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Ontology

Nick Couldry and Jannis Kallinikos

The methodology of any domain depends, first, on clarifying what types of object are being researched – indeed can exist – in that domain: that is, on clarifying the ontology of that domain. The ontology of social media might seem wholly unproblematic: social media *sites* are certainly infrastructures with considerable, even massive, presence in our lives, the focus of our everyday habits of checking and updating, circulating and sharing. When 1.5 billion people are active monthly users of one leading social media platform alone (Facebook), then the ‘object’ of study is hardly trivial. But what type of object are we studying exactly? Again from one point of view, the question seems straightforward: Facebook, Twitter, and other sites of social media activity are platforms (Gillespie, 2010), where social activity is supported generally by commercial operations.¹ The facts of such platforms – their design and other features – are important. But in this chapter we want to go beyond the platform ‘surface’ and ask a different ontological question: what *are* social media from a sociological point of view? Or, more precisely, in what sense are ‘social media’ *actually* ‘social’, as opposed to merely being outputs *labelled as* ‘social’? And, running behind that question, how should we interpret the related epistemological claims, made by various actors every day, that ‘social media’ provide evidence of ‘*the* social’? Those questions, it turns out, are far from straightforward, yet we cannot advance far in the study of social media without answering them. The answers will shape why we would want to spend our time studying social media at all rather than some other object.

Let us right away state the hypothesis of this chapter. Interaction in social media is organized along highly stylized activity corridors (e.g., sharing, tagging, liking) that essentially

serve the purpose of *transforming* online forms of user participation into a computable and ultimately tradable data footprint. By these means, each user action is rendered a discrete data-token, a measurable click-through. Discrete data-tokens are then aggregated and several scores of user-choice affinities and relations are ceaselessly computed and fed back to users, thus establishing a dynamic context of interaction between user choice and sociality online. As a result, what happens on social media platforms cannot be regarded as unproblematic evidence of social activity *per se*.

Specifically, the spaces of social media are different from those of general social analysis. All social spaces, not just public spaces, have until now been analysed on the basis that they are ‘spaces of appearances’ (using Arendt’s (1960) familiar term in a more general sense). We have assumed until now that ‘appearance’ in such spaces – presence-to-others, availability for interaction with and evaluation by others in that space – can be taken as a basic datum of social analysis. But this is no longer unproblematic, because ‘appearance’ is now the result of prior computer-based calculations and, worse, the result of calculations driven by a particular kind of economic motivation through which data from online forms of sociality are traded in a complex ecosystem of advertisers, data brokers and other interested stakeholders. *Put simply, there is on social media platforms no ‘appearance-in-itself’ but only ever appearance that is the derivative of prior processes of calculation.* The result is a challenge to the very basis of understanding the social: is Twitter, for example, best understood as a real space of social appearances, as we are tempted to see it, or rather a complex projection of intersecting calculative forces? If the latter, how *should* we treat Twitter and other platforms from a sociological point of view?

By asking these questions, we follow Jose van Dijck’s scepticism about the term ‘*social media*’, insisting instead that the term ‘social’ is a site of contestation, aimed at the production of value. Rather than talk of an age of social media, Van Dijck (2013) insists we talk of a ‘culture of connectivity’, that is, of an industry-inflected *imperative to connect* on particular platforms, in order to generate specific types of value. This chapter builds on Van Dijck’s approach, and is ordered as follows. First, we briefly review and distinguish between the main

approaches to studying social media that have been taken in the scholarly literature. We argue that existing approaches need to be supplemented by a critical phenomenological approach that explores the contested status of social media platforms in social experience. Second, we ground this proposed critical approach in a discussion of the broad sociological nature of data operations as they occur in social media. Third, we discuss those data operations in greater detail, drawing out the problems they raise for any treatment of social media platforms as ‘real’ spaces of social interaction. Fourth, we consider the implications of our argument for the methodology of studying social media as an object within wider social experience. We follow this with a brief conclusion.

Existing approaches to social media

There is no space here for a comprehensive review of the literature on social media. Instead, we aim, more modestly, to mark some distinctions between how various scholars have studied the ‘object’ of social media. The boundaries we draw are not exclusive, but they do, we suggest, indicate some important differences of emphasis in the existing literature.

The first important approach understands social media as sites where *social networks* are produced and sometimes generated (boyd and Ellison, 2008: 211). This made particular sense when, in the late 2000s and from diverse origins, the scale of social media platforms grew fast, and one of their most distinctive features was to provide the facilities whereby people built and/or sustained networks of friends and connections on an unprecedented scale. Some analyses focused in greater detail on the workings of this networking process, and its potential use as a source of social capital (Ellison et al., 2007; Ellison et al., 2011), suggesting a positive benefit for some types of users at least (Steinfeld et al., 2009). Other analyses sought to consider more broadly the consequence of such networking on wider social space, arguing that, under many conditions, the result was to foster the emergence of ‘networked publics’ (boyd, 2011): ‘one way of interpreting the public articulation of connections on social networks is to see it as the articulation of a public’ (boyd, 2011: 44). Note that boyd carefully does not rule out other uses;

indeed a major strength of boyd's work is to be open to the multiple and multilevelled uses of social media (boyd, 2014). In another well-known essay, boyd (2008) analysed the meaning of the opportunities provided by social media platforms for US youth who are generally excluded from having voice in public space: 'they [go on social media] because they seek access to adult society. Their participation is deeply rooted in their desire to engage publicly' (2008: 137). boyd links explicitly to Arendt's (1960) concept of the 'sphere of appearances'. Such approaches do not disguise the constructed nature of social media platforms, and the difficulty of treating 'data' from one site as sociologically equivalent to 'data' from another (boyd, 2011 boyd and Crawford, 2012), and this scepticism is important to our argument. Nonetheless it is difficult to develop such a research agenda, while bracketing off entirely the term 'social': as some of these authors note in passing, 'social network sites provide rich sources of *naturalistic* behavioral data' (boyd and Ellison, 2008: 220, added emphasis), and 'networked technologies introduce new affordances for amplifying, recording, and spreading information and *social* acts' (boyd, 2011: 45, added emphasis). The question arises therefore how what we might call this 'social realist' approach to social media platforms can be combined with a more thoroughgoing scepticism *about* the 'social' produced there?

The second approach to social media platforms puts a primary emphasis on critique, but from a distinctive angle: this is the Marxist political economy approach championed by Christian Fuchs (2014). While this critique focuses on many points, its key argument is that social media are sites for unpaid labour (Fuchs, 2013) through which new forms of economic value are being generated as part of *capitalism's continuing struggle to reproduce itself*. On this account, the data aspects of social media platform operations are highlighted, and criticized as an aspect of a wider appropriation of social energies for economic ends. A strength of this analysis is to acknowledge in broad terms how social media both 'enable and constrain a social level of human societies' through a 'recursive organic relation between the technological and the social level of the media' (Fuchs, 2014: 37). This analysis is grounded in a broader social theory, and is highly critical of how some accounts of social media and their consequences (such as Castells' theory of 'network society': Castells, 2009) have become detached from

social theory itself (Fuchs, 2014: Chapter 4). There is force to these arguments, and one of us has developed parallel arguments in other contexts (Couldry, 2012: Chapter 5; 2014). A limit, however, of Fuchs' approach is that, when it anticipates the possible future of social media, it is in terms of an unleashing of the social energies *seen within* social media: 'social media anticipate a full sociality of human existence, but in their corporate form this potential is limited by capitalist structures of ownership and capital accumulation' (Fuchs, 2014: 256). What is lost here is the possibility that the 'social' that is supposedly available *to be* unleashed has already been shaped by the operations of those platforms themselves.

A third approach developed particularly in sociological treatments foregrounds the possibility that the everyday use and embedding of social media platforms is ushering in a *transformation of both economy and society*: a transition from a 'linkage economy' to a 'like economy' where users now gain social currency from the public articulation of connections on social networking sites (Gerlitz and Helmond, 2014). Interestingly, one writer in this approach criticized the first approach for *too much* scepticism about the ontology of 'friends' on Facebook (Beer, 2008 520). Other work has discussed the implications of social media for our sense of social time (Kaun and Stierstedt, 2014; Weltevrede et al., 2014). Given the intensity of (and pressures towards) *self*-reproduction on social networking sites, there is clear scope to link such analysis to broader Foucauldian accounts of how subjects are produced in late modernity (Marwick, 2013). But what remains difficult in this approach is to clarify the reference-point from which this transformed 'social' is being analysed. If the social endlessly reproduces itself in ever-changing ways, how is critique possible, given that it must be developed from somewhere (where exactly?) inside the social?

This is where we find a fourth approach particularly helpful. This approach tries to get into view the whole process of social transformation through social media platforms, not as a 'done deal', but rather as a quite specific new inflection on, and *appropriation of*, the sorts of activities that broadly were once called 'social' in another very different, pre-platform context (Mejias, 2013; Van Dijck, 2013). Jose Van Dijck's critique of social media, for example, radically extends the work of cultural studies in an intertextual analysis of platform discourses

and interfaces. From this analysis, Van Dijck develops an overall diagnosis that we have moved to a ‘platformed sociality’ (2013: 5) which is not equivalent to our ‘social’, but can, and must, be singled out for critical analysis. This fourth approach in our view goes furthest towards developing a critical ontology of social media. In its sceptical distance from current uses of the term ‘social’ in relation to social media platforms’ activities, it comes close to philosopher Giorgio Agamben’s insight that the answer to our current involvement in what ‘the apparatus’ (by which he means our devices of technologically mediated connection) cannot be a simple acceptance or rejection, but must rather be ‘the liberation of that which remains captured ... by means of apparatuses, in order to bring it back to a possible common life’ (Agamben, 2009: 17). That possible common life is not already ‘there’, visible and waiting to be released; it will have to be *reconstructed* from within the constrained context of today’s platformed practices. However, a self-acknowledged limitation of Van Dijck’s critique is that it does not encompass the views and accounts of users of social media.

Emerging from all these critical approaches to social media is the prospect of a critical phenomenology of social media, which takes distance from social media’s appropriation of ‘the social’, while also tracing the *experience* of being connected through social media and its material conditions. This is what we try to develop in this rest of this chapter. First, however, we need to review some fundamental points about the sociology of data.

Data

The interface which social media platforms present to a particular user is an array composed of various streams of content and activity-tokens; that array is not a display of everything and anything relevant to that user’s use of that platform, but a particular composed *selection* produced on the basis of the platform’s own criteria of importance (Van Dijck, 2013). Those criteria are shaped, above all, by the economic drivers of the platform. All activities shown on a social media platform must, to be shown at all, either originate in, or be translated into, ‘formalized inscriptions’ (Van Dijck, 2013: 6) in the format acceptable to that platform. Once in that format, they are treated by the platform in accordance with its own dynamics of selection,

that is, in terms of the ‘value’ which that particular inscription has. As Van Dijck puts it: ‘through social media, ... casual speech acts [of everyday life] have turned into formalized inscriptions which, once embedded in the larger economy of wider publics, take on a different value’ (2013: 6–7).

This *transvaluation* of everyday sociality may be blurred by platforms themselves, as Van Dijck, who may be relaxed about blurring how long pre-existing friendships are inscribed identically with ‘friendships’ with previously unknown people formed only on the platform, notes (2013: 13). This blurring is not the result of platforms’ muddy thinking, let alone any mischief on their part, but follows simply from the more general principles about how their data are procured and ordered. Let us explore these briefly.

The database has a distinctive type of power which Bowker defines as ‘jussive’: an ordering power based on an ‘exclusionary principle’ that determines what can and cannot be stored in a particular form (Bowker, 2008 12). The consequences of database operations are in this sense final: ‘what is not classified gets rendered invisible’ (2008 153). Again, that is not (or at least not necessarily) the result of a prejudicial desire to exclude certain social entities, but simply the result of how databases *must* operate to function effectively. The point of the exclusions on which databases operate is to fix the *starting-point* from which data operations (counting, aggregating, sorting, evaluation) begin. In that sense, by being placed in a database, ‘data’ become ‘unmoored’ from the underlying detailed materials from which they were gathered (Kitchin, 2014: 72). The ‘knowledge’ that results cannot easily be separated out from the purposive selections that formed the database. Indeed, as Bowker notes, this is a feature of all archived social memory: ‘our memory practices [are] the site where ideology and knowledge fuse’ (2008 228). This, then, is the first key point about the ontology of social media: that what appears as ‘just having happened’ to, and for, us on a social media platform (an apparently natural social ‘datum’) can only appear *as such* by virtue of its place in archives ordered according to principles quite different from those of everyday face-to-face social interaction (Alaimo and Kallinikos, 2016).

This might seem strange, but only if we forget that on social media platforms ‘appearances’ are always the result of prior processing. There must always be, therefore, as legal scholar Julie Cohen notes, a gap between the abstractions inherent to data functions – their ‘processes of ... representation and classification’ – and the *experiential processes* in which those functions become, through platforms, embedded (Cohen, 2012: 24, 20). This gap is not accidental, or optional, but inherent to the type of appearance that ‘platformed sociality’ (Van Dijck, 2013: 5) provides.

As a result, the *basic* level of symmetry we take for granted in face-to-face social interaction cannot be assumed. This crucial point needs more explanation. When two native speakers of a language speak together, one speaks in the language in which s/he expects her/his interlocutor to respond, and so does the interlocutor, and from this follow many other more detailed symmetries of expectation and interpretation. The ‘flow’ of everyday conversation between those who share a language is based on two key assumptions that the great phenomenological sociologist Alfred Schutz called ‘interchangeability of standpoints’ and ‘congruence of relevance systems’ (Schutz and Luckmann, 1973: 60). In this way, the components in a stream of social interaction are treated by those involved as *continuous with* each other. But that symmetrical to-and-fro cannot be so easily assumed on social media platforms, where whatever can appear ‘back’ to us *must always already have complied with the external relevance-criteria of the platform, not those of the interlocutors*. In short-term exchanges, we might not notice any difference: our stream of interaction might seem to be frictionless and unimpeded, but on a larger scale the results may well be more misleading. We will discuss this in detail in the next section. As a result, there is a deeper asymmetry hidden within claims that data from social media platforms yield knowledge about the social. As Jose van Dijck puts it, ‘it is easier to encode sociality into algorithms than to decode algorithms back into social action’ (2013: 172), and yet this is exactly what we try to do, when we read social media datastreams as if they were simply an extension of our natural forms of sociality.

The pressures to treat what occurs on social media platforms as if they were the unmediated outcome of social interaction are indeed great. This too derives from the basic

features of data processing understood as processes of categorization. Categories have been an important topic in social theory for more than a century. For Durkheim and Mauss (1969 [1902]), categories (as outputs of a system of classification in so-called ‘primitive societies’) were derivatives of the actual divisions of society itself, and of the very idea of society itself. In most subsequent accounts, the order of causality is reversed, with categories contributing to ‘the built information environment of a society’ (Bowker and Star, 1999: 5).

Categories do not just operate in isolation. They need to be held in place, as the anthropologist Mary Douglas pointed out, by processes of ‘naturalization’ (Douglas, 1986). However automated the operation of processes of categorizing, they also have wider effects as social actors react to them and to the implicit claims that the use of categories make about the way the underlying world is – that it exists in a form that *enables it to be* categorized in such a way. As Bowker and Star put it, every classificatory system ‘represents the world “out there”’ (1999: 61) in a particular and decisive way. Yet it may take time for objects, in everyday practice, to fit with the categories that are available for them in a particular community of interpretation, and so, Bowker and Star suggest, ‘objects exist [as members of categories] with respect to a community *along a trajectory of naturalization*’ (1999: 299, added emphasis): that trajectory derives in part from the interactive nature of social categorization (Hacking, 1999). Over time, the processes of categorizing objects and using objects come together in a process of ‘convergence’: ‘the mutual constitution of a person or object and their representation. People put things into categories and learn from those categories how to behave’ (Bowker and Star, 1999: 311).

The relation between categories and the objects they categorize becomes more complex when categorization is automated, as with social media platforms, and must be inferred to operate ‘behind the surface’ of a platform, but there is no reason to expect anything other than naturalization. What one of us has called the ‘computed sociality’ of social media platforms (Alaimo and Kallinikos, 2016; Kallinikos and Tempini, 2014) therefore tends, over time, to appear natural. Research on social media has started to integrate the effects of this category-

naturalization in its analysis, for example, of how we choose ‘friends’ in platforms such as Facebook (Bucher, 2012).

This can be understood finally also as a process of spatial organization. As Kitchin and Dodge (2011) analyse extensively in their book *Code/Space*, many spaces (physical, organizational, informational) are now ‘coded’, that is, their operations are structured through the software that processes data inputs of various sorts. The highly controlled space of the airport security queue is one clear example, entry into which is impossible without having met various data-related conditions in a prescribed sequence (2011: Chapter 7). But the same is true, even if less dramatically, with the ‘spaces’ of social media platforms. Social media platforms feel like ‘spaces’ where we can encounter others, but there would be no such spaces without the underlying operation of the platform software and its calculative infrastructure: those spaces are ‘calculative publics’ (Gillespie, 2014: 188–191) whose encounters depend entirely on the precondition of data-sorting, and whose ‘space of appearances’ derives from calculation. As a result, platforms organized around the category ‘friends’ are in no sense places for encountering friends naturalistically: rather, as Taina Bucher argues, ‘friends have become a primary means through which *the production and occlusion of information* can be programmed’ (Bucher, 2012: 49). How can we think further about the implications of this for social media platforms as ‘social objects’, and for our understanding of sociality itself?

Anatomy of social media²

Two fundamental ideas emerge from what we have been claiming so far. First, user involvement and interaction on social media is heavily premised on the kind of institutional entities that social media platforms are. Access and use of social media functionalities on the part of users is embedded in a complex institutional matrix of relations, marked by the commercialization and trading of user activity and its data footprint. In other words, the patterns of interaction and the sociality that social media platforms afford are closely linked with the objectives of social media *qua* institutional (market) actors. Second, the premises of social interaction on social media platforms, and the consequent trading of its data footprint, are

significantly shaped by the computational rendition of the operations of social media (Kallinikos, 2009) and the ways in which pervasive computational technologies, such as the database, function. As with most market-embedded exchanges, the pursuit of the commercial objectives of social media companies requires quantitative description and calculation. In an environment of large and shifting data volumes, these critical tasks can only be accomplished by the heavy involvement of computational technologies that provide generic and specific solutions to the data-handling challenges that social media confront. Computational technologies, in turn, boost commercialization by affording, as we will see below, the multiple and contingent segmentation of the social *qua* data.

With few exceptions (e.g., Bucher, 2012; Gillespie, 2014; Van Dick, 2013), these data-based operations supporting social media have tended to remain out of the limelight. For a variety of reasons, the social implications of the computational make-up of social media have been blackboxed. It seems to us important to submit to critical analysis the entanglement of institutional and technological forces at work here. This requires tracing the involvement of the backend data-handling techniques in the operations of framing, mapping and segmenting the social that characterize social media. The first step in this analysis is the recognition of the fundamental fact that the transposition of social relations on social media platforms presupposes, as already indicated, the drastic *simplification* of social activities and their *typification* or *categorization*. Social activity on social media has to be thus simplified and shaped so as the categorization and coding of social interaction delivers, reliably and systematically, standardized data-tokens that can be used as the basis for further operations of measurement and computation.

It is vital, always, to keep in mind the simple fact that on social media social interaction needs to be ‘trans-substantiated’ or ‘trans-valuated’ into data. There is no other way that social media can operate. In some fundamental ways, therefore, social media are nothing but data entities. It is the data footprint of social interaction that provides the material for most calculative and marker operations performed by social media. The datafication of interaction is

accomplished through the construction of narrow, heavily stylized, activity types (e.g., liking, sharing, tagging) that code user activity into data that can be recorded in distinct fields, and so indexed, counted, aggregated and computed. Much data on social media is made of behavioural data of this sort, through which user activities are recorded as singular choices via clicking on specific activity types (Alaimo and Kallinikos, 2016, 2017). User-generated content that may matter more to some specific groups of users makes at present a less calculable body of data and is, for that reason, less often recycled in the calculative operations that define social media as institutional actors and organizations. Quantitative text analysis of unstructured, user-generated, content is of course possible and is used for certain purposes (e.g., sentiment analysis and marketing), but the bulk of operational data on social media is the outcome of recording single behavioural choices as orchestrated by the social media platforms themselves. The spine of social media operations is made of the collection and analysis of such behavioural data, not of user-generated content (Alaimo, 2014).

Left on its own, however, the data footprint of social interaction on social media procured by these means (simplification, categorization and coding) is not illuminating. As in most contexts where large data volumes are involved, data ‘speak’ only after they have been clustered, compared and analysed. It is the very detection of *relationships* between a user and other users, between one group of users and other groups, between past and present choices, whether of individual users or groups, that serves as the cognitive currency of social media. But the detection of such relationships requires that user choices *qua* clicks have been clustered and aggregated. Data aggregation is an essential operation of social media. The profile of the activities that users perform on social media and the connections they maintain with items and other users result from aggregating user choices *qua* clicks within and across activity types (liking, sharing, tagging, following, etc.). In this sense, on social media, users for practical purposes are not real persons but abstract operations enacted through the aggregation of singular data-points (Alaimo and Kalinikos, 2016, 2017). On Facebook, for instance, a user is defined by, and is essential coterminous with, the aggregation of his or her likes on the basis of which he or she can be rendered as one entity comparable to others. On Last.fm or Spotify, a user is

for most purposes defined by the aggregation of listening data (that is, clicks on tracks) and tagging data. The activity types of social media essentially split the unity of a person into well-defined acts and then reassemble it through the data aggregation that the performance of such acts delivers. Placed in this context, aggregation establishes *new* data entities through which the social fabric is *re-established* (Kallinikos, 2009) as an (apparent) relationship between individual users and groups of users, clustered and compared at various levels of abstraction or generality (Desrosières, 1998).

The result is a new and far-reaching *pliability* of social interaction on social media platforms, which constitutes a new ontology of the social, or at least of what passes for ‘the social’. Novel ways of making sociality visible online are established as the data on platform social interaction can be sorted in a variety of ways that construct relationships and patterns between users and items. Abstractions of this sort and the numerical data they deliver have, of course, been inherent in many contexts and institutions of modernity (Cohen, 1982; Porter, 1996). States, markets and corporations have for a long time based their operations on large volumes of recombinant data, descriptive of carefully defined activities (e.g., expenditures, life styles) or people (e.g., consumers, tax payers) at individual and aggregate levels (Desrosières, 1998; Gandy, 1993; Hacking, 1990; Rose and Miller, 2013). Placed in this larger context, the ontology of aggregation and the status of aggregated entities (as real or nominal) have always been objects of dispute and controversy (Desrosières, 1998; Espeland and Sauder, 2007; Foucault, 1970). However, what is at stake today in the analysis of the ontology of social media goes further.

As earlier indicated, many of the naturalized categories that have served as the basis of institutional data collection in the past have been embedded in established social practices and, perhaps one can claim, in real-life contexts: the operations of class distinction (Bourdieu, 1984), medical professions and systems (Bowker and Star, 1999), other ritualized cultural orders (Douglas, 1986), practices and cultural conventions (Rosch, 1999; Rosch and Mervis, 1975). The relation of social media platforms’ data collection to wider social reality is very different. Social media aggregate activity-tokens (user clicks) that encode narrowly defined activity-*types*

(e.g., liking, tagging, following) whose basis in social interaction, as normally experienced and interpreted, is thin. None of these activity-types springs directly from experiences of social conventions. While aiming at mapping the trivial and everyday, social media go a considerable way towards *instituting* (Bourdieu, 1991) an artificial everyday that aims at *delivering* the data needed by social media platforms as market entities for counting, indexing and recombining what passes as ‘the social’. This artificial everyday, constituted through the regular measurement and aggregation of its data footprint, is a defining attribute of social media, and indeed of the very ontology of the social that social media mediates (Alaimo and Kallinikos, 2017).

This is only the beginning of a wider transformation. Aggregation further ‘unmoors’ data from the artificial platform-contexts in which it has originally been produced, and establishes the cognitive base upon which individuals and other data entities *are made commensurable* (through clicks being treated as equivalent) and thus comparable and measurable along various dimensions (Espeland and Stevens, 1998). Once aggregated, individual user-choices (e.g., liking, following, tagging) can be sorted and recomputed in a variety of ways. A user can be compared with other users at various levels of generality and patterning: like-minded or similar users, similar or popular items or popular users generated. For instance, last.fm, a social media platform dedicated to music discovery, assembles categories of similar artists based on the number of tracks on which users click. The listening activity of users becomes the means through which artists can be grouped as more or less similar depending on the number of users they are counted to have in common; the more users they have in common, the more similar they are, and vice versa. These patterns of similarity can draw on aggregate data over longer or shorter periods and various permutations performed over artists and periods, tracks and users (geographical area, age or gender) that underlie the so-called personal recommendations so characteristic of social media.³

The pattern-extraction which such data permutations produce serves to establish a range of revenue-generating services all the way from marketing of specific items to credit-scoring. The business models through which this happens differ, but the underlying idea is to sell the

data-patterns thus established to market actors. But it is also true that the extraction of these patterns serves as the basis for boosting platform activity by being carried over to users in the form of personal recommendations of various kinds that platforms assemble and which, on the top of any market purpose they may serve, incite further user action. It is important to underscore the critical nature of this last operation and the significance which a steady inflow of data plays in sustaining social media. Without a mass inflow of data (i.e., user activity and clicking) that is constantly produced *and reworked* in real time, the artificial reality that social media platforms have established risks losing touch with the institutional and market purposes that it is meant to serve (Kallinikos, 2007). The extraction of data-based patterns furthermore provides a *picture* of platform activity that can be the basis for improving platform functioning through the offer of novel functionalities to users.

Users and reactivity and power

How are users to be thought in the account of social media we have given above, the dimension that we noted even Van Dijck's critical perspective neglected? Even though the terms on the basis of which users join social media platforms are heavily shaped by the conditions outlined above, it is still reasonable to assume that personal, social and demographic factors play a significant role on how people react to these terms (e.g., boyd, 2008, 2014). The study of particular groups or communities of users might therefore be a much-needed complement to the picture we have painted in the preceding pages. Facets of the reality of social media platforms and the experiences they mediate are without doubt a local accomplishment that must be understood with reference to specific types of users and groups and their pursuits.

At the same time it is important to distinguish the different levels of reality to which one's arguments apply. The claims we have advanced in this chapter aim at unravelling the complex working machine that social media as institutional entities embody. Such a task, we admit, cannot be exhausted by the study of particular groups and the ways they receive, interpret or work around the structuring machine of social media. At any rate, the study of particular

groups or communities of users cannot be meaningfully conducted without reference to the complex interplay between user groups and the structuring modalities of social media, and the ways in which social groups and social media as institutional entities accommodate one another. It is important to trace the distinct ways that groups of users or communities relate to, enact and are shaped by the structuring premises of social media platforms. Whether conceived as constraints or affordances, the technological and economic forces that define social media as institutional actors cannot be wished away.

In the account of social media offered in this chapter, user activity is an essential component of the apparatus of social media and so are the preferences and differences of users. Both user activity as a data-producing force and user-preferences (and absences of preferences) as a representation (in data form) of the social fabric are brought to a much higher level of abstraction or generality and shaped in ways that accommodate the objectives of social media platforms as institutional actors. In this context, the activity profiles of users and groups of users are captured by constantly placing them within a web of differences and similarities with other users or groups of users, in the same way perhaps that market forces regularly trade use for exchange value. It is *this play of similarity and difference worked out at aggregate levels*, and technically known as network analysis, that confers the social and market relevance of social media. As social media platforms expand and become active forces in contemporary societies, the highly selective and largely artificial ways (liking, tagging, following, sharing, posting) by which they orchestrate human activity become habitual and begin to congeal into a sort of self-evident or naturalized sociality. It is a critical research task to understand how these conditions interact with an alternative sociality that still has its roots in the traditional contexts of everyday life (Alaimo and Kallinikos, 2017).

Beyond the effects of habituation, it is critical to investigate the social implications of the personal recommendations and other comparisons that social media advance to users through the complex and largely invisible data machinery analysed above. The interactive and reactive status of this process has been repeatedly observed in other contexts of social life in conjunction with people's tendency to enact the distinctions and classifications that institutions

impose on them (see, for example, Espeland and Sauder, 2007; Espeland and Stevens, 1998; Hacking, 1986, 1999). Espeland and Sauder (2007: 6) define reactivity as ‘individuals [that] alter their behavior in reaction to being evaluated, observed or measured’, a conspicuously Foucauldian theme. The force of this reactive and self-reinforcing process is usually strongly correlated with the social embedment and solidification of the institutional matrix within which it takes place (Foucault, 1977, 1988; Hacking, 1999). In other words, the stronger the institutions and the relations they build with one another, the deeper and more persisting the effects which the distinctions and classifications they produce have on people, either directly through the provision of incentives for conforming to them or indirectly through mechanisms of enforcement and the construction of normative and legal orders. Even though social media may still be thought as thin institutions, and the measurements they produce lacking strong normative foundation, the growth and economic success they have acquired in barely more than a decade provide evidence of the importance of the institutional matrix (digital technologies, market entities, revenue generation) in which they are embedded. This matrix, without doubt, has social power of a sort, a power that fits well with Pierre Bourdieu’s definition of symbolic power as a ‘power of constructing reality’ (1991: 166).

Conclusion

Several implications for the ontology of social media follow from our analysis. *First*, social media do not in fact map a social reality ‘out there’. Rather, social media establish a kind of social reality by providing the means through which real persons *qua* users perform activities of very particular kinds that have largely been incited by social media platforms themselves. In other words, making media platforms ‘social’ in principle implies rendering sociality ‘technical’, as Van Dijck (2013: 12) has cogently claimed.

Second, what is recreated by these processes of social media is, overall, an ephemeral, real-time attuned, and perpetually changing ‘everyday’ that reorders the trivial pursuits and habits of individuals into groups, categories or profiles that can be used as the basis for

generating revenues. These cognitive groupings or categories differ essentially from the categories established by conceptual means (taxonomies) and practical purposes in everyday life between social actors whose pursuits are not mediated by data processing. The cognitive clusters that social media deliver are contingent outcomes with little lasting value and significance. They are established, as it were, only to be shattered, and reassembled again into new configurations (Lévi-Strauss, 1962),⁴ as the massive daily clicking of user crowds steadily reframes their value and market relevance (Kallinikos, 2007).

Third, what is thus accomplished takes, from the perspective of the collective understanding of the social, the form of a long analytical retreat, whereby the units of social action are disaggregated into discrete, singular and often artificial acts that are then computationally reassembled into larger social entities such as users, groups of users and short-term trends. This long trajectory of analytic reduction and – even we might say, pulverization – of the social is driven not by a collective attempt to understand our ways of living together, but by the computational capacities and constraints of current computing technologies, and the overall commercial context within which social media platforms operate. It also reflects the asymmetrical capabilities and powers on the basis of which the ‘game’ that social media platforms embody has been established and performed.

We need therefore to move beyond the study of particular groups of social media platform users, towards understanding social media as formations and institutional matrices that have larger effects on social life. The ‘big picture’ in which social media are embedded cannot be exhausted by the study of particular groups or settings. It cannot be assembled unless one moves beyond the user interface and lays open the structuring and enduring effects which the entire apparatus of social media has on social life itself. Such a task is replete with empirical difficulties of varying complexity. On the one hand, access to empirical contexts in which economic success is built and revenues earned is not easily granted. On the other hand, there is the perennial challenge of how to demarcate meaningfully and study empirically digital infrastructures and ecosystems in which large numbers of actors, technologies (boundary technologies in particular, such as APIs, SDKs and social buttons) and processes are connected.

Whatever the challenges, it is important to pursue research that is able to bring forward the logics by which social media platforms operate and the technologies and systems they deploy to shape the terms of user platform participation. Such a task requires prolonged immersion into particular research contexts (i.e., intensive case studies) that may provide the opportunity to unravel the design choices, technological systems and economic rationalities of social media platforms (Alaimo, 2014; Bucher, 2012). It is at this level that the evasive sociality of social media can begin to be pinned down, building on the various critical literatures on social media platforms discussed in the chapter's first main section (see, for example, Alaimo and Kallinikos, 2017). And it is against the background of analysis at this level that the projects of social actors who want to contest the power of this 'evasive sociality' and propose another one can, in turn, be explored (Couldry and Powell, 2014).

There is a deeper problem too: how can we design research to track the lineaments of an ongoing reshaping of the social as it is happening, and through the inevitably local and particular streams of social interaction to which as researchers we have access? The beginnings of the answer, at least, lie, we suggest, in targeting in our research design the search for the elements of social interaction that precisely carry traces of the longer term: the *patterns* of action and categorization observable over time within a group of actors in a platform setting and acknowledged by those actors where we have access to them through interviews, observations or other means; reflections of actors of how across a range of platforms certain types of action are *incentivized* and others *disincentivized*, and how this evaluative patterning relates to their own broader sense of value and priorities; and, given how fast historically a social media 'habitus' has emerged, those actors' *memories* of actions they now do which seems to crowd out those that they once did. Each of these would be good starting-points, we suggest, for beginning to trace the logics of social media (Van Dijck and Poell, 2013) in action. But the task is a large one, and it is impossible to see beyond its beginnings at this point. Nonetheless, the fundamental ideas we have put forward in this chapter provide, we hope, some encouragement and guidance along the route towards opening up this new terrain for social inquiry.

Notes

[Insert notes 1–4 here from the end of the chapter]

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¹ The Chinese microblogging platform Weibo being an important example of a hybrid market/state platform.

² Jannis Kallinikos wishes to acknowledge the contribution of Cristina Alaimo to developing the ideas that are presented from this section onwards. Much of what is presented here has come about as the result of our joint and protracted effort to understand the operational logics and technical conditions that sustain social media while retaining the focus on social processes and institutions.

³ This is accomplished by the technology of recommender systems by which affinities between users or items are produced and personal recommendations advanced. Amazon.com recommender system, which traces similarities and differences between transactions of users and advances recommendations of the type ‘those that bought this item bought that item too’, is a typical example. Such technologies, known as *Collaborative Filtering Recommender Systems*, are widely used in social media.

⁴ This phrase is very similar to an epigraph of Franz Boas that Lévi-Stauss (1962) uses to open his great book on mythical classifications *La pensée sauvage (The savage mind)*: ‘It would seem that mythological worlds have been built up, only to be shattered again, and new worlds were built from the fragments’.