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Data Power in Material Contexts: Introduction

Helen Kennedy and Jo Bates

In recent years, we have seen much needed critical scholarship on data power emerge. This literature has analysed the costs of the current data delirium (van Zoonen 2014) and the kinds of power enacted when data are employed by governments, security agencies, and private corporations. Much of this important critical work has operated at a general and theoretical level, addressing questions related to the potential for contemporary techniques of data mining and analytics to contribute to new, unaccountable and opaque forms of population management and social control. This questioning of data power has been important in pointing to the serious issues that datafication raises in relation to rights, liberties and social justice. Now, as new data practices become embedded across a growing range of social realms, detailed empirical studies are beginning to emerge that ground the study of data power in specific, material contexts. This special issue contributes to that much needed project, bringing together papers which analyse the operations of data power across a range of real-world domains, including weather, finance, international development, journalism and education.

Regular readers of this journal will note that these topics are not obvious subject matter for a publication about television and new media. We bring them together in this special issue to highlight what José van Dijck, writing about the emergence of powerful social media platforms, describes as an 'ecosystem of connectivity' (van Dijck 2013) – that is, the increasing connectedness of digital data tracking, aggregation and analytics, as different kinds of data are increasingly combined and shared across digital spaces. Media and communications scholars might be familiar with examples of data aggregation ecosystems as seen, for example, in the work of Joseph Turow (2012), who charts the complex interrelationships amongst behavioural advertisers, data traders, information vendors, companies dealing in personal data for targeted advertising and analytics companies. Ecosystems of aggregated and connected data practices extend beyond these and other media and media-related organisations, as the contributions to this special issue show, raising questions about the confluence of data power, media power and other powerful actors. Thus, the aim of the special issue is to connect up debates about data in the media with similar debates taking place across a broad spectrum of disciplines, in order to advance the emerging field that is coming to be known as data studies.

The special issue moves from weather and finance through international development to what is perhaps more familiar territory for readers of this journal, journalism, before ending with two papers which take two very different perspectives on instantiations of data power in higher education. It starts with 'Making data flow for the climate risk market', a paper by Jo Bates and Paula Goodale which focuses on the implications of the UK government's efforts to open up weather data in the early 2010s. This move might look at first glance like another example of the government implementing its own successful Open Data agenda. However, Bates and Goodale argue that in fact, the government's plan to open weather data was tied to another policy narrative aimed at reducing barriers for financial market traders engaged in climate risk markets, markets which enable hedging against and speculation on climatic uncertainty. By making data more readily exploitable, the policy can also be read as an example of the positioning of data as a constitutive force in relation to the accumulation of financial capital.

The next paper also addresses terrain outside-but-connected to media – international development. 'The power of smart solutions: knowledge, citizenship and the datafication of Bangalore's water supply' by Linnet Taylor and Christine Richter explores the effects of data

analytics companies' expansion of their smart city products into the developing world. In particular, they examine the effects of emergent tech multinational / developing-world government partnerships on the types of knowledge that are produced through such systems and, relatedly, what is conceived as reliable, accurate and truthful knowledge. Reflecting on these matters also raises questions about who counts as a valid and useful knowledge-producing citizen. The authors focus specifically on one tech firm's involvement in supplying smart water systems in Bangalore, noting, as this special issue does, the need to understand big data and related discourses as they are implemented in specific contexts in particular parts of the world.

We then turn to journalism. In 'Quantifying journalism? A study of using data and gamification to motivate journalists', Raul Ferrer Conill focuses on a sports news website, Bleacher Report (B/R), which combines gamification and data analytics in an effort to motivate journalists and enhance their performance. Ferrer reports that journalists' attitudes to these two processes, gamification and data analytics, differ. Ferrer's findings have implications not simply for how journalists think about what constitutes valuable, quality news, but also, importantly, for the types of news stories that subsequently circulate. Data's power here is to challenge traditional epistemological understandings of journalism and supplant them with visions of journalism in which quality equates with good metrics. This should be cause for concern, argues Ferrer.

The first paper about data power in the higher education sector, 'Data power in education: exploring critical awareness with the "Learning Analytics Report Card"', by Jeremy Knox, reports on a project that sought to foster critical awareness of learning analytics among educators and students. Knox traces the ways in which learning analytics practices are largely opaque and disciplinary in nature and, in his view, overly concerned with prediction. As an alternative to this dominant model of learning analytics, Knox presents an interdisciplinary project (called LARC) that created an interactive learning analytics interface which enabled students to shape, reflect and comment on the platform generated feedback they received. Knox argues that even in the case of a student-centered learning analytics platform, issues of control, power and agency are complex and contested, and never fully removed from the influence of their institutional settings. The implication here is that it is vital to foster a critical and inclusive discussion about the broader societal implications of the learning analytics platforms with which students and educators are being encouraged to engage, just as such critical reflection is needed in other instances of datafication.

In the final paper in the special issue, 'The pleasure and pain of visualizing data in times of data power', Helen Kennedy and Rosemary Lucy Hill argue that the complex entanglement of data power and neoliberal values in the university compels researchers to want to work with big data and produce data visualisations and that this urge unfolds in a context which is less than supportive. They outline two sets of issues to which would-be researcher-visualisers need to attend: the complex practical and creative skills and knowledge that are required to produce a good visualisation, and the equally complex ways in which visualisations work in the world. They then turn to the contextual factors which play a role in informing visualisation practice in research. The first is the coming together of data power and neoliberalism in today's university, which in many ways constrain researchers from developing the necessary skills to become good visualisers. The final factor that they discuss is, in their terms, the 'cracks in the structures' of data power – that is, alternative uses of visualisation, beyond and against neoliberal data power, and the pleasures that creating and engaging with datavis bring with them. These 'cracks' point to the spaces for agency that exist within the structures of data power, which, like other kinds of power, is not monolithic.

By bringing these papers together in this special issue, we make a number of contributions. The first is to connect media and communications scholarship concerned with datafication to debates in other, related and overlapping fields, as part of the larger project of building data studies as an interdisciplinary and critical field. The second is to develop understanding of the material contexts in which datafication has effects. This is also part of a larger project, as it enables shifting the focus of attention within data studies onto the important and overlooked issue of everyday experiences of datafication. The next project for data studies, we propose, is to build on the extensive critical thought that is underway whilst, at the same time, acknowledging that society is not *only* constituted through the data structures that have been the focus of much of this research. Data studies now needs to begin to acknowledge that datafication is experienced and called into question at the level of the everyday. As Sarah Neal and Karim Murji put it in their introduction to the recent special issue of *Sociology* on the everyday, 'everyday life can be thought of as providing the sites and moments of translation and adaption. It is the landscape in which the social gets made – and unmade' (2015: 812). Understanding everyday experiences is crucial to data studies too, in order to comprehend whether and how data condition our existence as it is claimed they do. This is important theoretically and socially, because without such understanding, theorisations of the new roles played by data in society are incomplete, and data-related practices and the policies that govern them are not informed by the perspectives of the people who they affect and on whose data they rely. Extending research into material contexts and everyday experiences will allow us to build on critique of data power in order to think about how we might work towards 'beneficial experiences of social justice in life as it is currently lived' (Hesmondhalgh 2013: 8) in relation to datafication. This, we suggest, is data studies' next phase.

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