging from friends to brands [42] in 2011. This feature frame brands in similar terms as social acquaintances, thereby fostering an ongoing shift towards brand anthropomorphism (Aggarwal & McGill, 2012), but also provides users with an effortless and seemingly playful way of performing connectedness.

Emulating commercial content distribution

OSNs also foster neoliberal rationales by remediating distribution strategies of commercial media companies. For instance, Instagram's first original video series [7], launched in 2016, used the 15-second video format users are familiar with to stream 28 episodes of fictional content over the course of one month, with a total length of 7 minutes. While still clearly an experiment at this stage, the series emulates some parameters of traditional broadcast television and, since the series appears in the form of a regular user account, actively promotes serialized distribution as a viable paradigm also for personal online social interaction.

The logic of traditional media distribution also informed the introduction of Periscope Highlights on Twitter [8]. While periscope offers informal self-broadcasting, the platform automatically generates a short 'highlights' trailer for every broadcast, thus imitating the notion of trailers, which – as 'cultural forms' – have deeply permeated the popular visual imaginary. For instance, trailers form their own attention ecosystems because they can be shared but also – more importantly – because their discussion and playful re-interpretation (Williams, 2009) leads to the creation of new content, which – in turn – generates more discussion. Sacharin (2004) casually references the term "attention ecosystems" (p. 4, 6, and 7) with reference to his concept of "attention mechanics" (p. 43) but does not systematically elaborate on it. In this context, I propose to define it by adapting the notion of "economic ecosystems" (Rosmarin, 2006) from actual economies to attention economies. Accordingly, trailers are part of the broader ecosystem of the franchise they represent but 'nourish' their own, smaller ecosystem by bringing in a sizable audience through familiarity with the franchise. Yet, through omissions and controversial material, they provide their own 'niches' in the attention economy that other parties fill by creating more content (and, to come back to the theme of this article, sharing it on OSNs)

Reframing celebrity

Apart from its content strategies, another facet of the commercial media industries OSNs are remediating is the notion of celebrity. As Marshall (1997) demonstrates, this concept differs considerably depending on the medium in question. For instance, unlike the stars in the Hollywood Studio system, the "television celebrity" (p. 122) is characterized by familiarity rather than distance. Their ubiquity, fostered e.g. by daily late night talk show appearances, allows them to perform specific functions such as personalizing otherwise abstract concepts such as political positions or environmental standpoints.

Social networks have had a long, complex history with celebrity, not least since mainstream celebrities like Ashton Kutcher have been investing in social media platforms early on. More problematically, OSNs have been developing several affordances that are only made available to 'certified' celebrities [17], including e.g. a Q&A optimizer and an extended selfie camera

app. These changes support a ‘professionalized’ approach to online social interaction as well as strategies for self-branding or “personal branding” (Chen, 2013, p. 332), which gradually trickles down into private OSN use. For instance, in his critique of the sharing economy and its detrimental impact on the self-perception of its participants, Evgeny Morozov pointedly argued that p2p platforms ‘teach’ users to “think like brands”. Arguably, this mindset not only applies to Uber drivers and “task rabbits” but also – to a lesser degree – to OSN users in general. To reflect this, Morozov’s claim could be rephrased as a form of ‘performing personal identity as brand identity’ (da Silveira, Lages, & Simões, 2013) as a dynamic, socially constructed framework. Moreover, celebrity-exclusive apps inherently consolidate the perceived hierarchies of taste-makers and ‘followers’ that exist in online social communities, i.e. they promote the idea of “celebrity as a social default setting” (Couldry, 2017, p. 74). These hierarchies are conducive to social media businesses because they create tension, which in turn catalyzes online social interaction (e.g. questioning the celebrity status of a person, rivalries between followers of celebrities etc.).

Turning playful online social interaction into competitive games

Play is an inherent aspect of communication; for instance, Stephenson (1964) makes this point for mass communication but it also applies to personal communication, e.g. in terms of role-play, organizing turn-taking or simply word play and humor. Yet, recent affordances changes suggest that OSNs attempt to channel free-form play(fulness) into more formalized games.

According to Sicart (2014), playfulness as an attitude “assumes one of the core attributes of play: appropriation” (p. 27). That is, it involves approaching something that was not “created or intended for play” (such as many digital technologies) and temporarily “taking over a situation to perceive it differently” (p. 27). From that angle, play is detrimental to standardization and algorithmic logic, both of which are essential for the modus operandi of OSNs. Snapchat has founded its value proposition on affordances that seem to emphasize play, and other OSNs have systematically adopted many of them into their own platforms. For example, the fact that snaps were originally not archived affords the ephemerality and moment-to-moment performativity of play that e.g. Caillois and Halperin (1955) address particularly using the term vertigo. Moreover, Caillois’ terminology is useful to concretize the shift from play to games by reformulating it as a shift from *paidia*, i.e. improvisational play, to “*ludus*”, i.e. playing by the rules (p. 65).

As the aforementioned implementation of Snap Streaks with Snapchat’s March 2016 update demonstrates, quantification is a major factor that drives this transition. Previously, turn-taking in online conversation (and pauses between replies) were open to interpretation and could even be used as tool for self-expression. With Snap Streaks, the user’s response is ‘required’ in fixed intervals. Most importantly, the procedural rhetoric of Snap Streaks is closely modeled after so-called combo mechanics in digital games. These procedures are iconic of digital games, which can be seen in the almost bizarre differentiation this combination of meters and multipliers has undergone e.g. in Japanese fighting and shooting games.

A similar shift occurred with Twitter rolling out its GIF search functionality [16]. Previously, finding the right GIF to express a sentiment or even, initially, having to create it oneself by capturing it from a popular movie or TV episode used to afford ample opportunities for improvisation and self-expression. Over time, users learned to gauge the popularity of specific GIF choices, which turned it into a more competitive game and emphasized adherence to formalized and informal rules. GIF Search fosters this behavior by providing categories of ready-made GIFs to choose from, which makes the ‘rules’, i.e. the pool of ‘eligible’ meme content,

visible to all participants and, thus, encourages the audience to enforce them. Finally, a few of the aforementioned celebrity-specific apps also mobilized formalized play as a way of structuring interactions between ‘multipliers’ and ‘followers’, e.g. in the case of Twitter Challenger [17] which presents celebrities with “a prompt to act upon and express themselves with, whether that’s doing a dance or answering a question”.

Rhetoric

Finally, not only technical features but also elements of verbal rhetoric on the platform or in corporate communication contribute to the propagation of neoliberal rationales. Ideally both work in tandem to convey a coherent impression, in which verbal rhetoric and ‘procedural rhetoric’ (Bogost, 2008) go hand in hand. One recurring rhetorical pattern employed by OSNs that illustrates this idea is the creation of artificial scarcity, which later allows for framing specific affordances as ‘bargains’ within this pseudo-economy. For instance, the 140-character limit has been regarded as a defining feature of Twitter as a platform (Bucher & Helmond, 2017, p. 13). After users had come to accept that limitation as ‘natural’, Twitter began to emphasize in its announcements of more recent features such as tagging people in photos that those do not count towards the character limit, making their adoption appear ‘cost-efficient’ and, thus, logical.

Yet, many OSNs also characteristically mobilize rhetoric that counteracts the framing of the self as ‘enterprise’, e.g. by bridging the epistemic gap between nature and technology. For examples, Foursquare Swarm summarizes its focus on location-based social interaction by urging users to “stay connected to [their] inner explorer” . In doing so, companies try to produce a sense of ambivalence, a precarious balance that glosses over the potential negative implications of unrestrained neoliberal rhetoric. Another, similar rhetorical device involves framing visual communication, which is more valuable than textual conversations for platform holders, as a ‘natural’ mode of orientation, invoking supposedly individualistic and personal categories such as Pinterest promising to help users refine “[their] style” . In the same blog article, Pinterest implicitly parallels the user’s “style” (which is constituted by finding and purchasing the right apparel) with their “unique point of view”, suggesting that you need to have one to be able to have the other.

Finally, even the increasing (and usually explicitly communicated) sensitivity of OSNs vis-à-vis privacy concerns should, in some cases, be understood as a form of non-verbal rhetoric. For instance, in March 2015 Facebook implemented a new album format for children’s photos called Scrapbook . The name evokes an innocent child-like activity and the official description emphasizes privacy concerns, as e.g. evidenced by the limitation that “only the two partners can control the scrapbook, and only the two partners can tag the child in a photo”. Yet, the outward implementation of seemingly privacy-minded features like this obscures the more basic question whether an online photo album for images of one’s children is necessary and desirable in the first place, supplanting it with questions of technical implementation.

Social media and the constrained self

Filter bubble effects

One of the most prominent debates about potential constraints placed on ‘the self’ through digital technologies is the notion of filter bubbles, i.e. the fact that the more and more pervasive use of recommendation algorithms locks users into a very narrow sphere of admissible subject matters and opinions. As Flaxman, Goel, and Rao (2016) show for online news consumption, there are plausible arguments both for and against this hypothesis (p. 299). Yet, the goal of this

section is not to weigh in on that question but to use affordances that can foster filter bubble effects as a starting point to more broadly discuss forms in which OSNs constrain their users' self-perception and self-expression.

On a macro level, new affordances such as Facebook's [universal search] functionality (2015) seem to point in that direction because they institutionalize the idea that online social interaction should be indexed entirely and, more importantly, that information should be valorized primarily according to the social proximity of its source. For instance, Twitter advertised its recap of recent 'top tweets' (Jan. 2015) as helping users "keep up – or catch up – with your world" (emphasis by the author) [11] and the recaps appear more often if users only frequent the platform sporadically. Also the Instagram photo filters (Bakhshi, Shamma, Kennedy, & Gilbert, 2015) foster potential 'filter bubble' effects, yet not on the level of content but form, i.e. visual aesthetics. Due to the limited range of available filters, de-facto standards quickly established themselves for which kind of filter is 'right' for which type of image. Instagram itself supported this development with its September 2011 update, which, among other changes afforded real-time use of "live" filters [45]. Thus, similar to how personalization algorithms used to prioritize content on the Facebook timeline potentially constrain the thematic range accepted by its users, the Instagram image filters constrain their range of conceivable visualizations of food, foreign countries and even otherwise overlooked places that only become part of the user's visual imaginary in conjunction with specific filters.

Constraining self-representation

Apart from constraining the user's media diet, recent OSN affordances have also contributed to characteristically limit their self-presentation. For instance, Hogan (2010) argues that the presentation of self on OSNs often eschews performativity and ephemerality, which were implied in Goffman's classical use of theater as a metaphor for social interaction, and replaces them with the more limited, static logic of the "exhibition" (380). The most prominent example is probably the introduction of Facebook Reactions [1] to expand on the like button (rather than simply adding a dislike button as used e.g. on YouTube). By implementing six archetypal emotional responses (appreciation, love, fun, anger, surprise and sadness), partially based on existing emotion classifications such as Robert Plutchik's color wheel taxonomy), this affordance change constrains users' self-perception by channeling emotion complexity into six predefined responses. As argued by Werning (2017), the categories are naturalized through repeated, often unreflecting use similar to how Benedict Anderson characterizes the role of the census in colonial governance as a tool to 'manufacture' standardized populations.

A recent affordance that applies similar constraints to the users' visual communication habits is the #stickers feature on Twitter (Aug. 2016) [2], which works like a "visual hashtag", i.e. it not only lets users decorate photos with cartoon accessories but also allows for browsing content from all Twitter users with that sticker in a dedicated timeline. In actual usage practice, this 'search' function turns the #stickers into a form of self-presentation similar to Facebook Reactions, in which e.g. the sunglasses sticker 'stands for' a particular mood if used in an image. As users can inherently compare their use with that of the 'average' Twitter user, this iconic relationship is stabilized over time. These examples can be understood in terms of what V. Miller (2008) calls phatic communication, i.e. a mode of social interaction that foregrounds performing the idea of connectedness (e.g. through 'consensual' sticker use) rather than conveying personal or even idiosyncratic content. The earlier introduction of polls as a content type on Twitter (Oct. 2015) [3] epitomizes this idea, especially since it only afforded binary replies (yes/no) upon launch. As noted by early adopters, this design choice reflects an ongoing trend towards "lighter engagement points", i.e. forms of social interaction that require less and less cognitive engagement.

A few affordance additions also contribute to the increasing disambiguation of online social interaction, reducing the expressive richness of online social interaction e.g. by relying more and more on photo and video ‘evidence’. For instance, an Instagram Direct update (Sep. 2015) enabled users to send photos directly during a conversation [36]. Through this rather innocuous change to the interface, this feature blurs the boundary between photo sharing and communicating as two originally distinct modes of interaction on OSNs. More importantly, though, it encourages users to ‘ground’ conversations even more by providing photo ‘evidence’ of the communicative situation as a default practice.

Finally, the most topical manner of constraining self-representation across OSNs at the time of writing is ‘storification’, i.e. the inclusion of affordances that organize user-created content in quasi-narrative forms. Twitter arguably popularized this function with its Moments feature (Oct. 2015) [27], a “magazine-like view” of recent tweets, which would soon after be applied also to user content. Snapchat introduction of “Live stories” [23] (Feb. 2016), and in July 2016 the company launched a similar quasi-narrative format called Memories [25], which was summarized by The Verge as a “living, social camera roll”. Foursquare interpreted that functionality in terms of collaborative vacation planning with its Trip Tips features (Jan. 2016) [21]. Quasi-narrative formats are beneficial for OSNs because they enhance discoverability (by providing multiple entry points into a collection of content). Yet, at the same time, the liberal use of terminology such as stories and memories, coupled with the limited formal ‘vocabulary’ (stories usually consist of simple connections between objects in an OSN’s ontology such as dates, places, headlines or contacts), threatens to devalue the role of narrative as a cultural form. Put differently, it limits the functional and aesthetic spectrum of stories as a key element that ensures the coherence and intelligibility of social organization (Davis, 2003; Ewick & Silbey, 1995).

Blurring boundaries

Fragmenting online communities and converging online social networks

Affordance changes have made it increasingly straightforward to sign up for new OSNs, which over time creates problems with managing a coherent front across all platforms. For instance, already in 2008 Tumblr featured a “sign up in 10 seconds” feature on the main page, which initiated an epistemic shift in OSNs from ‘publishing’ towards more flexible and instantaneous forms of self-presentation (H. Miller & Arnold, 2003) and self-expression. As a consequence, new OSNs that increasingly cater to highly specific audiences have been emerging at an increasing pace, which can incur ethical issues. For instance, Craig (2016) shows by way of an informal autoethnography how the specialization of online dating platforms can lead to social erosion and promote the idea of social compartmentalization.

To counter this fragmentation of ‘audiences’, affordances of different OSNs increasingly converge. This occurs through functional integration via acquisitions and API sharing as in the ongoing integration of Periscope and Twitter affordances [9]. Yet, more often than not, the concurring development of OSN affordances exhibits a logic of ‘natural selection’, in which commercially viable functionalities are gradually implemented across all platforms. For instance, Instagram recently implemented a function to organize photos and videos in Pinterest-like collections in April 2017 [32] and only a month later, the platform added so-called “face filters” that emulate Snapchat’s iconic AR lenses [33]. Facebook had already implemented a very similar feature by acquiring video selfie startup MSQRD in March 2016. The choice of face filters (butterfly crown, “nerd glasses” [33] etc.) actually feeds into the aforementioned constraining of self-expression because the filters frame the unreflecting re-performance of established character archetypes from popular media culture as idiosyncrasy.

The interface design, which displays all options in a scroll bar and allows for instantly switching between them, further substantiates the assumption that their choice is encouraged to be spontaneous, without deliberating the contents of the ‘message’. This convergence appears partially reminiscent, at a smaller scale, of how Kelly (2010) describes the ‘technium’, in his popular science bestseller *What Technology Wants*. Using that term, Kelly argues that the increasingly connected digital technologies will form a collective, quasi-sentient entity that is bigger than the sum of its parts and imposes its exigencies on society. The concept has been critiqued for uncritically adapting parameters of biological evolution to technological development. Yet, the functional convergence of OSNs, which follows both economic rationales and the technological logic of APIs, appears to confirm some of Kelly’s assumptions. While ‘life’ or even ‘sentience’ appear rather slippery terms to conceptualize this convergence, the ‘natural selection’ of communication features produces an apparatus that suggests, from the user’s perspective, that there is a limited set of ‘proper’ (i.e. economically viable) ways to socially interact online, discouraging them from adopting or even envisioning potential alternatives. Instagram’s VP of Product Kevin Weil explicitly stated that “this is the way the tech industry works” . In the same interview, Weil later argued that ultimately “it’s about the problem you’re solving”, thereby framing the developmental logic inherent in OSNs as a ‘natural’ challenge, in line with the foundational claims to innovation of startup culture in general.

Finally, this ‘natural selection’ has repeatedly gone hand in hand with cutting back on previous affordances that had contributed to the idiosyncrasy of a platform, thereby communicating this ‘streamlining’ of features as a natural occurrence and a value in and of itself. For instance, Instagram originally cropped images to a square and displayed them online in a disposition not unlike a collection of physical Polaroid photographs. Coupled with filters that appear to remediate older types of film stock, this affordance epistemically linked Instagram to the materiality of photography and signaled an alternative to indiscriminating digitization. Yet, Instagram began to accept user-created full-size photos in landscape and portrait orientation starting in August 2015 . The same applies to Twitter’s (much more ambivalent) affordance changes that gradually expand the 140-character limit .

Outlook: Reframing other mediated activities as ‘social interaction’

The primary goal of the article has been to introduce the method and provide a proof-of-concept by demonstrating how a diachronic cross-platform affordance perspective can help pinpoint ethical issues in online social interaction. The data set compiled in the process is still rudimentary, containing all the fields required for visualization but only the key affordance changes necessary to answer the research question at hand. For instance, the rise of smaller OSNs that encapsulate one or more specific affordances such as Spring.me or Shout had to be excluded from the corpus but would warrant further scrutiny in follow-up research. Ideally, the dataset can be expanded, selectively combined with existing crowdsourced timelines (as in the cases of Facebook and Photoshop referenced above), and re-shared in the context of follow-up research revolving around different questions, e.g. exploring whether the rate at which OSNs converge by mimicking core features and shedding less relevant ones is, as expected, effectively increasing.

While the focus of this article has been on platforms that explicitly frame themselves as OSNs, one valuable trajectory for further studies would be to include the multitude of startups that offer different value propositions (e.g. online dating services like Tinder or collaborative authoring tools like Wattpad) but increasingly develop into quasi-OSNs in their own right. Social trading applications like BUX and Copyop particularly illustrate the ethical implications

of reframing mediated activities as ‘social’ by virtue of affordance changes. For example, revisiting the idea of shopping-as-interaction above, BUX appears very similar to a traditional OSN, especially since new users are able to initially spend and earn “funBux” , i.e. virtual play money that facilitates entering the community and ‘learning’ to interact by competing with other traders.

Moreover, affordances like the BUX Battles reflect similar principles as e.g. Snap Streaks, effectively ‘translating’ them from ‘social capital’ (in the sense of Bourdieu) to actual capital. That is, while a snap streak implies a moment of competition among the user’s peer group (comparing streak scores and, thus, the quality of one’s popularity among ‘best friends’), BUX explicates this idea and allows for users to aim for the highest return on investment within a set time frame, later communicating the results among their peer groups as catalysts for further social interaction. Copyop differentiates itself by enabling users to follow successful (or celebrity) investors on the platform and imitating their investment strategies; this promises good results but also arguably allows for performing ‘allegiance’ with these users, thereby creating imagined social proximity. In that sense, it also translates strategies of personal online interaction, i.e. “imitating performances and personalities of celebrities” (Chen, 2013, p. 341) to stock trading. Thus, these examples would constitute a logical corpus for future diachronic affordance analyses and indicate how the approach can be instrumental in identifying functional and epistemic overlaps between sites of online social interaction.

References

- Aggarwal, C. C. (2016). *Recommender systems. The textbook*. Switzerland: Springer International Publishing.
- Aggarwal, P., & McGill, A. L. (2012). When brands seem human, do humans act like brands? Automatic behavioral priming effects of brand anthropomorphism. *Journal of Consumer Research*, 39(2), 307–323.
- Badhwar, N. K. (2008). Friendship and commercial societies. *Politics, Philosophy & Economics*, 7(3), 301–326.
- Bakhshi, S., Shamma, D. A., Kennedy, L., & Gilbert, E. (2015). Why we filter our photos and how it impacts engagement. Conference proceedings of Ninth International AAAI Conference on Web and Social Media. Retrieved from <https://www.aaai.org/ocs/index.php/ICWSM/ICWSM15/paper/view/10573/10484>
- Boczkowski, P. J. (1999). Mutual shaping of users and technologies in a national virtual community. *Journal of Communication*, 49(2), 86–108.
- Bogost, I. (2008). The rhetoric of video games. In K. Salen (Ed.), *The ecology of games: Connecting youth, games, and learning* (pp. 117–140). Cambridge, MA: The MIT Press.
- Bogost, I. (2016, April). Go tweak yourself, Facebook. *The Atlantic*. Retrieved from <http://www.theatlantic.com/technology/archive/2016/04/go-tweak-yourself-facebook/480258/>
- Bucher, T., & Helmond, A. (2018). The affordances of social media platforms. In J. Burgess, T. Poell, & A. Marwick (Eds.), *The SAGE handbook of social media* (pp. 233–253). London and New York: SAGE Publications.

- Caillois, R., & Halperin, E. P. (1955). The structure and classification of games. *Diogenes*, 3(62), 62–75.
- Chen, C-P. (2013). Exploring personal branding on YouTube. *Journal of Internet Commerce*, 12(4), 332–347.
- Couldry, N. (2017). Celebrity, konvergenz und das schicksal von medieninstitutionen. *Zeitschrift Für Medienwissenschaft*, 16, 61–78.
- Craig, E. (2016, June). Niche dating apps like the League are icky and bad for love. *Wired Magazine*. Retrieved from <https://www.wired.com/2016/06/why-tinder-is-bad/>
- Curinga, M. X. (2014). Critical analysis of interactive media with software affordances. *First Monday*, 19(9).
- da Silveira, C., Lages, C., & Simões, C. (2013). Reconceptualizing brand identity in a dynamic environment. *Journal of Business Research*, 66(1), 28–36.
- Davis, J. E. (Ed.). (2003). *Stories of change: Narrative and social movements*. Albany, NY: State University of New York Press.
- de la Cruz Paragas, F., & Lin, T. T. (2016). Organizing and reframing technological determinism. *New Media & Society*, 18(8), 1528–1546.
- Eid, M., & Ward, S. J. A. (2009). Ethics, new media, and social networks. *Global Media Journal - Canadian Edition*, 2(1), 1–4.
- Ewick, P., & Silbey, S. S. (1995). Subversive stories and hegemonic tales: Toward a sociology of narrative. *Law & Society Review*, 29(2), 197–226.
- Fackler, P. M. (2011). Social responsibility theory and media monopolies. In P. M. Fackler & R. S. Fortner (Eds.), *The handbook of global communication and media ethics* (pp. 98–118). Oxford, UK: Wiley-Blackwell.
- Flaxman, S., Goel, S., & Rao, J. M. (2016). Filter bubbles, echo chambers, and online news consumption. *Public Opinion Quarterly*, 80(1), 298–320.
- Fornäs, J., Becker, K., Bjurström, E., & Ganetz, H. (2007). *Consuming media. Communication, shopping and everyday life*. Oxford, New York: Berg.
- Halpern, D., & Gibbs, J. (2013). Social media as a catalyst for online deliberation? Exploring the affordances of Facebook and YouTube for political expression. *Computers in Human Behavior*, 29(3), 1159–1168.
- Harsin, J. (2015). Regimes of post-truth, post-politics, and attention economies. *Communication, Culture & Critique*, 8(2), 327–333.
- Hogan, B. (2010). The presentation of self in the age of social media: Distinguishing performances and exhibitions online. *Bulletin of Science, Technology & Society*, 30(6), 377–386.
- Hong, R. (2013). Game modding, prosumerism and neoliberal labor practices. *International Journal of Communication*, 7, 984–1002. Retrieved from <http://ijoc.org/index.php/ijoc/article/view/1659>

- Kelly, K. (2010). *What technology wants*. New York, NY: Viking Press.
- Light, B., Burgess, J., & Duguay, S. (2018). The walkthrough method: An approach to the study of apps. *New Media & Society*, 20(3), 881–900.
- Majchrzak, A., Faraj, S., Kane, G., & Azad, B. (2013). The contradictory influence of social media affordances on online communal knowledge sharing. *Journal of Computer-Mediated Communication*, 19(1), 38–55.
- Manovich, L. (2007). After effects, or velvet revolution. *Artifact*, 1(2), 67–75.
- Marshall, P. D. (1997). *Celebrity and power: Fame in contemporary culture*. Minneapolis: University of Minnesota Press.
- McGuigan, J. (2014). The neoliberal self. *Journal of Current Cultural Research*, 6(1), 223–240.
- McKee, A. (2001). A beginner's guide to textual analysis. *Metro Magazine*, 138–149.
- McNay, L. (2009). Self as enterprise: Dilemmas of control and resistance in Foucault's *The Birth of Biopolitics*. *Theory, Culture & Society*, 26(6), 55–77.
- Miller, H., & Arnold, J. (2003). Self in web home pages: Gender, identity and power in cyberspace. In G. Riva & C. Galimberti (Eds.), *Towards cyberpsychology: Mind, cognitions and society in the Internet age* (pp. 73–94). Amsterdam: IOS Press.
- Miller, V. (2008). New media, networking and phatic culture. *Convergence: The International Journal of Research into New Media Technologies*, 14(4), 387–400.
- Nagy, P., & Neff, G. (2015). Imagined affordance: Reconstructing a keyword for communication theory. *Social Media + Society*, 1(2), 1–9.
- Poell, T., & Van Dijck, J. (2013). Understanding social media logic. *Media and Communication*, 1(1), 2–14.
- Riffe, D., Lacy, S., & Fico, F. G. (2014). *Analyzing media messages: Using quantitative content analysis in research* (3rd ed.). London: Routledge.
- Rodgers, R. (2009). *The end of the virtual: Digital methods*. Amsterdam: Amsterdam University Press.
- Rosmarin, R. (2006). The MySpace economy. *Forbes Magazine*. New York, NY: Forbes Inc. Retrieved from http://www.forbes.com/2006/04/07/myspace-google-murdoch-cx_rr_0410myspace.html
- Sacharin, K. (2004). *Attention!: How to interrupt, yell, whisper, and touch consumers*. New York: John Wiley & Sons.
- Sicart, M. (2014). *Play matters*. Cambridge, MA: The MIT Press.
- Stephenson, W. (1964). *The play theory of mass communication*. New Brunswick, NJ: Transaction Publishers.
- Treanor, M., Schweizer, B., & Bogost, I. (2011). Proceduralist readings: How to find meaning in games with graphical logics. In *FDG '11: Proceedings of the 6th International Conference on Foundations of Digital Games* (pp. 115–122). New York, USA: ACM Press. <https://doi.org/10.1145/1954781.1954801>

org/10.1145/2159365.2159381

Werning, S. (2017). “Re-appropriating” Facebook. The use of web APIs as collective cultural practice. *Digital Culture & Society*, 3(2), 183–206.

Williams, K. (2009). Never coming to a theatre near You: Recut film trailers. *M/C Journal*, 12(2). Retrieved from <http://www.journal.media-culture.org.au/index.php/mcjournal/article/view/139>

Notes

1. Cf. e.g. <https://www.theguardian.com/technology/2013/nov/07/instagram-illegal-drugs-bbc-investigation>.
2. The early years in the crowdsourced timeline of Facebook’s development at Wikipedia show when development notably accelerated in 2011; cf. https://en.wikipedia.org/wiki/Timeline_of_Facebook.
3. As in the case of De digitale Stadt, an early Dutch virtual community modelled after Amsterdam; cf. e.g. <http://www.well.com/~h1r/tomorrow/amsterdam.html>.
4. Cf. <https://support.snapchat.com/en-US/a/Snaps-snapstreak>.
5. Introduced by Viber in late 2015, it constitutes a variation on the design pattern of ephemeral messages ; cf. <https://support.viber.com/customer/en/portal/articles/2255078-new-wink>.
6. Cf. <http://getbux.co.uk/>.
7. For instance, Twitter still constitutes the primary platform for ‘status updates’ and short-form self-broadcasting.
8. Cf. <http://www.businessinsider.com/google-just-effectively-killed-the-im-feeling-lucky-button-2010-9?international=true&r=US&IR=T>.
9. Cf. e.g. the work of Manovich (2007) on Adobe software such as After Effects.
10. Cf. e.g. <https://news.spotify.com/us/2016/09/20/spotify-partners-with-tinder-to-swipe-up-the-volume/>.
11. Cf. <http://www.recode.net/2016/5/28/11797746/twitter-stripe-relay-buy-buttons-commerce>.
12. Cf. e.g. <https://techcrunch.com/2011/03/23/color-looks-to-reinvent-social-interaction-with-its-mobile-photo-app-and-41-million-in-funding/>.
13. Cf. e.g. Unity3D (<https://unity3d.com/get-unity/download/archive>) or Gephi (<https://github.com/gephi/gephi/wiki/Releases>) as prominent examples.
14. Cf. e.g. https://en.wikipedia.org/wiki/Adobe_Photoshop_version_history.
15. One example is the changelog section of Reddit; cf. e.g. <https://www.reddit.com/r/changelog/>.
16. Cf. e.g. <https://blog.twitter.com/> or <https://blog.pinterest.com/en>.
17. Cf. <https://www.dreamgrow.com/top-15-most-popular-social-networking-sites/>.

18. Cf. <https://github.com/FlowingMedia/TimeFlow/wiki>.
19. Cf. <http://www.businessinsider.com/teens-are-obsessed-with-snap-streaks-on-snapchat-2016-12?international=true&r=US&IR=T>.
20. Cf. <https://techcrunch.com/2015/10/01/klout-perks-is-no-more/>.
21. Cf. <https://www.airbnb.com/superhost>.
22. Cf. e.g. <https://techcrunch.com/2011/05/09/airbnb-social-connections/>.
23. Cf. e.g. <http://www.economist.com/news/leaders/21715660-global-firms-are-surprisingly-vulnerable-attack-multinational-company-trouble>.
24. At the time, the feature evoked protest for that same reason; e.g. Facebook advertised it as providing “the latest headlines generated by the activity of your friends and social groups”, i.e. essentially as a PR tool; cf. http://mashable.com/2013/03/12/facebook-news-feed-evolution/#CNfKs784_Pqw.
25. For instance, Facebook experimented with allowing users to pay others in Credits for completing in-platform tasks like status updates; cf. <http://www.adweek.com/digital/facebook-credits-part-i-the-story-so-far/>.
26. Cf. e.g. <https://www.groene.nl/artikel/ik-is-een-start-up>.
27. Cf. <https://blog.twitter.com/2016/a-better-way-to-connect-with-people>.
28. Cf. e.g. <http://collider.com/sense5-instagram-series/>.
29. The teaser trailers for the immensely popular Game of Thrones franchise exemplify this point; cf. e.g. <https://www.polygon.com/2017/3/9/14870716/game-of-thrones-season-7-teaser>.
30. Sticking with the Game of Thrones example, cf. e.g. <http://winteriscoming.net/2017/03/17/take-black-podcast-season-7-premiere-date-new-teaser-much/>.
31. For instance, Kutcher invested in Fourquare and Skype but also smaller German platforms Amen (discontinued) and Soundcloud; cf. e.g. <https://www.thelocal.de/20120114/40109>.
32. Cf. <https://evgenymorozov.tumblr.com/post/64038831400/the-sharing-economy-undermines-workers-rights>.
33. Cf. e.g. <https://techcrunch.com/2017/05/03/whatsapp-status-million-users/> or <https://techcrunch.com/2017/05/03/facebook-vs-snapchat/>.
34. Whatsapp earlier compromised the ambiguity of pauses in communication by introducing a feature that informs users whether their messages have already been read [44].
35. Cf. e.g. <https://www.giantbomb.com/combo/3015-18/>.
36. Cf. e.g. <https://blog.twitter.com/2014/photos-just-got-more-social>.
37. Cf. <https://itunes.apple.com/us/app/foursquare-swarm-the-check-in-app/id870161082?mt=8>.
38. Cf. <https://blog.pinterest.com/en/search-outside-box-new-pinterest-visual-discovery->

tools.

39. Cf. <http://newsroom.fb.com/news/2015/03/a-new-way-to-organize-photos-of-your-child-on-facebook/>.
40. Writing in 2011, Clive Thompson coined the term “Instagram effect” to summarize this behavior; cf. https://www.wired.com/2011/12/st_thompson_instagram/.
41. Cf. <https://techcrunch.com/2015/10/21/do-you-like-polls-yes-or-no/>.
42. Cf. e.g. Stitch, an OSN aimed particularly at elderly users (<https://techcrunch.com/2015/10/31/stitch-is-a-social-network-for-seniors/>).
43. Cf. <https://www.crunchbase.com/organization/masquerade#/entity>.
44. Cf. <https://techcrunch.com/2017/05/16/to-clone-or-not-to-clone/>.
45. Cf. <http://www.theverge.com/2015/8/27/9212523/instagram-full-size-photos-portrait-landscape>.
46. Cf. e.g. <http://www.wired.co.uk/article/twitter-character-limit>.
47. Cf. <https://techcrunch.com/2014/10/24/spring-me/>.
48. Cf. e.g. <https://techcrunch.com/2015/01/23/shout-offers-a-new-take-on-location-based-social-networking-by-ditching-anonymity/>.
49. One prominent example involves Instagram discontinuing its Photo Maps feature in September 2016; cf. e.g. <http://mashable.com/2016/09/06/instagram-kills-photo-maps/>.
50. Cf. <https://en.support.getbux.com/en/support/solutions/articles/1000093788-what-is-funbux->.
51. Cf. <https://en.support.getbux.com/en/support/solutions/articles/1000112567-what-is-a-bux-battle->.
52. Cf. <https://www.copyop.com/en/how-it-works>.