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## What Counts?

### Reflections on the Multivalence of Social Media Data

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#### Abstract

*Social media platforms have been characterised by their programmability, affordances, constraints and stakeholders – the question of value and valuation of platforms, their data and features has, however, received less attention in platform studies. This paper explores the specific socio-technical conditions for valuating platform data and suggests that platforms set up their data to become multivalent, that is to be valuable alongside multiple, possibly conflicting value regimes. Drawing on both platform and valuation studies, it asks how the production, storing and circulation of data, its connection to user action and the various stakeholders of platforms contribute to its valuation. Platform data, the paper suggests, is the outcome of capture systems which allow to collapse action and its capture into pre-structured data forms which remain open to divergent interpretations. Platforms offer such grammars of action both to users and other stakeholders in front- and back-ends, inviting them to produce and engage with its data following heterogeneous orders of worth. Platform data can participate in different valuation regimes at the same time – however, the paper concludes, not all actors can participate in all modes of valuation, as in the end, it is the platform that sets the conditions for participation. The paper offers a conceptual perspective to interrogate what data counts by attending to questions of quantification, its entanglement with valuation and the various technologies and stakeholders involved. It finishes with an empirical experiment to map the various ways in which Instagram data is made to count.*

**Keywords:** Big data; digital methods; platform data; back-end; infrastructures of evaluation.

## Introduction

From the very beginning of social media platforms, their data has been approached as a source of value – economic, social, cultural or political value. In economic contexts social media data is considered valuable as it allows to identify consumer preferences and relations (Turow 2006), can be made relevant for risk assess-

ment (Amoore 2011), brand valuation (Moor & Lury 2011), behavioural targeting (Turow 2012), or the prediction of financial markets. In social contexts, platform data bears value as it is considered to account for attention, connectedness or reputation (Paßmann & Gerlitz 2014; Hearn 2010). In relation to the political sphere, social media not only provide insights into controversies or topical affairs (Marres & Moats 2015), but also into bias (Borra & Weber 2012), electoral preferences or intelligence concerns, thus potentially bearing political value. Social media platforms, media studies scholars argue, operate across these value registers, as they enable communication, whilst at the same time transforming it into economically valuable data, allowing for what Langlois and Elmer understand as “double articulation” (2013) of different value registers.

Whereas the issue of value has been central to debates about *social media data*, it has surfaced less prominently in the context of *platform studies* which explore the technical infrastructures involved in data production and processing. However, in order to discuss the valuation of data, one needs to account for the socio-technical conditions of its making. Platforms have been explored regarding their programmability or, as Bogost and Montfort put it, their capacities to be built upon (2009), their expansion into the web or into app spaces (Helmond 2015a), or into other platforms through cross-syndication and interoperability (Bodle 2011). Such techno-materialist perspectives in platform studies are currently being advanced by fostering the intersections between platform and infrastructure studies (Helmond 2015b; Plantin et al. 2016; see also Schuettpelz & Gießmann 2015), a strand that considers platforms as one of the infrastructure providers of communication. Other scholarship attends to the affordances and constraints for communication and sociality enabled by platforms, attending to the possibilities platforms offer to users through their front-end or to developers in the back-end (Bucher 2013; Gillespie 2010). This strand of platform studies outlines the limits and restrictions of platform features and draws attention to the ways in which platforms enable, but also channel, modulate and restrain expression (Crawford & Gillespie, 2014; Dijck, 2013a). A third strand outlines the involvement of the multiple and heterogeneous stakeholders (Gillespie 2010; Bodle 2011) to which platforms cater to. Platforms simultaneously try to address private users, who seek to communicate and socialise; companies, who want to market their business; analysts, who try to understand consumers; or politicians and organisation, who strive to engage – just to name a few. Many of these stakeholders are being approached through distinct interfaces – Instagram for instance has dedicated interfaces for users, developers, advertisers and businesses. To bring together the heterogeneous objectives of their stakeholders with their own business aims, platforms may need to unfold a series of politics (Gillespie 2010) and organise the conditions within which different actors can participate in their data and features. This short overview surely cannot give justice to the various strands in platform studies – rather it should outline that platforms have been conceptualised as creating the socio-technical conditions for

various stakeholders to pursue their interests and are subject to constant enactment, forming a “set of relations that constantly needs to be performed,’ in part due to continual friction between, on one side, users’ goals of expression and, on the other side, platforms’ profit-seeking aims and the legal surround that defines legitimate use” (van Dijck, 2013a: 26).

Whilst the technical conditions for bringing these stakeholders together have been explored from different perspectives, the question how platforms are informed by the valuation of their data is one that requires further attention. The objective of this paper is thus to add to existing platform scholarship a discussion on how social media data is made valuable and how these valuation processes are entangled with the platform’s other characteristics, namely programmability, affordances/constraints and stakeholder involvement. It does so by drawing on a plural account of value. Social sciences have been informed by a bifurcation between *value* – referring to economic value or profit – and *values* – referring to the multiplicity of social norms (Graeber 2006). In this paper, however, I am mainly interested in different value registers social media data can speak to which operate beyond the value/values distinction and suggest to treat value in a plural way, including all forms of value, social, economic, political etc. Engaging with valuation studies (Vatin 2013) this paper further differentiates between evaluation – that is the process of value assessment – and valuation – the process of value production. Valuation is further preferred over valorisation, as the former addresses the production of different forms of value, whilst the latter is mainly used to refer to economic value creation (Vatin 2013). Such pluralist accounts of key terms are necessary to account for the multiplicity of value regimes at stake in platforms. The paper is driven by the following questions: What are the socio-technical conditions of valuation of platform data and alongside which value registers is social media data made valuable? It puts forwards the claim that social media platform data is created to be multi-valent (Marres 2009; Gerlitz 2012), that is to speak to more than one value register at the same time and sets out to expand the characteristics of social media platforms.

It does so by attending to different facets of the question “What counts?” and by creating an initial dialogue between platform studies and scholarship on valuation (Vatin 2013). In a first step, the paper discusses the relation between platforms and multivalence, drawing on previous contributions on the enactment of multiple value registers. Then it attends to the socio-technical condition for producing and recombining social media data, focusing especially on quantification and standardisation in form: “What counts in the sense of what is valued – is that which is counted. Conversely, everything that can be numbered must be valued” Alain Badiou suggests (2008: 1) and this nexus between countability and valorisation is attended to by conceptualising platform affordances and constraints as “grammars of action” (Agre 1994). Platform data, the paper claims, is produced to be standardised in form and flexible in meaning – and thus valuation. The paper draws on examples from Facebook, Twitter and Instagram. The latter is especially

focused on and drawing on an empirical experiment the paper asks how different actors realise the value of platform data differently by mapping apps build on top of the platform. The conclusion reflects on the limits of distributed valuation in the case of social media platform data by asking who can participate in the process of valorisation and valuation and on what grounds?

## On platforms and multiple value registers

The term platform, Gillespie notes (2010), emerged as a self-description of social media corporations who sought to fashion themselves as neutral content intermediaries (see also Helmond 2015 on the term platform) – whilst actually pursuing their very own politics when negotiating with their stakeholders. Drawing on a micro-economist perspective, Rieder and Sire (2013) take Gillespie's argument further by outlining how platforms operate as multi-sided markets (Rochet & Tirole 2006), which offer the same product to a range of different actors, namely users, advertisers, media outlets, and other corporate partners. These accounts explore the functionalities platforms offer to their distinct stakeholder groups as key instances to a) address their needs and b) bring together their often divergent objectives. What is missing in this perspective are the socio-technical conditions that allow platforms to involve these stakeholders. In this paper, I claim that the most relevant condition for stakeholder involvement and programmability are the data-points of platforms, their pre-structured forms and flexibility in meaning. Take the case of Instagram, where users may be interested in creating and sharing images, advancing their social relations, engaging in interactions or building influence, whilst advertisers seek to identify, reach and engage relevant target audiences and brands set out to involve influencers as Instagram's business interface offers dedicated analytics for these aims.<sup>1</sup> Developers, on the contrary, are provided with extensive documentations on how to access platform data via application programming interfaces (APIs) and guidelines on how to use them.<sup>2</sup> All these interests are held together by the specific data Instagram and its stakeholders create, structure and recombine.

The divergent interests and valuation regimes of platform stakeholders do not have to be similar, nor align. Rather, the capacity of a well-functioning platform is to connect to a heterogeneous set of interests and/or valuation regimes. Indeed, Gillespie argues: "Consumers of online video are empowered to be their own content programmers, consuming the relevant mix of mass, niche and personal media they demand. Advertisers are empowered through data to better understand and engage with their audiences. And content owners are empowered, through sophisticated identification tools, to control their content and make smart

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1 <https://business.instagram.com>

2 <https://www.instagram.com/developer>

business decisions with their content (Hurley, 2008)" (2010, 355). In order to advance their own profit and popularity, platforms need to enable stakeholders to pursue their respective interests, and in so doing, speak to what economic sociologists Boltanski and Thevenot (1991) posit as distinct orders of worth.

Boltanski and Thevenot are interested in valuation regimes in societies. They leave behind the differentiation between economic value and social values to focus on the more plural notion of worth. Therefore, they ask how people justify their action and reach agreements by taking on a pragmatist perspective that studies individual actors and their situated valuations. The authors start from the observation that the same object, issue or company can be viewed and valued differently according to specific valuation regimes or what they call "orders of worth." Each order, of which economic value is but only one, comes with distinct measures, metrics and justifications of value. The authors go on to explore how these orders can be used as means of orientation in situations of risk and uncertainty in order to reach agreements about the value of entities. Boltanski and Thevenot consult canonical philosophic texts to identify six orders of worth which include: inspired, domestic, fame, civic, market and industrial. Agreement about the value of goods, information/data, companies or processes can easily be reached when dealing with actors who operate according to the same order of worth, and is more difficult to achieve when conflicting orders are applied. The value of entities is thus determined relationally and is not fixed or stable.

When exploring the different stakeholders of platforms, divergent orders of worth can be detected – users seek to gain relational value and/or fame, activists may follow civic values, whilst advertisers and corporate partners follow market orders. What is interesting in the case of platforms is that these value formats do not necessarily contradict each other or lead to fundamental dissent. Furthermore, so it shall be shown, these orders are not necessarily reliant on distinct actions, measures, metrics or indicators. The data and metrics offered to users and advertisers in their respective platform interfaces may be interpreted alongside different orders of worth: Likes on Facebook for instance can be treated as signifiers of social appreciation, cultural relevance or as indicators for successful promotion. Hashtags on Instagram can be used and interpreted as markers of association by users, as means to reach and build audiences for professional users, as campaigning tool for politicians or as demarcators of research samples for researchers. All these different interpretations and use cases speak to their distinct order of worth (domestic, fame oriented, inspired etc). What is distinct about social media is that the same data-points can operate in and be relevant for different valuation regimes as they can be interpreted differently. Whilst Boltanski and Thevenot address the capacity of entities to speak to different orders of worth as possible source of conflict, this may not necessarily be the case in social media, as actors can interpret the same data differently here.

Such simultaneity of valuation regimes has been identified as central for innovation and growth by economic sociologist David Stark (2009). Whilst Boltanski

and Thevenot have focused on the possibilities to achieve agreement between conflicting orders of worth, Stark suggests that a production friction that can arise when different orders of worth are in play can be productive and desirable. In his ethnographic fieldwork in different organisational settings, such as new media start-ups but also producing companies, he found that if different ideas of how to move forward, how to solve problems, or what a company should stand for exist, arriving at a solution to a problem may be longer and more conflictual as divergent valuation regimes prevent actors to come to an agreement. Such disagreement between valuation regime can lead to productive frictions that allow organisation to become more inventive, agile and innovative as they do not settle on solutions too easily and explore problems from multiple perspectives. A multiplicity of valuation regimes in place allows employees to challenge established assumptions, to identify creative solutions to problems and thus to exploit uncertainty instead of being terrified by it. “[I]nvolving more than one way of evaluating worth” (27), Stark argues, enables more open-ended forms of search that prevents organisations to settle on mediocre solutions. By so doing, he argues: “entrepreneurship is the ability to keep multiple principles of evaluation in play and to benefit from that productive friction” (Stark 2009: 9). He understands the simultaneity of different valuation regimes as a “heterarchy” of worth and value. Central to a productive heterarchy of worth is firstly a form of “asset ambiguity”, that is the possibility to view a situation or an entity from different valuation perspectives and secondly the constant re-evaluation of the same problem or entity based on different orders of worth, as “[v]alues mate to change” (181).

Operating as intermediaries of stakeholders who all follow their own agenda, it can be said that platforms enact such heterarchy, however in a more distributed and less bounded way. Whilst Stark focuses on the strategic invitation of conflicting orders of value within a single organisation, team or unit, platforms can only create the technical conditions and situations for such heterarchy to be enacted by its various stakeholders. The multiplicity of valuation regimes is not simply realised by the platform and its employees, but through assemblages of heterogeneous and previously disconnected stakeholders. In a next step, the paper will engage more with the socio-technical conditions for such heterarchy.

### **Infrastructures of valuation: standardised in form and flexible in meaning**

To understand how these heterarchies are made possible and are realised, it is not only relevant to focus on platform data in its given form, but the entire infrastructure of its making, organisation and circulation. The majority of platform data results from users engaging with platform features, such as posting images, following others, using hashtags, @mentions, captions, locations or filters, clicking on buttons, viewing profiles – to name only a few in the case of Insta-

gram. These activities are enabled through pre-structured features which result into equally pre-structured data-points and associated meta-data.<sup>3</sup> Data collection of platforms can therefore be understood as capture system in the sense of Philip Agre (1994). The information theorist explored how technologies create specific socio-technical conditions for monitoring activity and differentiated between two key models: surveillance and capture. Surveillance refers to modes of observation during which action and its monitoring are two separate acts. In a capture structure, on the contrary, action and its capture collapse, as actions are made possible by infrastructures that immediately track and transform action into predefined data formats. Both models have different origins: “Whereas the surveillance model originates in the classically political sphere of state action, the capture model has deep roots in the practical application of computer systems” (Agre 1994: 744). But capture systems can be applied to other fields, such as the standardisation of work processes in organisations, an example that Agre himself uses, and is, so this paper argues, central to social media platforms. Whenever users engage with a platform, their actions are not monitored retrospectively through modes of observation (surveillance) but recorded the moment the action occurs, as each action automatically generates an associated representation in a database. Capture structures are reliant on models of what users or in the case of Agre’s object – organisations and their employers – can do. These models of desired behaviours are translated into a form of language consisting of words (that is actions) that can be combined into specific sentences or texts (that is action sequences). Agre understands these predefined possibilities to act as “grammars of action”, which are enacted in a five step cycle.

First, existing or desired activity needs to be analysed and turned into an ideal-type model. Second, actions must be translated and categorised into grammatised, pre-structured forms. Third, these grammars need to be communicated, explained and made relevant to their potential users to enact compliance and to give the grammars a normative force. Fourth, grammars need to be turned into technical means or infrastructures that provide the technical conditions for grammatised action. In the context of platforms, step three and four cannot be separated as grammars can only gain a normative force if the technical means for their enactment, that is pre-structured platform actions, are provided. Fifth, the captured data enters a database and becomes amenable for further use, including the evaluation of the capture system, recombination with other data or – in the context of platforms – commercially motivated analysis of user preferences.

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3 In addition, many platforms also draw on platform-external yet equally pre-structured data generated across the web (Helmond 2015a), such as shared content and associated responses or tracking devices build into social plugins which account for user actions and interest outside the platform by tracking their browsing behaviour (Gerlitz & Helmond 2013).

Agre's grammars of action thus have to be understood as socio-technical processes, as they require both technical infrastructures and user compliance. They are relevant to understand the making, use and valuation of platform data: User interfaces of platforms are also based on a set of modelled and desired possibilities to act, as imagined by platform designers – whether this be captions and hashtags on Instagram or posts, Likes and friend requests on Facebook, only to name a few. User action is only possible through such pre-structured grammars. Thus, users can Like on Instagram, but not Dislike, whilst on Facebook, they can select between different affective responses (Gerlitz et al. 2015). In the context of platforms, action outside of grammatised features is not possible and grammars take on a particularly normative as they “constitute a reorganization of the existing activity, as opposed to simply a representation of it” (Agre 1994: 747). Such normative force is central to social media, where platforms delineate the horizons of possible action (Langlois & Elmer 2013), offering some action in standardised form rather than another. Within these horizons, grammars can be more or less fine grained. In the context of Facebook's Like button, users have long requested an additional dislike feature to express negative reactions and have deployed the existing Like for multiple objectives – catering to forms of affective, ironic, attentive and other forms of liking, before the more differentiated response buttons were introduced.

Heterogeneous interpretations of technology are a long held topic in science and technology studies, as well as in valuation studies. Wiebe Bijker and Trevor Pinch (1984) for instance address the tensions between stabilisation and reinterpretation of technology as “interpretative flexibility”. Technologies, the authors suggest, may have been designed with specific use cases or objectives in mind, but during certain stages of their development are open to be re-interpreted and re-purposed for different objectives. Facebook's Like Button for instance may have been designed as positive affective response, but has been deployed as in ironic or parodist ways or as means to negotiate relations or signal attention. Bijker and Pinch develop a dynamic account of technology which can be socially shaped and subject to different orders of worth. Drawing on the evolution of bicycles and cycling practices, the authors show how different developers have constantly reinterpreted what bicycles can do and how cycling can become part of everyday life before it took on its current form – or to put it with Bijker and Pinch – before cycling has stabilised. Key to their account are what they call “relevant social groups” involved in negotiating the use cases; meaning and value of technology; the wider social contest (or orders of worth); and the stabilisation or closure of interpretative flexibility once technologies are used in standardised ways. The authors are particularly interested in how the negotiation between stakeholders may lead to a closure of the interpretative flexibility and how standardised use scenarios and valuation regimes are established.

The notion of interpretative flexibility offers a relevant framing when studying how users adopt to or re-interpret grammatised actions in the context of platforms.

Recent social media research has started to engage with the concept of interpretative flexibility, but mainly in relation to platforms as a whole such as exploring the stabilisation and flexibility of Twitter (Dijck 2013b) or YouTube (Burgess 2014). By looking at the structural elements of platforms, their technicity, stakeholders and practices, it is difficult, if not impossible to speak of the stabilisation of an entire platform – that is claiming that Twitter only stands for real-time live commentary, Facebook is only used for keeping in contact with one's existing network of friends and LinkedIn for professional network building. Rather than exploring the interpretation of a platform as a whole, I suggest to draw attention to the interpretative flexibility of individual grammars and their entanglement with the valuation dynamics of platforms. Take the case of Twitter and its former Favourite and now Like button, a largely disregarded feature (Paßmann & Gerlitz 2014).<sup>4</sup> The majority of users have deployed Favourites in the same way as bookmarks to save interesting tweets; but sub-groups, particularly present on German and US Twitter, have used the Favourite as a signal of social appreciation and recognition.<sup>5</sup> Third party developers realised these complementary interpretations and offered complementary services such as bookmarking apps to save Favourites, or popularity rankings for the most 'fav'ed' accounts and tweets – as in the case of Favstar. The various social groups involved in Twitter thus rendered the Favourite subject to interpretative flexibility. The transformation of Favourites to Likes in November 2015, however, interfered with this interpretative flexibility although the platform likes to tell a different story (Gerlitz et al. 2015). As Favourites are now presented as a heart, journalists for instance felt that they cannot use it as bookmark as easily as before, as they did not want to save tweets from terrorists or about catastrophes by giving them a heart. The previous Favourite button was considered to be more open to interpretative flexibility than the new Twitter Like which may have introduced a partial closure to the possible value registers alongside which the button can be used. In short, the feature was perceived to cater to a heterarchy of valuation regimes until it was transformed into a Like button. Bijker and Pinch's notion of interpretative flexibility draws attention to the dynamics between flexibility and closure and the involvement of various social groups who negotiate this relationship. How these groups are entangled through the above discussed capture and grammar systems and whether a closure of interpretative flexibility is aimed for by these groups will be the focus of the next sections.

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4 For a detailed history of Twitter features, see Paßmann 2016.

5 See Ian Bogost's taxonomy of the Twitter Favourite here <https://twitter.com/ibogost/status/603231455804858370>

## Back-end grammatisation

In the context of platforms, a variety of stakeholders are involved in the negotiation of interpretative flexibility of platform grammars. As discussed elsewhere (Gerlitz & Rieder 2015), platforms are informed by different levels of grammatisation and whilst users encounter their grammars through pre-structured platform actions, developers and analysts are facing specific back-end grammars via application programming interfaces (APIs) that allow to input or output platform data through a series of grammatised API commands. Instagram offers a developer API<sup>6</sup> and an advertising API via Facebook<sup>7</sup>. Once developers have authorised to gain access, they can retrieve data through pre-structured lines of code, connecting themselves to the so-called API end-points for data input and output<sup>8</sup>. Like other platforms, Instagram provides an extensive library that lists all possible data formats that can be retrieved by predefined API commands which I suggest to understand as back-end grammars (Gerlitz & Rieder 2015). It is for instance possible to automatically extract all media posted from a given area, posts tagged with selected keywords or liked by specific users. APIs are designed for both data retrieval and to build alternative interfaces for sharing and creating content. To cater to these two objectives, platform APIs usually come with so called GET grammars for data extraction, and POST grammars to act or create new content. These back-end grammars largely resonate with the front-end grammars, as (a) they rely on the data produced by front-end grammars and (b) produce content that is being made visible in front-ends as well. However, especially GET grammars may extend the ways in which data can be accessed or searched in the front-ends by offering new means of aggregation.

Back-end grammars of platforms can be subject to the interpretative flexibility of diverse stakeholder groups: they can be used for data extraction for business analytics or to build new apps on top of the platform, like photo editors or download apps for Instagram. Platforms are reliant on their diverse stakeholders to explore the potentials of the platforms and possible interpretations of its feature in order to generate new incentives for users to engage, to innovate platform development or to create new models of economic valorisation (Halavais 2014). On the other hand, back-end grammars may be subject to even more interpretative flexibility than front-end grammars as they allow to re-interpret the meaning of grammatised action and to recombine data alongside new valuation regimes – that is to use it for forecasting, popularity rankings, controversy mapping or user profiling. Therefore, back-end grammars are often more closely watched and guided by platforms (Bucher 2013) through extensive sets of rules and strategy plans that define which types of interpretation of back-end grammars are supported by the

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6 <https://www.instagram.com/developer/>

7 <https://developers.facebook.com/docs/marketing-api/guides/instagramads>

8 <https://www.instagram.com/developer/endpoints/>

platform and which not. In late 2015, Instagram announced a stricter app review procedure and announced it would only support apps who adhere to the following three development aims: (1) enable “individuals to share their own content with 3rd party apps”, (2) support “brands and advertisers understand, manage their audience and media rights” and (3) “help broadcasters and publishers discover content, get digital rights to media, and share media with proper attribution”.<sup>9</sup> All apps were made subject to a strict review process and their access to Instagram’s API data was discontinued if they did not follow one of these three aims. With these guidelines, Instagram deliberately terminated its support for apps that offer alternative Instagram viewers or interfaces to one’s feed and caused problems to many research oriented apps<sup>10</sup>. Therefore, the introduction of the guidelines was perceived as “platform cleanup” (Brennan 2015) in the development community and can be accounted for as partial closure of the interpretative flexibility of back-end grammars. Grammaticisation in front- and back-ends, as well as access points to data for developers form the infrastructures that enable different stakeholders to pursue their interests. The standardisation in form and flexibility in meaning allows different stakeholders to interpret platform data to fit their very own meaning without necessarily having to achieve an agreement between their orders of worth.

## Enacting the multivalence of platform data

The question emerges how various stakeholders of platforms have made use of and negotiated their freedoms and how users and other stakeholders can engage with their interpretations. As a comprehensive study would exceed the limits of this paper, I will only outline the contours of a methodological experiment conducted in the context of a Digital Methods Winter School at the University of Amsterdam in 2016 lead together with Anne Helmond, Fernando van der Vlist, Esther Weltevrede and others.<sup>11</sup> This experiment does not allow to map all interpretations and valuations of platform data by relevant stakeholders, but offers insight into a very significant section of them, namely apps that are built on top of a platform and that

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9 <https://www.instagram.com/developer/>

10 <http://thepoliticsofsystems.net/2016/05/closing-apis-and-the-public-scrutiny-of-very-large-online-platforms/>

11 The experiment has its origin in the 2016 Digital Methods Winter School, where a group of researchers, students, programmers, journalists and designers facilitated by Anne Helmond, Fernando van der Vlist, Esther Weltevrede and me explored the interpretation of platform features and metrics through third-party apps. For an overview of the project results, see the presentation <https://docs.google.com/presentation/d/1aC6lPPF8vy-ThPS6PjvaumGtlds7lOIjS96BsQJTWZk/edit?pref=2&pli=1#slide=id.p>

make use of its grammatised data through APIs, or apps that help users engaging with platforms without necessarily directly connecting to its data. Doing so, the exercise can provide an experimental and partial view into a set of stakeholders, namely developers and third party companies that set out to explore the interpretative flexibility of platform data and their value.

The visualisation below shows a network of apps built by recombining Instagram data or created to enhance the use of Instagram. As users mainly search for and engage with new apps in the respective app stores for Android or iOS, the experiment used the search and similar app function of the Google Play Store to identify these apps and their relations. In a first step, the Play Store was queried for the respective platform, here Instagram. Instagram was selected as example due to its rich third party development ecosystem. Then, all apps suggested as similar by the store for the top 100 results for the query Instagram were identified. These similar apps are not exclusive and the apps can share similar apps in the Play Store. The data was systematically extracted by the Google Play Similar Apps tool developed by the Digital Methods Initiative<sup>12</sup> which detects similar apps and turns the findings into data formats amenable for network visualisation. The visualisation was created with the open-source network visualisation tool Gephi.<sup>13</sup> The nodes show all apps identified as connected to Instagram and the edges, that is the connections between the nodes, show which apps are considered similar to each other. It is important to note that a categorisation of the apps in the network showed that 82% apps support users in their engagement with Instagram and 18% only offer services that are similar to that of Instagram, but are not reuse Instagram data. The result is a variety of clusters of topically related apps, that take up Instagram data and features in order to enhance, alter or re-interpret them. The network allows to pose the question alongside which valuation regimes do developers repurpose and re-interpret Instagram data and features. The colour of the clusters results from Gephi's modularity algorithm which detects nodes (in this case apps) that are particularly closely connected. For further orientation, I annotated outlined five thematically focused clusters of apps that stand out through their shared engagement and valuation of Instagram data.

A first cluster of apps offers users means to reinterpret their relations to friends and followers in strategic and popularity oriented ways. This clusters entails apps that support follower and popularity management for users, including follower analytics ("Follower Stats/Insight for Instagram", "FollowMeter for Instagram"), follower growth apps ("free followers", "Real Followers for Instagram") or apps showing who viewed one's posts ("Who viewed your Instagram"). These apps redeploy Instagram data to offer users additional analytics, tips or action possibilities to approach their followers in a strategic way following both a fame and market oriented order of worth. A second cluster takes up existing platform grammars

12 <https://tools.digitalmethods.net/beta/googlePlaySimilar/> developed by Erik Borra.

13 <https://gephi.org/>

and enhances them to support different interpretations and thus valuations of them. Here, hashtag related apps figure most central. On the one hand, hashtags can be used to create topical associations of posts in the caption, on the other hand, they function as key search device on Instagram as users can only find new content based on hashtags and location. A lot of apps thus reinterpret hashtags as means to strategically connect to audiences and gain likes by offering rankings or collections of most popular hashtags, such as “TopTags” or “HashTags”. Hence, hashtags can be deployed alongside various orders of worth: to describe posts in inventive and creative ways, for civic engagement or to optimise hashtag use for strategic popularity growth.

A third cluster focuses at expanding the possibilities to engage with Instagram beyond its pre-structured grammars. Apps like “InstaSaver” or “InstaSave for Instagram” allow users to perform actions that exceed platform grammars, such as downloading or saving Instagram content to re-use it for one’s own purposes outside of the platform. Other apps we examined show who has viewed one’s images, such as the aforementioned “Who viewed your Instagram” app, again providing stats that are not available on Instagram itself. Another action enabled by third party apps is reposting – a feature that Instagram deliberately does not offer to incentivise users to create their own content instead of re-posting other people’s images. The lack of a repost-grammar has led to the development of work-arounds, for instance by screenshotting content, manually cropping and posting it – often at the expense of crediting the source. Various repost apps allow to skip the screenshot-and-crop part by offering one-click solutions which also credit sources (“Repost for Instagram” or “Insta Repost for Instagram”). Apps in this cluster aim to expand the existing front-end grammars by making inventive use of back-end grammars. Especially in the case of reposting, they cut across Instagram’s valuation of original content by allowing for one-click sharing possibilities.

A fourth cluster concerned images and photo editing. Here we saw ‘work-arounds’ to Instagram’s previous limitation to only square images. These apps enabled alternative modes of viewing and compiling pictures, for instance into collages (“Photo Grid: Photo Collage Maker” or “InstaSquare Size Pic Collage”). Moreover, the photo editing clusters comprised of many beauty and selfie focused editors, such as “Selfie Camera – InstaBeauty” which allow users to retouch their selfies. This cluster was partially aimed at re-interpreting constraints Instagram put on user grammars, namely the fact that users for a long time could only post square images and support users to deploy the platform for their own objectives including self-presentation and self-aesthetisation. The final cluster concerned videos on Instagram in the widest sense, from video editing apps such as “Video Editor Music,Cut,No Crop”, video collage makers like “Video Collage for Instagram” or various video downloaders like “Video Downloader for Instagram”. These collage makers can all be understood as re-interpreting Instagram’s grammars by offering means to view and recombine Instagram content in alternative ways and to repurpose it outside of the platform.

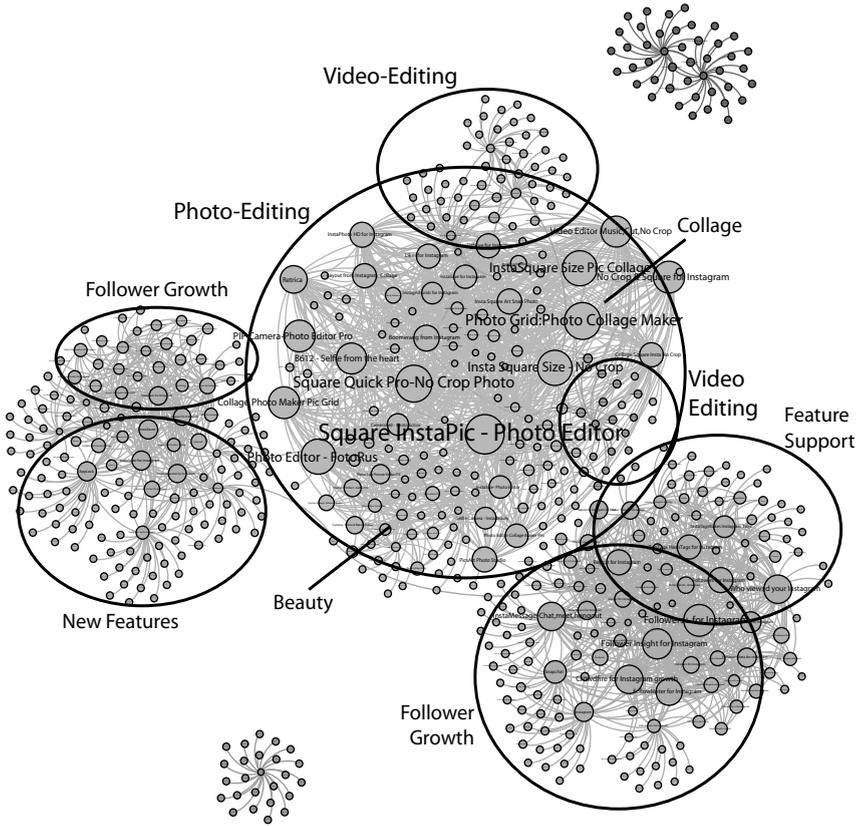


Image 1: Support app network for Instagram based on Google Play Store (Sept. 2016).

The apps identified in this experiment all focus on supporting, expanding, or re-interpreting the platform’s features and data. What is striking is the lack of thematically oriented apps, assembling Instagram content regarding specific topics like food, sports or politics. Instead we encountered apps that contribute to render Instagram features and data multi-valent as they re-interpret them alongside different valuation regimes. Apps allow follower relations to be reorganised in strategic ways, allows hashtags to be used to maximise popularity and exposure and offer photo editors who support self-presentation. Developers thus draw on different interpretations of what users can do with platform features and data and cater to these diverse objectives. Just as the platform itself, these apps only offer the technical conditions for such valuation as they need to be engaged with and realised by users – a perspective that this experiment cannot cover. Despite its limitations, this experimental mapping indicates that the various stakeholders involved in platforms indeed contribute to deploy its back-end grammars for valuation alongside a multiplicity of valuation regimes. The potential multi-valence of platform features and data is thus enacted in a distributed way that enables users,

third party developers and the platform itself to participate in the re-interpretation and valuation of platform grammars. Programmability, stakeholder involvement and valuation emerge as key conditions and drivers of the third-party app market. However, Instagram's app ecosystem largely complies to the strategic aims of apps Instagram set out to support – as alternative feed reader and viewing apps have not been found. The question emerges whose interpretations of the platform count and what the conditions for participating in the valuation of platform data are.

## What counts and who counts?

This paper set out to develop an account of valuation processes of platform data and sought to expand the characteristics of social media platforms by focusing on the valuation of platform data. Platforms, it has been argued throughout the paper, enable specific socio-technical conditions for data valuation. The key characteristics of platforms identified by previous research, namely programmability, affordances, constraints and the involvement of heterogeneous stakeholders on the one hand lay the foundation for the valuation of data alongside multiple orders or worth. On the other hand, the interplay of these characteristics can be considered to be fuelled by valuation processes, as the ways in which different stakeholders approach and enact the programmability of platforms is very much informed by their valuation objectives.

The paper put forward the claim that platform data is produced to become multivalent. It is created by capture infrastructures and engaged with through various predefined grammars in both front-ends and back-ends, each speaking to distinct stakeholders. Front-end grammars may be pre-structured in form, but are flexible in their meaning and users do engage with them following different interpretations and objectives, which, in the end, all result into the same standardised data format. These data formats can then be engaged with through respective back-end grammars by developers which further interpret the data following their own valuation regimes. Such multivalence of platform data is made possible as grammatisation allows data to be pre-structured in form and flexible in interpretation and valuation. Different than in the development of technological standards, platforms not necessarily strive to close the interpretative flexibility of their data and features but are reliant on it for their own distributed development.

The fact that platform data can speak to multiple orders of worth is, however, neither specific to social media nor to contemporary economic valuation in general, but needs to be located in regards to post-Fordist modes of value production operating since the 1970s, which derive value from cultural and social domains outside of economic production by “putting life to work” (Lazzarato 2004: 205; Boltanski & Chiapello 2006). What is specific to platforms, however, are the ways in which platforms create the socio-technical conditions for multivalence that allow their data to operate across multiple orders of worth. Whilst Boltanski and Thevenot

notify the existence of (potentially conflicting) orders of worth, they claim that each order of worth comes with its own specific measures, metrics and bounded infrastructures. In the case of platforms, however, the same metrics – namely the same grammatised features and data-points – and the same infrastructures – namely APIs and their back-end grammars – potentially serve to multiple orders or worth. A hashtag can be used for diverse objectives – to connect to friends, ironically, strategically, for commercial data analysis, for strategic follower growth or for politically motivated issue analysis. The pre-structuredness in form and openness in interpretation allow platform data to participate in multiple orders of value.

Multivalence in the context of platforms further differs from Boltanski and Thevenot's notion as the orders of worth at stake in platforms do not require exclusivity or agreement. Pre-structured data can be part of conflicting or mal-aligned orders of value at the very same time without necessarily interfering in the respective valuation processes. To understand how data can simultaneously participate in multiple orders of worth, the notion of partibility and partible persons developed by ethnographer Marilyn Strathern (1988) becomes relevant. Partible persons may be detached from one context, set of relations or value regimes and connected to another, yet remain partly attached to their origin. In the process of partial detachment, the person remains connected to its origin whilst also being connected to the new context. The value of social media data can be understood as partible in a similar way. Whilst users may interpret hashtags or followings in their own specific ways, the grammatisation and capture of their actions render all divergent interpretations into the same data format which can then be reinterpreted again by apps alongside new orders of worth – while remaining its original partible connections to users and their interpretations. Just because third parties deploy Likes to calculate the popularity of topics, does not mean that the specific Like a user received ceases to have social and relational value for that user. The value of the data lies both partly with the actor who produced the data, the platform which relies on this data and the various stakeholders who detach and re-attach the data to new valuation regimes. It is partly distributed across the different actors involved. The value of social media data is not a property but a capacity that needs to be enacted in social and distributed ways (see also Lury & Marres 2014). In that sense, data can be included in various orders of worth but does not belong to them in exclusive ways. Drawing on Adrian Mackenzie's work on relational databases (2012), it can be argued that social media data faces an excess of inclusion (or participation) over belonging: "No one belongs to a database as element, but many aspects of contemporary lives are included as parts of databases" (342). Just as databases are set up as infrastructures facilitating the inclusion of data-points into new sets of relations, platform infrastructures are set out to incentivise developers to include their data into new orders of worth.

But the question of participation can also be addressed the other way around – whilst data can potentially participate and be organised alongside different orders

of worth, can all stakeholders participate in these multiple processes of valuation as well? Previous work on platforms already outlined that it is the platform which creates the conditions of participation through its politics (Gillespie 2010), for instance by regulating access to APIs (Bucher 2013; Puschmann & Burgess 2014) or determining which third-party apps will be supported. Platforms like Instagram accompany their back-end grammars with a series of desired strategic aims – that is orders of worth – and deploy extended documentations or review processes to ensure compliance to their policy.<sup>14</sup> As addressed before, Instagram decided to discontinue support for alternative Instagram readers in late 2015, impacting apps like “Gramfeed” or “Mixagram”. This decision allowed Instagram to ensure users would more likely view content on their official interface and can therefore be exposed to paid content or advertising better. Furthermore, Instagram required apps to use access tokens to query for hashtags.<sup>15</sup> Hashtag aggregators that create rankings and collections of most popular hashtags would now require users to log into the app with their Instagram account to retrieve hashtags – which adds an additional access barrier. This may come with consequences for the widely popular hashtag analysis apps discussed above and may result into a partial closure of the interpretative flexibility of this grammar in order to enable the platform to pursue its own orders of worth. A heterarchy of valuation regimes is possible in the context of social media platforms, as long as the platform itself can realise its valuation aims.

This paper set out to establish multivalence as key characteristic of platform data and its process of production, organisation and recombination. Valuation has emerged as dynamic and distributed process in the context of platforms and value cannot be considered as property of platform data, but as a capacity of data and the socio-technical conditions of its making. Platform data can potentially participate in multiple orders of worth that have to be realised by different stakeholders deploying the programmability of platforms. A critical account on platforms thus needs to attend to the generative and restrictive politics of platforms and interpretative actions of various stakeholders that enable platform data to participate in different orders of worth – or not. Extensive empirical work is needed to create precise accounts on the enactment of orders of worth and such work also needs to attend to the role of platform networks – as corporations like Facebook or Google own various platforms and can also interoperate grammatised data among them. Understanding the distributed socio-technical conditions of valuation and their specific and situated enactment poses the foundation for devising alternative accounts of ‘what counts’.

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14 <https://www.instagram.com/about/legal/terms/api/>

15 <https://www.dialogfeed.com/update-instagram-api-changes-restrictions-solutions/>

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