# Researching social analytics: cultural sociology in the face of algorithmic power

## Book section

# RESEARCHING SOCIAL ANALYTICS: CULTURAL SOCIOLOGY IN THE FACE OF ALGORITHMIC POWER

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A new topic of research is opening up for cultural sociology: social actors' everyday use and reflections on 'analytics', that is, any digital tools that measure them and their presence in a world of online presences. I call this study 'social analytics'. This topic emerges at a moment when the longer histories of science and technology studies (STS) and phenomenology are intersecting in interesting ways in the digital age. Paradoxically some leading sociologists of culture fear that reflexive agency is no longer there to be studied, crushed out of existence by the all-encompassing force of 'algorithmic power' (Lash 2007). This premature fear of something like 'the end of cultural sociology' ignores the phenomenological richness of everyday struggles with and through the countless tools for measuring our digital presences whose operations are now deeply embedded in routine action. It also turns its back on the contemporary potential for a 'sociology of social critique' focussed on the arbitrary operations of the institutional processes that shape and order our constructions of social reality (Boltanski 2010). This chapter, and the project it outlines, aims to reclaim that potential in a distinctive way.

Social analytics, as outlined here, defends, albeit in new form, a phenomenologically-influenced sociology of culture that is interested less in the reproduction of 'society' or in the measurement of society's macro-variables, and more in the changing material conditions for

the presentation of the self: the 'self' not just of individuals, but also of groups and organizations.[1] As such, it is less interested in the complexity of digital 'objects' (an important topic, however, for cultural sociology in its own right: see MacKenzie et al., this volume), than in the richness of social actors' reflexive interactions with those objects, and particularly with the interfaces for interaction and digital presence built from those objects.

These recent topics for cultural sociology can be seen against a much longer and more partial history of incorporating media and communications infrastructures into sociology. The institutionally directed circulation of media products has been a routine feature of everyday life in rich countries for nearly two centuries. We know something about traditional media's broader consequences for the presentation of the self as originally conceived by Goffman (Meyrowitz 1985 on Goffman 1961), but less about its details. Indeed, in spite of the separate development of media and communications studies as a discipline, or interdisciplinary space, over the past 30 years, there has remained a lack of attention, even in specialist work on media consumption, to the *variety* of things people do with media. We have known for three decades that people interpret media texts in different ways (Morley and Brunsdon 1980; Ang 1986), but 'audience studies' became increasingly uncertain that it could map the diversity of things people do with media (Alasuutaari 1997), concentrating often on the *most* engaged members of the media audience. Meanwhile, people's individual trajectories through the rich and vast textual space of contemporary media remains surprisingly underexplored (see Couldry 2000: chapter 3). It has been in relation to taste, and mainly in France, where this problem has been best addressed: there, in explicit disagreement with Pierre Bourdieu's large-scale theory of the reproduction of class through taste, Bernard Lahire insisted on the complexity of individual consumption practice and the inability of general models to capture it (Lahire 2004; Lahire 2011).

The wider problem is how, in a sociology serious about addressing the 'complexity' of contemporary culture (Hannerz 1992), we can be adequate both to the open-ended *diversity* of individual adaptations of the cultural stuff around them *and* to the continuous work of power *through* such diversity. While Pierre Bourdieu's insight into the 'de facto division of labour of social production with regard to major varieties of experience' (Bourdieu 1992: 118) remains fundamental, the modes of 'social production' are changing radically, requiring attention to various forms of institutionalised symbolic violence (Boltanski 2010), not least how in a digital age social being is measured for competing institutional ends. In the digital world, where (at least in the global North) internet access is available to most people most of the time, the 'textualization' of the world is taken to a more intense level, so the uncertainties about what people *do with* such textual excess are multiplied. A version of the same problem matters hugely to cultural producers too, since they no longer can be sure of reaching audiences most effectively through general modes of address (the mass advertisement). The resulting turn within advertising culture (Turow 2007; 2011) towards niche marketing and data-driven tracking of individuals (uniquely specified, even if their name has been stripped away) addresses this problem, but at a high social cost: the embedding of continuous surveillance and algorithmically-based data collection into the consumption process. Whenever we go online, we are lured into this surveillance space where it is the aim of the software designers who shape our micro-access to the web to 'turn every customer touch point . . . into a point of sale' (quoted Turow 2007: 123). The infrastructure to deliver this new form of micro-advertising is based on algorithms: automated processes of counting, tracking and aggregating data and metadata. But measurement also takes broader forms in digital culture, one of which (via the use of analytics) is potentially open to intervention by social actors without special expertise, via actions at the 'front-end' of websites. It is this

*everyday* embedding of algorithms in the stuff of culture (a deep textualization which often involves a codification) that generates the new opportunities for a sociology of culture which are this chapter's main focus.

Sociology of culture has always had to address the force of measurements of cultural performance. But the conflict that arises from today's embedding of measurement into the very texture of everyday experience is real, not trivial. Jose Van Dijck sums it up well when she writes: 'content and content *management* have become virtual synonyms in the ecosystem of connective media. Even when the aim of platforms is not to exploit content for monetary gain, as in the case of Wikipedia, content can only be made functional or valuable if it is managed through systems operating on the dual premise of "authentic" yet manipulated processing' (Van Dijck 2013: 162, added emphasis). Cultural sociology's task is to think and research *beyond* this conflict, registering how it is worked through in the everyday life of social actors. It can without doubt be argued that the automated measurements explicitly linked to social media platforms directly reproduce neoliberal norms of competitive subjectivity, in a replay of ealier Foucauldian arguments about disciplinary modernity (eg Marwick 2013). But a richer sociology of culture will want to go beyond such reproductive models to consider how social actors are *reflecting on* and/or *contestin*g their relations to the measurement now routinized in our everyday use of platforms for the digital presentation of the self. I will explore this latter approach, first, from the perspective of theoretical debates about the consequences of algorithmic power, approaching the empirical details of social analytics later in the chapter.

**Sociology of Culture and the Problem with Algorithmic Power**

No one would disagree that algorithmic processes are now increasingly salient in the texture of everyday life (Halavais 2008, Lash 2007, Burrows 2009, Gillespie 2014). Some writers go further and argue that the deep embedding of algorithmic technology within everyday phenomena creates 'a collapse of ontology and epistemology' (Lash 2006: 581), installing a power-laden regime of 'facticity' (Lash 2007: 56) in which 'there is no time, nor space . . . for reflection' (Lash 2002: 18). If Lash is right, why pay close attention any more to what actors say when they 'reflect' on their position in the social world? But accepting Lash's line of argument means ignoring a key site of *tension* in a digital age when social actors are struggling to make effective use of analytics in particular social contexts. Such struggles are part of a much larger history of institutional symbolic violence (Bourdieu 1990), but we need to follow such struggles in their contemporary digital forms or miss an opportunity to build a richer sociological critique of the digital age.

If an earlier phenomenology advanced by grasping how 'we derive our sense of self from the image of our self that others reflect back to us in interaction' (Crossley 2001: 143, summarising Cooley 1902), a contemporary phenomenology must explore how today's social actors interact with the algorithmically generated versions of themselves that derive from the internet's embedding in everyday life. Such a social analytics may also contribute to the wider and growing field of 'digital sociology' (Marres 2012; MacKenzie et al. this volume), although this is not a focus of this chapter.

There is no doubt of the sociological importance today of how 'categorization' seen as a key process in the constitution of social order since Durkheim (Durkheim and Mauss 1960;

Bowker and Star 2000) - has become automated and, as such, central to all consumption and information seeking online, as well as many aspects of government (Amoore 2011). 'Categorization' is no longer just something social individuals do within an open process of socialization: it is something done consistently *to them and their actions.* Yet it occurs not openly, but in the background, shaping (through advertisers' and sales entities' automated systems) what we can buy and at what price (Turow 2007), configuring (through the operations of their internal algorithms) what standard search engines reveal *to us* when we look for basic information (Paliser 2011), and shaping (through the operation of web analytics) how an organization appears in the world to the constituency of people who interact with it (funders, investors, supporters). Algorithms or, more broadly, the use of analytics in everyday life, shape fields of action in advance by shaping how things, people and organizations get counted, presented and seen. That is beyond doubt.

Lash however argues this form of algorithmic power, because based in the pre-arrangement of life's informational infrastructure (2007: 56), shifts the nature of power from a 'hegemony' that works externally on subjects through their minds to a generative 'force' that works within subjects and objects (2007: 56), a shift from 'normativity' to 'facticity', 'epistemology' to 'ontology'. A problem with Lash's dramatic account is that power based on norms, epistemology and authority has *always also* been condensed into *reified* forms that support such power. The idea that power has suddenly shifted its very nature to be more 'ontological' underestimates both the consistent role of reification (Honneth 2012) throughout history and people's opportunities from time to time to bring power's workings, *however* reified, to the surface, confronting ontological 'fact' with epistemological challenge. For sure, the workings of algorithmic power pose many challenges as its analysts note, not least through the hidden and highly technical nature of many of its operations (Halavais 2008,

Gillespie 2014), but popular contestation, although it has taken a long time to emerge, is now emerging, and is far from trivial as a cultural process. A longer tradition of power analysis has always taken seriously the *difficulty* of challenging long-established power-blocs that rely on well-established symbols and, in the media age, on intense monopolies of symbolic power. Think of Alberto Melucci's (1996) work on 'symbolic power', resistance and 'naming' with its roots in Paolo Freire's conscientization theory which had proclaimed the importance of *renaming* the world, not just challenging the details of its explicit knowledge (Freire 1982). But Lash's generalized philosophical commentary misses these longer-term historical resonances of current battles over algorithmic power.

The historic shift Lash rightly registers is that 'power through naming' (or what we might call 'deep' categorization) is now embedded in a many-levelled technologically-established interface of unprecedented complexity that is not just generally opaque but technically very difficult to unbundle, let alone reverse. Recently US legal theorist Julie Cohen has captured this well when she writes that 'the configuration of networked space is increasingly opaque to its users' (2012: 202) and that its web of protocols, data requirements and data monitoring has created a 'system of governance that is authoritarian' because it is so difficult to challenge (2012: 188-189). This is a very important point, but it is not the same as saying that such power *cannot* in principle be challenged. Indeed Cohen's writing is just one element in a slowly building wave of challenge to the 'facticity' of the digital infrastructure: other examples come from information science (Mejias 2013), cultural studies (Van Dijck 2013), popular commentary (Lanier 2013, Paliser 2011), and social psychology (Turkle 2011). All of this writing takes us some way beyond the implications of Lash's original position.

However, it is worth going back to one element of that debate Lash generated, namely David Beer's (2009) commentary which insisted on the importance of some basic empirical questions about how algorithms are pervasively embedded in *culture*, that is, in the making of meaning and our experience of the world: questions concerning (1) 'the organizations that establish and cultivate Web 2.0 applications', (2) 'the actual operations and functionality of the software packages that organise our web experience', and (3) (most importantly for my argument here) how the outcomes of (1) and (2) 'play out in the lives of those that use (or do not use) participatory web applications' (Beer 2009: 998). We can broaden the implications of Beer's argument beyond interfaces that are formally participatory. Beer is rightly interested in people's ability to interact with the processes that are classifying them through what he calls a 'classificatory imagination' (2007: 998). Why not research the overall *phenomenology* of living *reflexively* in a world where algorithmic classification is embedded in multiple ways, even if often hidden from all but the most expert actor? The object of 'social analytics' research is to study how people act in, and in their everyday lives adapt to (Beer 2009: 997), this digitally-saturated, always-under-categorisation world.

Tarleton Gillespie (2014) considers a complex form of reflexivity on the production side of algorithms: producers responsible for maintaining the public face of algorithm-driven platforms (like Twitter) must reflect constantly on the interplay between their 'technical' adjustments and the signals that their platform appears to send publicly to its users. Gillespie rightly insists that algorithms are not determining objects beyond human intervention; rather they are 'both obscured and malleable' (if they were wholly made public, the likelihood of people acting so to as manipulate their 'performance' would be too great). Gillespie is concerned with the role of algorithms on highly *public* platforms and interfaces such as Google and Twitter: such platforms he calls 'public relevance algorithms'. He insists that we

need a sociology both of such algorithms' production and of how users react to, and act on the basis of, their background role. Such algorithms have broad consequences for the ontology of our public world. According to Gillespie, platform users strive to become 'algorithmically recognisable', gaming the logics of search engines and algorithm-based platforms such as twitter (compare Beer 2009). That would certainly be part of 'social analytics', but a project of social analytics can look *even more broadly* at how actors draw on the basic workings of algorithms and analytics and seek to turn them consistently to their wider social ends. If so, social analytics can offer much more than an 'audience studies' of the digital world: it is concerned with the wider field of practice (Couldry 2012: chapter 2) focussed around the use and adaptation of algorithms and analytics, and all the further adjustments of action that flow from that. This might involve, to take a simple example, using customised analytics (that use algorithms as their basic mechanism) to heighten the clarity and intensity with which a particular website foregrounds and links up debate on a particular theme that matters to an organization.

In this sense, social analytics can contribute to our understanding of the 'culture' around analytics, and not only the algorithms on which large-scale commercial platforms are based; social analytics can also study the counting mechanisms that are, in part, conceived and devised by social actors to meet ends much closer to home. This picks up on the dimension of social construction that the best sociologists of software and code have always recognised (MacKenzie 2006). As Adrian MacKenzie puts it, 'code, the material that lies at the core of software, is unstable because it is both expression and action, neither of which are materially or socially stable' (2006: 177). In other words, the production and use of algorithms is part of the making of the social today, but operating at a level whose consequences are yet to be fully understood.

Such consequences therefore need to be traced through a sociology of action. If 'taste classifies the classifier' in Bourdieu's famous phrase (Bourdieu 1984: 6), then the pervasive fact of background algorithmic measurement 'measures' the social actor, grounding new hierarchies of visibility (Marwick 2013), but also providing sites where such hierarchies can be contested and renegotiated. Social analytics is concerned with how analytics shape, in part, the ways in which such an actor can present herself or itself *as social*, and so the changing ground-rules of actor's social and cultural presence. Such shaping is open to reflexivity, at least under some conditions, just as is the face-to-face presentation of the self (Goffman 1961). Boltanski and Chiapello (2007) have provided an important general framing of the new 'spirit of capitalism' in which individuals are inclined to compete in terms of their capacity as networked actors, and recent studies of practice around social networking sites show how this can be translated into forms of prestige based on connection and visibility (Banet-Weiser 2012; Marwick 2013). But there is considerably more scope for empirical research on how such technologically-extended processes allow also for reflexive agency. This is where the project of social analytics starts. The next section will explore in broad outline the possible topics for social analytics.

**Doing social analytics**

To appreciate this project's scope, it is necessary first to define the core problem for social actors today for which social analytics, as it were, tries to listen out. Sociology of culture has always been concerned with how social hierarchies are maintained through cultural means (for example, in the mechanisms of taste), but in the digital era the problem is that agency – and particularly the presentation of self and identity - is now consistently mediated by *calculative* mechanisms of *differentiation* that are *not* open – or at least not initially or

obviously, open except to actors with considerable technological literacy - to adjustment by actors themselves. The processes here are not analogous with how the physical infrastructure of an institutional setting mediates the presentation of self within that setting: notwithstanding some manifest inequalities of resource, such an infrastructure mediates the actions of *all actors equally*, even if their resources for acting within that setting may be unequal. That was the material context for the strategies and tactics for self-presentation in which Erving Goffman was interested. But algorithms configure the stage of self-presentation in ways that, from the start, actively and cumulatively *differentiate between* actors: in that sense, the interface of analytics is itself an actor in the process of self-presentation, what Lash calls vividly 'substance that thinks' (2007: 70). Worse, the algorithmic interface is an actor whose operations are generally hidden from the actor that is trying to present her- or itself. Clearly, this opacity is an *issue* for any project of self-presentation, but only becomes an object of action and reflection to degrees that *vary* sharply, depending on the self-presenting actor and her or its circumstances and resources.

The empirical work that social analytics involves thus can take many forms. I will discuss these in the following order: first, the tactics of individuals to *resist* what has been called the 'quantification of the self' (Gerlitz and Helmond 20144l Lupton 2012); second, group tactics to 'game' the workings of particular algorithmic platforms; and third, the longer-term practices of organizations to use analytics of various sorts as part of developing who they are. I will spend more time on the third case since it is the least studied.

***Individual tactics***

Since Goffman, sociology has been interested in individuals' practices for maintain a certain presentation of the self in everyday life. It has been clear for some time that the digital world

affords many new means for presenting the self: from diary or commentary blogs to social media platforms to microblogging platforms like twitter. Studying their use is an extension of the study of the face-to-face presentation of self (Livingstone 2008; boyd 2008). Such research only becomes 'social analytics' (in my sense) when part of the *object on which* individuals act and reflect becomes the mechanisms for counting and measuring the self's presence online and its effects.

As David Beer noted, it is of sociological interest to follow how individuals begin to follow the relationship between the information they provide to calculative mechanisms (explicit or hidden) starts to 'impact . . . on the constitution of their life-worlds' (2009: 997) and, through this, begin, by modulating the information they themselves generate, to aim at having a different presentation of self through the algorithmic platform in question: 'the right profile' (2009: 997) for whatever algorithm they are interacting with. Some algorithmic platforms are relatively clear in their operations, for example the platform Last.fm which counts up what users listen to and plays this back to them in the form of an available playlist. But many other algorithmic interfaces are much less open to be read and influenced, yet they may be crucial either to the presentation of self or to a person's interface with the world, for example their Facebook newsfeed.

There is now a large literature on how people's presentation of self and relationship to the everyday social world is being shaped by a reflexive relationship with the analytics that are embedded in everyday platforms of self-presentation. Gerlitz and Helmond (2014) examine the passage from a linking economy (connections between websites) to a Like economy, where users gain social currency from the public articulation of connections on social networking sites. In locations such online dating sites, for example, it is hardly surprising that

users often choose to state that they are younger than they really are (Ellison, Heino, and Gibbs, 2006). Meanwhile teenagers take measures to protect their privacy online by making content meaningful only to those they wish to (boyd 2014). As Knapp (forthcoming) points out, the largely occluded operations of the algorithms which shape individuals' everyday interactional context constrains the degree of reflexivity possible, but certainly does not exclude it.

To the extent that individuals' aims (of self-promotion) are in tune with the *explicit purpose* of analytics-based platforms such as Twitter, there is no topic of social analytics, merely a conformity of actions to optimise the 'status' which those platforms precisely offer. Marwick (2013) argues exactly this for the uses of twitter by the technological elite in San Francisco involved in IT development. But social analytics emerge where individuals' goals are more complex than simply promoting the self as a brand through analytics-based measures. At this point *reflexivity* comes into play as part of a more than purely instrumental approach to analytics and the platforms based upon them. Social analytics however emerges more clearly when we consider group and institutional actors, since there is no reason to assume that their goals can be reduced to fulfilling the expectations of visibility for its own sake, since those groups and institutions generally have more detailed reasons *why* they want to win visibility than just gaining higher visibility.

***Group Gaming***

Because social analytics is concerned with interactions with calculative mechanisms that require data *volume*, groups, especially large distributed groups, have a major tactical advantage over the individual, because they can generate considerably more information and events for counting. They are therefore more likely to be able to see 'real time' results from

their information inputs, and so start to 'aim' their further inputs accordingly. The result is what colloquially is called 'gaming' algorithmic interfaces, and this is one angle from which group actions can be of interest to social analytics.

As algorithmically-based social media interfaces have started to become part of the assumed infrastructure of political and civic action, so sociologists and anthropologists have started to observe evidence of such 'gaming' as an explicit tactic by social movements concerned to influence the course of collective action through moment-to-moment coordination through such interfaces. In their study of a range of Twitter uses in political action, Segerberg and Bennett (2011: 213) note the importance of tracking the 'user dynamics of hashtag use over time', suggesting the possibility of such tactical (de Certeau 1984) interactions with the algorithms on which Twitter is based. Thomas Poell in his study of the use of Twitter by Toronto G20 protesters in 2010 (Poell 2013) notes the possible longer-term tension between Twitter's concern to foreground topics that are trending (that is, attracting the largest volume of attention) versus protesters' interest in maintaining a fuller record of their collectively produced messages. Those first two studies study some effective preconditions for a social analytics study, but coordinated gaming of the twitter platform starts to emerge more explicitly in Youmans and York's study of the Syrian Electronic Army, a group supporting the current Syrian regime which was determined to drown out the Syrian opposition's messages on Twitter through the use of automated twitter accounts (Youmans and York 2012).

The anthropologist John Postill has observed the social use of analytics directly in the actions of the *indignados* (or 15M) movement in Barcelona, Spain that protested against government cuts and economic injustice in 2011 (Postill 2013). The use of Twitter in this movement

(including the linked platform Real Democracy Now – 'DRY', Democracía Real Ya) went beyond the basic use of the platform as a means of communication through appropriate hashtags, and so on. As Postill explains:

> A key part of DRY's strategy prior to the demonstrations was to make the campaign a regular occurrence on Twitter's "Trending topics". Knowing that Twitter's trending algorithm favours novelty over volume . . . they succeeded by frequently changing the campaign keywords and encouraging followers to retweet the newly agreed hashtag so that it would 'trend', thereby reaching a much wider audience.

We can expect a huge variety of such 'gaming' practices to develop as familiarity with the logics of 'public relevance platforms' (Gillespie 2004) spreads. Some, as Postill notes, will depend on the particular literacy and foresight of an elite organizational group; other tactics will be more distributed, depending on the sheer volume of informational inputs that large numbers of informed participants can generate if at least minimally focussed on a particular end-result.

The examples so far suggest that social analytics involves the technological mediation of group action without any tensions or contradictions. But as Veronica Barassi's (Barassi forthcoming) work shows, a conflict may arise between *the time* needed to work on analytics (eg. the data-inputting necessary for influencing analytics or managing communications dependent on multiple digital platforms) and *the time* needed for the core activity of political action itself. Without wanting here to get into the specific dynamics of political action, this illustrates a broader point about the tensions inherent to using 'measurement' to achieve

broader social ends. We will consider this in more detail in the next subsection which focuses on the social use of analytics within organizations.

***Social Analytics on an Organizational Scale***

It was the use of measurement at an organizational level that first led to the idea of 'social analytics'. I was leading a participatory action project concerned to research the digital platforms and social conditions which support narrative exchange for purposes of encouraging voice and mutual recognition. The strand in question involved a reporter network (let's call them 'C Media') who trained community reporters and led a national network whose website presented the reports of those trained. Fieldwork within an action-research paradigm was conducted by myself, Luke Dickens and Aristea Fotopoulou with C-Media for a period of 15 months between early 2012 and mid-2013.[2] When the fieldwork started, C Media's website was not generating the traffic they wanted: C Media sensed it needed better metadata to present the themes of its reporters' stories in a more effective way, but it did not know how to implement this. We quickly realised that, although our project was concerned with broader aims, to develop it in this strand there was no alternative but to become practically involved in acting and reflecting with C Media about how they used their website and its information architecture, to achieve their organizational purposes.

While doing this fieldwork (see Couldry, Fotopoulou and Dickens forthcoming for more details of the stages of our fieldwork), we realized that, in carrying out such 'technical' work, we were doing something more, something of wider sociological interest. We were tracking how real actors used and reflected on analytics not for the sake of measurement itself (that emphatically was not C Media's primary interest), but for the sake of meeting their broader *social* ends. We were tracking the process whereby a small civil society organization

translated its ends as a social actor into a certain use of technical tools, that is, analytics, here understood as production process in which social actors (from individuals to institutions) work reflexively with analytics in order to adjust their digital presence. By 'analytics' here, I mean *both* the automated measurement and counting installed within the operation of digital platforms (and associated websites, apps and tools) *and* adjustments made by actors themselves to, or around, such measurement and counting operations. Since, quite clearly, the use of analytics in this sense is unavoidable in the everyday practice of all organizations today (except perhaps those that want to avoid a public presence and, even then, analytics of a sort is needed to ensure this is achieved!), we were tracking the technical mediation of an organizational self, the reflexive process inherent to dealing with the technological interface through which organizations in the digital age must *present themselves* to and in the world. We were, if you like, doing a phenomenology under digital conditions, and specifically at the level of organizations with social or civic ends. This insight was the birth of the project of social analytics (Couldry, Fotopoulou and Dickens forthcoming).

Implementing such a project is however more complex than it first appears. This is because the process of reflecting and acting on one's mode of 'self-presence' in an algorithmically-saturated world is complex. The primary means through which remove constituencies interact with an organization in most cases is its website, a particular multi-part presentation of its organizational 'self'. But, once conceived as an organization's means for presenting itself actively and cumulatively to the world, a website becomes a complex object of reflection. It depends on certain 'inputs' (information that *could* be presented), certain ways of presenting that information (which certainly *could* be otherwise), and certain ways of storing and then further presenting the cumulative force of how those visiting the site *interact* with the original presentation. Indeed the degree to which 'interactivity' with the site becomes thematized and

made the object of active reflection is itself a key part of the translation process to be researched. All these levels, from the first (information inputs) to the last (the presentation of interactivity) involve the continuous accumulation and processing of information through basic counting, but also through coding (by which I mean here not initially the writing of computer code, but the systematic interpretation of, say, story contents or interactive events as belonging to a significant type or 'code'). But which types matter to the wider story that an organization wants to tell about itself (more technically, what metadata it needs to tell that story through its website) is also a key part of the reflections that must be made explicit. So too are the processes of data collection and data sorting in which the organization is at any one time involved, or might (depending on what it is trying to do through its web presence) *want to be involved in.* The apparently simple process of developing a website through which an organization presents itself to the wider world becomes a window for observing a recursive process of reflection and action.

In participating in such a process actively, sociologists need to monitor carefully the boundary between their practical involvement and the processes intrinsic to their own activity as sociologists, that is, the tracking of social actors as they act and reflect. This boundary-making requires an architecture of its own. In our project, it involved developing in explicit written form documents that gave an account of what the organization agreed it was setting out to do, and how it saw those aims being translated into digital form, including all the practical steps (such as information collection, metadata implementation, and the like), that such a translation involves.[3] Without such documentation, we and C Media would have had no explicit reference-point against which to assess our collaboration, no statement of what it was we were jointly engaged in reflecting and acting upon. With that specified, however, our research team was able, in a more conventional sociological way, to track, through participant

observation, interviews and documentary and website analysis, the process of translating C Media's digital presence into and through analytics as it was reflected upon by the actors involved. It is worth emphasising here that the project of social analytics does not depend on assuming any simple, unmediated 'intention' on the part of social actors: as the literature on the quantified self (and the social-networking-based 'culture of connectivity' generally: Van Dijck 2013) has taught us, actors living in a world saturated by practices of algorithmic measurement are, to some degree, already adjusting their ways of acting in the world in order to *anticipate* possible measurement, indeed to seek it as an explicit goal (Marwick 2013). That does not, however, as argued in relation to the original debate between Lash and Beer, rule out the possibility that social actors can, as in this case, develop specific aims in relation to the uses of analytics, which are then put into reflexive practice.

None of this fieldwork would have been possible, of course, without C Media's very active collaboration; since C Media was very busy making the most of its limited resources to achieve its immediate ends, that collaboration would, in turn, have been impossible if our interests and C Media's had not converged: C Media's aim of promoting community voice) fitted with the wider interests of our research project. Both our and C Media's interests, in that sense, *looked past analytics*: for C Media to the translation of its social aims through analytics, and for us as sociologists to understanding how that translation got done. Implementing that in detail of course involved its tensions, but these were resolved over time, as with any project of participatory action research. One can certainly imagine now carrying out other projects of social analytics research in different circumstances where there was not the explicit convergence between the researched organizations' aims and those of the research project, but only because as sociologists of culture we will have started making social analytics an explicit part of what we do!

Admittedly, the involvement this project required in an organization's practical day-to-day life might seem a strange topic for the sociology of culture. Some of what we did could *appear* to be a banal matter of making a website work better. But things look different when one realises that it is *here* - in how organizations gather data about their websites' workings and others' interactions with them, how they think about their websites' metadata and its uses, and in their reflections on how, as organizations, they might change in response to such cumulative information – it is here, in raw form, that everyday battles to make sense of a data-saturated world in terms of social actors' *own goals* beyond just data production or metrics outcomes alone, are conducted. Far from compromising the tools and aims of cultural sociology, such empirical research is a means whereby a sociology concerned with how actors reflexively modify their presence in the world (for whatever wider competitive or practical purposes) can address the irreducibly 'calculative' world in which social actors such as civil society organizations, must today act and on which, if they want to act well, they must continually reflect. Any *less* engagement on the part of sociologists with the technological aspects of the 'presentation of the self' means *not* engaging with how actors now have presence in a digital world. If acting with and on analytics (in the extended sense in which I have used the term) is now part of actors' toolkit in everyday life, then cultural sociologists who want to study the changing forms of everyday life must research them.

**Conclusion**

In this chapter I have considered how a sociology of culture responds to the challenge of an algorithmically-saturated world. This involves not quarantining off the empirical domain in advance through generalized 'philosophical' argument about what power now 'is' or 'must work', but rather paying close attention to the types of technologically-mediated, often

frustratingly constrained action in which social actors are now engaged, and on which they must constantly reflect.

I have sketched an outline of the project of 'social analytics' that emerges from such an approach, first, by reviewing the state of the debate in the sociology of culture about the consequences of the deep embedding in the texture of everyday life of calculative processes (performed through automatic measurement based on algorithms and other uses of analytics). If, as William Sewell, has eloquently argued, the 'social' is – and always has been - both 'language-game' and 'built environment' (2005: chapter 10), then so-called 'algorithmic power' (Lash 2007) is just the latest of the ways in which language-games get 'hardened' into the built environments for action with which actors must deal. Pursuing social analytics involves more possibilities than I have been able to outline here, including tracking social actors as they resist the imposition of analytics as the basis of management or other forms of organizational control, or as they use analytics to enhance broader strategies of implementing social change. In all such cases, including those considered in detail here, social actors can be tracked as they move reflexively from dealing with and reacting to mere measures of their being-in-the-world ('data' that as yet is only interpreted automatically without reference to wider matters of meaning *to them*) to treating those measures (and their automated impact on the operations of everyday reality) as themselves a topic for reflection and adaptive action, that is, a reworking of data back into meaning that, potentially, restores some element of meaning in an increasingly automatised and systematised world.[4]

The task of a sociology of culture, in response, is not to further reify the outcome by claiming, for example, that algorithmic power leaves no space for reflexivity or resistance to power, but, on the contrary, as Sewell says, to contribute to the '*de*-reification of social life'

(2005: 369), and so to build possibilities of social critique based in how social reality is constructed by powerful institutional forces (Boltanski 2012: 51, referring to Berger and Luckmann 1966). Translated into practical terms, this means attending, through situated fieldwork, to social actors as they themselves struggle to de-reify the tools with which they must work in order to be present in the world as they want to be. While the challenge for social actors of translating their broader aims through techniques of measurement and audit (Power 1997) is not new in itself, the opacity of how calculation is embedded in everyday life poses special challenges for reflexive agency. Registering that site of agency is the purpose of *social* analytics, conceived as an empirical project of cultural sociology that addresses the constructed 'realities' of a digital age, while seeking to preserve the possibility of grounded critique.

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[4] For the distinction between uninterpreted 'data' and interpreted 'information', see Kallinikos (2007).