**Innovations in Digital Research Methods**

Peter Halfpenny and Rob Proctor (eds.) 2015

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At the start of each year, the New Media Consortium (NMC) Horizon Report heralds the future of technology in higher education. 2016’s edition lists affective computing and robotics as a common facet of the university within 4-5 years. Virtual and augmented virtual reality are cited as 'time to adoption 3-5 years' (we shall politely ignore the Pokémon that have been gambolling around the University library). In the immediate term, at every level, learner technologies (Bring Your Own Device), analytics and adaptive learning are already features of networked, classrooms, lecture halls, MOOCs and Virtual Learning Environments. As data about students, staff and sites of learning grow - spanning everything from mobile data, click-through and footfall in schools and on campus, to traces of activity on Facebook, Twitter and YouTube - questions are raised as to how we engage an increasingly complex research space.

As educational researchers, we are used to difficulty (‘pedagogy is *hard to know*’ Nind et al. 2016). But the ‘deluge’[[1]](#footnote-1) of big data throws up both familiar and new challenges; amongst them ethics, access, capacity, linkage, the sticky intersections between quantitative and qualitative methods, and the 'black box' of third party algorithmic data processing and collection. With this proliferation of social, transactional data, the ‘crisis’ of empirical sociology identified by Savage and Burrows (2007) has arguably arrived. So what are the tools that are needed to broach this space? What new methods are required, and what are their politics?

Into this tumult, Halfpenny and Proctor deliver *Innovations in Digital Research Methods*, an edited collection that strikes a balance between horizon scanning conceptual work, and the emerging realities at the cutting edge of new research practices. Across 13 chapters, international experts, many drawn from some of the UK’s leading digital research groups, introduce new tools, approaches and strategies for engaging new forms of data, and meeting new research challenges. Topics covered include: new sources of data, data linkage, spatial and social media analysis, text-mining, modelling and simulation. The practicalities of multi-model data collection and analysis, data management, ethics, visualization and developments in statistical software are also wrangled between opening and closing chapters that are more polemical. Notably, the book does not discuss the 'virtual methods' that can identify how traditional research methods are often ported into new spaces (for example, interviewing through Skype, or digital ethnography in virtual worlds). Nor does it tackle 'digital methods' in the sense defined by Rogers (2013) in his landmark examination of the ways in which existing, ‘natively’ digital tools can be repurposed for social scientific ends.  Instead, Halfpenny and Proctor aim to 'whet the appetite of social researchers to encourage them to explore how innovations in digital research methods might enable their research to advance in ways not possible otherwise' (p. 20). The focus here is largely on 'e-Research'; that is research e-infrastructure, services and tools - many instigated or developed within the UK's eSocial Science initiative (2003-2011). These are innovative methods that use powerful computer-based infrastructure and the cross-institutional collaboration associated with ‘grid computing’ for common goals. In this case, services and tools developed, purposed and deployed specifically for social science research.

To this end, readers will find some chapters overtly tool-orientated. Other chapters seek to open a window on the novel methodologies underpinning existing published research, or frame wider issues for the field. As a qualitative researcher with a history of digital bricolage, I found Murphy’s chapter on Survey Methods particularly interesting. Murphy’s take on the present health of survey methods enlists everything from Cloud computing, crowd-sourcing and sentiment analysis to the humble text message to look at current and possible directions for the field. This takes surprising turns: for example, blurring distinctions between survey and more qualitative diary method. His clear-eyed look at the promise of social media for the social sciences will be useful for internet researchers of all stripes. Anderson and Jirotka’s take on ethical praxis in digital social research is also important, as is Savage’s closing chapter on ‘Sociology and the Digital Challenge’. Readers will also find the editors’ opening introduction to be eminently citable, defining with precision so many of the socio-cultural and structural factors that determine the use and frequently haphazard development of methods and tools for so many of us in the field.

Noticeably, each chapter is distinct, and can vary in terms of the expertise/disciplinary knowledge presumed in the readership, some being advanced as well as specialist. Themes run over and between chapters with assessments of crowd-sourcing, cloud computing, Natural Language Processing and the Internet of Things echoing across several chapters. Whilst this may result in a little repetition, each chapter can usefully stand alone for reference. As the chapters frequently revolve around eSocial Science investments, there is a concern that parts are somewhat UK facing; also that the focus of the whole is distracted at times by the divergent style, outcomes and delivery that authors produce (for example, some chapters are supplemented with online eLearning resources, others are more discursive, some more interdisciplinary, cross-method or reflexive and critical, others less so). At the same time, however, this divergence gestures to the huge terrain the book covers and the different audiences it will engage and reward at a critical moment in the development of data and method. In sum, *Innovations in Digital Research Methods* provides a timely, insightful survey of eResearch methods. It is an essential title that joins a select few in representing and substantiate digital methods knowledge in our field at this time.

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1. Other more or less appropriate metaphors are available, see Puschmann & Burgess, 2014. [↑](#footnote-ref-1)