National Centre for Research Methods (NCRM)
Networks for Methodological Innovation

'Digital Methods as Mainstream Methodology':
Building capacity in the research community to address the challenges
and opportunities presented by digitally inspired methods

A report on a Series of Workshops and Seminars

June 2013

Steven Roberts University of Kent
Christine Hine, University of Surrey
Yvette Morey, University of the West of England
Helene Snee, University of Manchester
Hayley Watson, Trilateral Research

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Steven Roberts, Christine Hine, Yvette Morey, Helene Snee and Hayley Watson

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Summary

Digital methods (i.e., use of online and digital technologies to collect and analyse research data), have been utilised by a variety of disciplines. In an era in which social life is increasingly played out online, such methods offer different ways of asking new questions and generating new data. However, digital methods raise some concerns for researchers, such as maintaining ethical research practices, avoiding unrecognised biases, and keeping up with the pace of contemporary technological developments. Despite over a decade of innovation and some notable achievements, digital methods have yet to be fully accepted into the mainstream.

This network for methodological innovation, funded by the NCRM in 2012-13, aimed to build capacity in the research community to address the opportunities and challenges that digitally inspired methods present for social research. Through a series of three seminars, the network brought together researchers from a range of disciplines and career stages to map out, engage with and advance current debates in digital methods. The network showcased a cross-disciplinary range of contemporary social science research projects that effectively and innovatively utilise digital methods; and, finally, identified future roles for such methods within the mainstream of social research.

 Through three one-day events, which included a range of keynote speakers, ECR/PhD student talks and seminar discussion and activities for all attendees, the objectives included:

- To inspire social researchers to deploy relevant, effective, innovative, digital methods;
- To identify future training needs so that the wider social science community can make use of digital methods;
- To foster networks for sharing of expertise between social scientists from a variety of disciplines and career stages, and computer and information scientists;
- To provide networking and dissemination opportunities and provide a space to share expertise for researchers at all career stages;

This report provides an overview of the key debates that stimulated the initial interest leading to the emergence of the network and outlines the critical issues that were discussed and developed during the course of the project funding period from spring 2012 to spring 2013. Details and further information, including downloadable content, presentations and other outputs stemming from the seminars, can be found on the project website (http://digitalmethodsnmi.com/).

Introduction

Social science research requires a set of methodologies that are responsive to, and congruent with contemporary social formations. The growing significance of digital technologies in the social world at large is undeniable, ranging from their apparent influence in the Arab uprisings, to their deployment in fighting the oppression of X Factor-inspired 'Christmas number 1s', and from the circumventing of high court super injunctions, to the increasingly routine use of the Internet to carry out a range of everyday activities of communication and consumption. Digital technologies present a challenge to which social researchers must rise, and in turn offer the chance to access, generate and analyse new information in new ways and address new research questions. Social researchers have started to use internet-based, digitally inspired methods to help develop an understanding of how social life is played out online, but of vital concern for this Network for Methodological Innovation were the ways in which we can incorporate digital technologies into our methodological tool box to keep pace with these fundamental changes in social life (Abbott 2000, Beer 2012).

In line with the NCRM goals to catalyse debate and promote development on new methodological challenges, this network aimed to foster debates on digital data as it augments, enhances and problematises our conventional methods of research. We also considered and attempted to overcome the practical and ethical challenges researchers face in establishing digital technologies as a viable, rigorous and effective set of methodologies. Through a series of interdisciplinary, expert-led debates and workshops the network aimed to develop the capacity of a whole range of researchers, from PhD students to more seasoned academics, and to encourage social scientists from a range of disciplines to consider how including digital methods might enhance their own research. In doing so, efforts were made to map out, engage with and advance current debates in digital methods, showcase a cross-disciplinary range of contemporary social science research projects that effectively and innovatively utilise digital methods; and, finally, identify future roles for such methods within the mainstream of social research.

As much of the innovative and cutting-edge work in this still-emerging field continues to be conducted by doctoral students, our events consisted of a mixture of junior and more established researchers and the network members were similarly diverse. These participants included a carefully selected collaboration of UK-based and internationally leading experts, ensuring that networks were fostered between the UK and overseas research communities. Importantly, this series of events aimed to reach beyond a narrow set of expert participants; instead, the aim was to inspire and build capacity among non-experts. Ultimately, the network aimed to contribute to a wider step change in the quality and range of methodological skills and techniques used by UK social scientists across the range of disciplines. As part of this on-going capacity-building process, this working paper provides a summary of the key debates and discussions that developed during the course of the project funding period from spring 2012 to spring 2013.

The paper starts with a contextualising literature review. While far from exhaustive, this section introduces readers to key challenges and concerns faced by those attempting to establish digital methods as a mainstream methodology. Drawing directly from developments at the network's series of events, the subsequent section of the paper reports the outcomes of an 'affinity mapping' exercise undertaken by the participants at the network's opening seminar. Complementing the preceding literature review, this section of the paper presents the voice of the participants in their efforts to visually map out their collective consideration of both the opportunities and challenges that digital methods present. The following pages are then dedicated to necessarily concise discussions of the wide range of presentations given during the network's series of events. In combination, these outline opportunities for advancement in the field by both showcasing examples of innovative social research utilising digital resources and also contributing insights to the debates around the use of such methods.

The challenges of establishing digital methods in the mainstream: The extant literature

The literature described here comprises a diverse and somewhat fragmented body of work in which disciplines in the social sciences and beyond attempt to engage with the rapidly changing context of digital research.

Social scientists have made use of web-based methods for some time, for example through the use of online surveys (Coomber, 1997) and online interviewing (Chen and Hinton, 1999). While such online methods of data collection remain important tools, much of the recent literature on digital research methods represents an attempt to engage more significantly with the increasingly technologically mediated nature of everyday life (Murthy, 2008; Puri, 2007). For many of us, the use of integrated and networked digital devices (mobile and smart phones, tablets, mp3 players, digital cameras, wireless laptops etc.) means that our lives are digitally extended and socially shared online. The relevant literature can be summarised into two broad categories which include a) the use of digital methods for conducting research on particular topics or groups online and b) the experience of being and living online. Further detail is outlined here.

Writing concerned with the use of digital methods for conducting research on particular topics or groups online includes general introductions to Internet-based research. Examples include Hine's (2005) *Virtual Methods: Issues in Social Research on the Internet*, which covers a range of topic areas and different stages of the research process, as well as a number of more specific approaches which have emerged in response to changes in the ways in which everyday lives can be studied. In particular, a number of distinct but related virtual ethnographic methods now exist including: hypermedia and multimodal ethnography (Mason & Dicks, 2001; Dicks, Soyinka & Coffey, 2006); cyberethnography (Teli, Pisanu & Hakken, 2007); netnography (Kozinets, 2002) and digital ethnography (Murthy, 2008). Other developments include Seale et al.'s (2010) comparison of online studies with conventional interviews. These authors suggest that while interviews used to be more feasible than observation, the situation appears to have been reversed thanks to the advent of observable online forums. Further, these authors note how people appear to state quite different, more frank things - particularly about health issues - in online forums than they do in conventional interviews.

The second body of writing is concerned with the experience of living and being online, particularly in relation to the fundamentally social nature of this experience in the shift from Web 1.0 to Web 2.0. This shift from a top-down read-only Web to a fundamentally social and participatory Web comprising an interlinked network of software and platforms used by individuals to create and share multimedia content online has been carefully delineated by scholars and practitioners such as boyd (2009) and Anderson (2007). Meanwhile, Beer and Burrows (2007) used the advent and rapidly changing nature of such technologies as an opportunity to reassert the value of the descriptive in sociological research. Building on these conversations, a particular strand of research is primarily concerned with young people's uses of digital and social media. Examples in this realm include the work conducted by Ito et al. (2009) on the ways in which young people learn by using social media, and boyd's (2008) study on the role of social network sites in the social lives of teenagers. Similarly, much research has shown the significance of such digital spaces as discursive sources for identity construction (e.g. Chittenden 2010). The importance of being able to engage with digital life is not restricted to youth research, however, as work on the significance of the Internet for health service users has shown (Seale et al. 2010). Two overarching issues relating to the ways in which individuals interact with each other, and the ways in which it is possible to study such interactions in the context of Web 2.0 have been identified in the literature. These include: the erosion of the boundaries between the public and the private (Snee, 2008; Lange, 2008) and the move to active participation in and creation of online or user-generated content (Anderson, 2007).

Other work involves utilising innovative methodologies to develop our understanding of the public's interactions with social media applications (e.g., Bruns, 2011) – such methodologies range from extracting images to mapping individual's uses of the 'blogosphere' and Web 2.0 applications (Bruns,

2010; Beer, 2012). Drury et al. (2009), have analysed material written by members of the public to assess the public response to the 7th July 2005 London bombing as a method of triangulation. This involved combining the analysis of blogs with more traditional "offline" research methodologies such as newspaper analysis and interviews. Thelwall (2008) has used a large sample of "found" data from social networking sites and collected using automated tools to investigate contemporary swearing practices. This provides a clear illustration of the ways in which digital research methodologies are effective not just in pursuit of knowledge of online interactions, but also how the Web can be used to assist with other areas of research with a significance beyond the domain of the online.

Along with discussing possibilities for the mainstreaming of digital methods as part of a toolkit for interrogating contemporary life, the network events also considered whether the nature of Web 2.0 poses specific ethical dilemmas for researchers. These issues have been taken up in studies focusing on specific social media or social networking sites such as Lange's (2008) study of the nuanced nature of privacy on YouTube, and Lampe, Ellison and Steinfield's (2006) study of friending practices on Facebook. The issue of ethics is also taken up more broadly by Miller's (2011) account of the information society, virtual cultures, sociology of the internet and new media.

Affinity mapping: the challenges of digital methods as mainstream methodology

At the network's first event, delegates were asked to reflect on the opportunities and challenges of digital methods through an 'affinity mapping' exercise. Affinity mapping is an activity based on collaboration to sort ideas generated through brainstorming. Following the event, the output was turned into a mind map and made available on the network's website (see Appendix Figure 1). The opportunities and challenges identified through the affinity mapping exercise are summarised below.

A central matter for discussion was to try to define the terms 'digital methods' and 'the mainstream'. Richard Rogers (2009) defines native digital methods as the repurposing of tools that already organise the web, rather than translating existing methods to online spaces. However, the delegates felt that this notion of digital methods was too narrowly constrained to capture the full range of prospects and concerns that they faced. A key challenge was, however, specifying what makes digital methods distinctive, particularly as there are many opportunities for convergence between online and offline methods, reflecting the blurred boundaries between spaces and the integration of digital technologies into everyday life. The delegates flagged that digital methods can include observation, but also offer opportunities for interaction and involving people as researchers. Another challenge was defining what is meant by the mainstream and whether moving digital methods into this arena was desirable. Digital methods also inspire critical reflection on 'mainstream methods'.

The boundaries of the field of digital methods were discussed, with reference to the sources of innovation. These might be outside academia, which presents challenges to professional practice (a parallel was drawn with the challenge of online producers of content for professional journalists). Many of the most dramatic innovations in digital methods particularly using "big data" are happening within commercial organizations and are not necessarily shared with academic researchers. Other sources of innovation are early career researchers, and it is important that they receive adequate support, both with training and resources and in negotiating the acceptability of new approaches within existing disciplinary traditions. A top-level task for the field is to explore the implications of online phenomena for theories of the self, society, identity and culture. There is a distinction, however, between digital methods that investigate social life, and the social and cultural practices that occur online. The tools of digital methods need to keep up with constant change. It would be beneficial for different methods to interconnect and inform each other, including those of the 'mainstream'. Some notes of caution were raised, concerning the problems of seeing digital tools as 'black boxes' without critical engagement and using such tools without enough attention paid to methodology. The constant changes to the online environment and the rapid developments in available data and tools are an additional challenge.

To explore the potential of digital methods, delegates thought that interdisciplinary work will be increasingly important. While the knowledge exchange opportunities may be positive, some wondered

whether researchers would unhelpfully become involved in disciplinary 'turf wars'. Potential collaborations may result in larger research teams in the social sciences along the natural science model. This may offer opportunities for early career researchers, but may also have implications for their progression due to shared publications and outputs that may not be valued in mainstream social science. Training research students in interdisciplinary work is also important. Moreover, a challenge for the digital methods community is to identify the skills required to engage with technology, and there is a need for training and guidance in how to take this forward. The delegates felt that digital methods may impact upon the dissemination of social science research. At present the relevance of digital research can be compromised by extended publication timescales. New formats of dissemination and the increasing availability of raw data may drive change, however. Digital research also has the potential to have greater media impact.

The delegates identified a number of reasons why social scientists might want to use digital methods. This includes access to everyday life, and providing the starting point for 'offline' issues. The research process can be accelerated as it is much quicker to gather and analyse data (this brings its own challenges, of course). Digital methods also make it easier to conduct longitudinal research, look at the interactions between individuals, and are useful for studying certain groups with a notable online presence, such as young people. Also, if they use the same digital tools, researchers are able to compare their analyses and findings. There is a huge range of data available for digital social science research, although again this raises additional opportunities and challenges. Despite the allure of quick and easy data, there is a need to ensure that research is driven by research questions. Furthermore, access to data may be restructured by cost or gatekeepers, or be manipulated or controlled by 'data wranglers'. Making sense of diverse forms of data can be difficult. While it may be beneficial to engage with some populations, others may not be represented online. Delegates raised the importance of thinking critically about 'big data', and also suggested the benefits of 'thick data' - smaller data sets that are rich and detailed. Data archiving was another potential issue, in terms of the practicalities of archiving diverse data, identifying what should be archived, and that commercial ownership of data may prevent reuse.

Finally, some time was spent thinking about the online context, the populations that can be accessed, and how to do this ethically. It can be challenging to identify populations and participants in amorphous spaces, and there can be slippages between boundaries of networks that are 'naturally occurring' and those that are researcher-constructed. While some thought there is no apparent Hawthorne effect in observing interactions online, others raised the issues of the hyperreal environment as affecting behaviour, and the increased likelihood of self-selecting samples. A distinction can be drawn between offline and 'real', however, recognising that online life is also part of the everyday. The mediated relationship between participants and researchers means that it might to be difficult to establish how individuals engage with online content. Digital methods enable social scientists to access previously inaccessible discussions and topics, like taboo subjects, although paradoxically online places that show social taboos are unusual. The fact that hidden populations and marginalised groups may be accessed using digital methods resulted in an understanding that ethical practice is crucial in online spaces. The delegates recognised that even while such questions are context-dependent, an over-arching awareness of online ethics is an important issue for the social science community. An example would be online privacy, and the argument for use of online data without informed consent that 'it's in the public domain' was not seen as an acceptable universal rationale by the delegates.

The affinity mapping exercise raised a number of key issues for the network to consider, and these were returned to throughout the year: supporting innovation, collaboration and interdisciplinary work (especially early career researchers); the importance of critical reflection on digital tools and methods; the challenges of access to data and data handling; overcoming barriers to dissemination; and ensuring ethical research.

Case studies: the opportunities of digital methods as mainstream methodology - a summary of presentations and key content

Eric Meyer

Dr Eric Meyer is Research Fellow & DPhil Programme Director, Oxford Internet Institute, University of Oxford. Eric's research concerns how 'big data' makes its way into the hands of social science researchers and how to generate the tools to deal with such data. Making a clear argument for a pluralist methodological approach, where the methods option is driven fundamentally by the research question being asked rather than dogmatic adherence to certain approaches, Eric's focus was on how technological innovations are shaped by disciplines to transform research, and specifically how this is done in relation to 'big data'. While the changing nature of computational approaches across disciplines was somewhat celebrated, in terms of the ways that social scientists adapt and modify rather than just accept and remain satisfied with older methodological, Eric built on a commentary by Savage and Burrows (2007) to draw out the exciting opportunities but also the challenges offered by commercially collected 'big data'. Using the example of Tesco, Eric noted how their mass of collected 'club card' data reveals much about the ways that people behave, but reminded the audience that accessing this data is not necessarily easy or even achievable. Increasingly though, Eric argued, we do have access to Big Data, and analyses of 'whole of population' data - e.g., data on Facebook, petition signing rates, tweet dissemination - requires new routines and algorithms to handle the ongoing influx of data, not just the traditional 'data cleaning' methods we may have used with more discrete amounts of data. In doing so, he insisted we might even uncover patterns we had previously not considered, patterns which were rendered lost in the cleaning process.

Eric highlighted two innovative and very different digital research projects as exemplars in data sourcing. 'Galaxy Zoo' (http://www.galaxyzoo.org/) used the wider public to classify galaxy images to provide a workable data set at a much faster pace than might usually be expected. User Generated Data such as this classification helps to scale up data, but Eric pointed to the potential limitations in terms of standardisation of analysis and interpretation. Secondly, 'Ceismic' (http://www.ceismic.org.nz) is a comprehensive digital archive of video, audio, documents and images related to Canterbury (New Zealand) Earthquakes of 2010 and 2011. Its aim was collecting stories and presenting history through iPhone apps and displaying history via 'augmented reality'. Both these projects demonstrate the power of Wiki-style global input and its power to reduce data creation time compared to traditional annotation methods of texts.

Axel Bruns

Dr Axel Bruns is an Associate Professor in the Creative Industries Faculty at Queensland University of Technology in Brisbane, Australia. Axel's research interests relate to produsage (or collaborative user-led content development), social media, blogging, social network mapping, citizen journalism, online communities, creative industries, and popular music studies. Axel is currently working on a project "Mapping Online Publics", which aims to develop innovative methods for large-scale research into the use of key social media spaces. Part of this work involves assessing the role and impact of social media on engaging and responding to crises, politics and culture.

During the first event for DMMM, Axel (2012) focused his presentation on the challenges involved in researching the social networking site, Twitter, which involves dealing with (in some instances) large data sets particularly in line with understanding how people are using Twitter in different contexts (e.g., from crisis events to everyday life). He discussed his methodology for this process - **computer assisted cultural analysis** - whereby researchers must carry out a series of steps to capture the data stemming from online sources such as blogs, social networking sites and other web-based content. Once data has been captured researchers must begin a process of processing, analysing and visualising the data. Axel and his colleagues have been working for a number of years on developing different tools for this type of digital research (e.g., data gathering tools). For Axel, such practices are

required to help develop mainstream methodologies to ensure that researchers can effectively observe the functioning of society online.

Christine Hine

Dr Christine Hine is Reader in Sociology at the University of Surrey. Her presentation explored the role that the Internet might play in ethnographies of the everyday, drawing on case studies from domains as widely separated as the use of discussion forums by parents to talk about how to rid their children of headlice (Hine, 2012) and traces of audience response to the television programme Antiques Roadshow discernible through online searches (Hine, 2011). She explored the advent of the Internet, and its increasing embedding in everyday life, as a resource which allows us to research previously methodologically intransigent topics, such as public understanding of science or audience responses to the media. For such topics it is often useful to have a sense of the ways in which they arise organically in everyday circumstances, to complement the focused attention which more invasive methods such as interviews and surveys provide. There is a fine tradition of unobtrusive methods in social science, which use various forms of "found data" to interrogate the mundane circumstances of everyday life (Lee, 2000). Building on this tradition, the Internet search engine becomes a useful methodological resource to allow the researcher purposively to locate and juxtapose diverse responses to a topic or object of interest.

Forging connections, and deciding when to drill down to explore the circumstances which engender a particular fragment of data, are strategic choices made by the researcher on the basis of an emerging sense of the research object. Christine concluded her presentations with some caveats about the need to maintain a sensitive stance on whether "found data" is automatically available for research in ethical terms, and about the need for caution in treating either digital or face-to-face methods as portraying "what people think", since each is a form of mediation which renders everyday life available for research purposes and transforms it in the process.

Mike Thelwall

Mike Thelwall is Professor of Information Science and leader of the Statistical Cybermetrics Research Group at the University of Wolverhampton. His current research includes identifying and analysing web phenomena using quantitative-led research methods, and he has pioneered an information science approach to link analysis. Mike has developed a wide range of tools for gathering and analysing web data, including hyperlink analysis, sentiment analysis and content analysis for Twitter, YouTube, MySpace, blogs and the web in general. Here, he talked through and showcased sentiment analysis software *SentiStrength* (http://sentistrength.wlv.ac.uk/). This software estimates the *strength* of positive and negative sentiment in short textual entries (like tweets or comments on other social media or online forums).

The technique is important because the huge numbers of such informal texts that are posted every single day are, according to Mike, very often expressions of emotion, connecting to issues of friendship, showing social support or as part of online arguments. The algorithm, enables us understand the role of emotion in this informal communication and also to identify inappropriate or anomalous affective utterances, potentially associated with threatening behaviour to the self or others. It does so by providing positive or negative scores for 2489 sentiment terms. While commercial organisations have taken up the use of the software and other variants, they are often used for identifying opinions about products. SentiStrength, which is free for academic research, extracts sentiment from informal language and 'cyberspace spelling' and abbreviations and can therefore be useful in researching social behaviours. While Mike outlined the difficulty for the programmes in terms of being able to accurately account for sarcasm, irony and rhetorical questions, crucially SentiStrength performs with the same level of accuracy as human coding on comments Twitter, YouTube and MySpace etc. This is because interpretation of text is never purely objective and definite - even human coders will sometimes disagree on the meaning implied (see Thelwall et al 2010. for more detail). The technology therefore brings forth an expedient process for analysing a fast moving data source, providing an interesting methodological tool for researching the social as it increasingly becomes played out online.

Sue Thomas

Sue Thomas is Research Professor of New Media in the Institute of Creative Technologies at De Montfort University. Her research interests include internet history, transliteracy, transdisciplinarity and social media innovation.

Sue presented her research on 'Technobiophilia', the subject of her latest book. This started out as an investigation into the use of nature metaphors in computing and cyberspace. Through a variety of 'mainstream' methods, including observation, literature review, survey and interviews, Sue found that these metaphors prevalent in how people understand the digital realm. This led her to develop the biologist E.O. Wilson's concept of biophilia: 'the innate tendency to focus on like and lifelike processes' as 'technobiophilia': these processes as they appear in technology. Such metaphors make users feel more comfortable in cyberspace, because humans are attracted to what is alive. Sue's research led her to read work from diverse fields including cybernetics to the classical history of nature beliefs. The transdisciplinarity and the volume of her research material were difficult to synthesise, so she turned to a digital tool, Evernote, to do so.

Evernote (https://evernote.com) is an app and software that organises materials, a virtual notebook of sorts. Sue guided the audience through one of her notebooks: she not only showed the contents, but used the app itself to deliver the second half of her presentation. The research materials collected included photographs, PDFs of documents, audio files, and web pages. The benefits of using the app include easy capture; organisation, categorisation and cross-referencing; immediate synchronisation across various digital devices; and the ability to share notebooks or keep them private. There were also some problems, however, such as being unable to record academic citations, and that using the app can result in huge volumes of data because is so easy to collect material. Sue's aim was to show how researchers can draw on publically-available digital tools in innovative ways. Evernote was invaluable in keeping track of diverse sources and developing the conceptual framework for *Technobiophila*. Being able to manage diverse research materials will be increasingly important for transdisciplinary research.

danah boyd

Dr danah boyd is Senior Researcher at Microsoft Research, a Research Assistant Professor in Media, Culture, and Communication at New York University, Visiting Researcher at Harvard Law School, and a Fellow at Harvard's Berkman Center. danah's research focuses on how young people use social media as part of their everyday practices. Her talk to the network at event 2 in our series was dedicated to demonstrating how her primary concerns revolve around how technology reconfigures everyday practices, and on understanding and conveying the cultural logic that underpins why teens do what they do. Here, danah was keen to explain the value of an approach that combines online content analysis - including countless hours surfing teens' social network site profiles, reading their tweets, and otherwise observing their online traces - with face to face interviews in at least one of the physical environments they usually inhabit. In such interactions, it was argued, technology can be the anchor of an interview without ever being mentioned, with mentions of YouTube, MySpace and instant messenger seeping into conversations with youth people at multiple entry points without ever asking seeking them out. As well as providing vivid examples of the ways in which the digital has become all-pervasive in young people's social worlds, danah explained the importance of this combination of approaches in allowing researchers to explore continuities between online and offline contexts and also to serve as a check against an all too easy of misinterpreting online traces.

Issues of ethics in research also drew significant attention, both in terms of using online technologies as a means of gathering data, but also in their use as acting as entry points for sourcing research samples. On this latter point, danah outlined how her own interests in and uses of digital resources emerged at a time when a concerted effort was being made to highlight the risk of online 'stranger danger'. Responding sensitively to and overcoming these challenges is an on-going issue for researchers, and danah pointed to her own experiences where moving from the virtual world of MySpace to face to face interviews proved to be a non-starter. Lastly, danah drew attention to the ethical responsibility to not reveal the identities of the young people who give voice to social research. Although an area of some continuing debate, the need to obscure data captured in online observations

and content analysis through a process of 'scrubbing' was advocated. In this quotes can be altered to ensure that the sentiment and meaning are maintained but the quote itself unsearchable.

Jo Belcher
Jo Belcher is a PhD student in Sociology at the University of Surrey and one of the Network's postgraduate bursary members. Her research explores online support for parents of children with a rare genetic syndrome.

Jo presented her project as a Pecha Kucha lightning talk, explaining how she was combining digital and traditional methods to recruit a hidden population with demands on their time. As Jo is interested in the social patterning of online support, she needed to reach carers with different levels of engagement with such services. The project survey was made available in both online and paper versions, and was advertised in a variety of targeted online and offline spaces. The next stage of the project is to interview parents about their use of online support. Jo needs to offer flexibility to her participants as they were a population with unpredictable schedules, so this means she will be offering Skype, telephone or email interviews alongside face-to-face.

Jo described the challenges of this approach, including the comparability of multi-modal data, and the ethical dilemmas of contacting people via support mechanisms and participants breaking anonymity. There are also a number of biases associated with the approach, as the means of contact affected whether someone was more likely to reply, and also the mode of survey they completed. Jo's talk highlighted how researchers can draw on digital methods to increase research participation among hard-to-reach populations and the ways that these can complement more mainstream approaches.

Lorenza Antonucci
Lorenza Antonucci was the second of our postgraduate bursary members to give a Pecha Kucha talk. She is a PhD student in Social Policy at the University of Bristol. Lorenza's research examines the relationship between welfare sources and the well-being of young higher education students in the transition to adult life in the UK, Sweden and Italy.

Lorenza's talk began with another reminder of the pervasive nature of social media in our lives, particularly for the younger generations. However, she argued that this continuous presence also required some serious contemplation. First, Lorenza reminded the audience of the commercial nature of contemporary digital and warned of the prospective risks of 'forcing' such tools into social research frameworks. Secondly, Lorenza was concerned with the potential for observations of online reality to distort offline reality through too great a focus being given to spectacular occurrences. Acknowledging these potential pitfalls, Lorenza was then keen to note the strengths of digital approaches, such as researching under-represented groups or communities, conducting cross national comparative research with limited budgets, and even observing mundane but insightful aspects of social reality.

Carole Kirk
Carole Kirk is a PhD student in the School of Performance and Cultural Industries at the University of Leeds. She also held a postgraduate bursary from the Network.

Carole's Pecha Kucha presentation explained the principles behind practice-led research in the arts, where questions and methods come out of creative practices such as painting, performance, music or design. The methodological challenge of inquiry through creative processes is how to capture the actions that constitute the development of knowledge. Carole explained that digital methods can provide helpful tools for practice-based research by recording movement over time, providing a trace of action that can be reflected on.

As part of her research, Carole has organised technologies on a continuum according to the amount of manipulation they require, from devices that capture visual and audio information; to archive technologies that allow curating, sharing and feedback; to technologies that involve a high level of manipulation such as video editing or digital storytelling. Carole suggests it is these latter tools that stimulate deeper levels of reflection on practice-led research, and also provide a record. Reviewing

these traces of the creative process can trigger embodied memories and offer ways to communicate and disseminate practices that are otherwise ephemeral and fleeting. Rather that collecting 'found' data, Carole's research explores how digital methods can offer ways for practice-led researchers to create data and query praxical knowledge.

Amy Guy
Amy Guy is a PhD student based in the School of Informatics at the University of Edinburgh. Her work explores semantic web technologies for digital media and creative collaborations, which she presented as a Pecha Kucha.

Amy's talk outlined her interest in how distributed social networks can allow people to own and control their data. Her project aims to consider how semantic web technologies, like ontologies, metadata and linked data, can be used to create a platform for such a network. In particular, Amy's work will focus on collaborative opportunities, knowledge sharing and community building amongst digital creatives. She is developing use cases for a system that empowers socially-mediated creativity using semantic web technologies (use cases define interactions between an actor and a system). As part of this process, the system will need to capture data about usage and effectiveness and gather feedback from the users, without infringing on their privacy or taking control away from them.

The project will also explore the growth of communities, sub-groups and hierarchies; the outcomes of collaborative projects; the spread of media across the network; and user reactions to media. An additional factor is how the developer community reacts to the platform. Amy noted that the nature of the system may have an effect on the behavioural data generated, or may even change behaviour on other social networks. The project shows how the social effects of public networks can be part of technical projects, and indicates the potential for collaboration between social and informatics researchers in developing digital methods.

Emma Hutchinson
Emma Hutchinson is a PhD student in Sociology at the University of Warwick. Her research explores the presentation of gender in online video games such as World of Warcraft and Second Life.

Emma spoke about her experiences with online asynchronous interviewing as part of her doctoral project. In her Pecha Kucha talk, she explained how asynchronous interviews are conducted while the interviewer is not online at the same time as the participant, and are often conducted via email. While these are an accessible way to engage with digital methods, Emma suggested that photo elicitation was a way to address some of the problems associated with this method, such as the delay between question and answer and the potential for misunderstanding.

Emma's work investigates the identity performance of online gamers, which are represented visually using avatars that are carefully designed. During the online interviews, Emma shared her own screenshots from the game and asked the participants to provide theirs, which helped the interaction and kept the momentum of the interviews going between questions and answers. Screenshots also helped both parties to clarify and illustrate the points they were making. The widespread practice of sharing photos online is, for Emma, an opportunity to bring visual sociology methods into online spaces.

Eve Stirling
Eve Stirling is a PhD student in the School of Education Studies at the University of Sheffield. Her research interests are in Social Network Site usage among undergraduate students and the potential of social software in Higher Education.

Eve spoke about using Facebook to explore first year students' transitions to university. Her research project is a multi-sited ethnography, which includes the digital environment of Facebook alongside

physical spaces. Data collection has focussed on observing students' profiles, groups and interactions on the social networking site. In her Pecha Kucha talk, Eve noted the opportunities and difficulties inherent in using a 'personal' Facebook account in her research.

Eve discussed the methods she used, including observation of Facebook profiles and face-to-face interviews; how she may have influenced her participants' practices as their 'friend', and the ethics of access. As Eve used her own account, anyone who was her Facebook friend was part of the research project. Moreover, her participants have access, through her profile, to information they would not know if they only met in person. Consequently, the public and private spheres of her have blurred, raising questions about the terms 'personal' and 'professional' in digital methods and what this might mean for mainstream social research.

David Beer

Dr David Beer is a Senior Lecturer in Sociology at the University of York. One area of David's research has been concerned with charting the ways in which culture can be understood in relation to the changing landscape of new media. Much of this research has culminated in a recent book, *Popular Culture and New Media: The Politics of Circulation* (2013).

In his talk David argued that current scholarship in the field of digital methods focuses on digital *tools* at the expense of an understanding of digital *data* – including an understanding of the environments and infrastructures that allow data to circulate and accumulate, as well as issues around how data is archived. By taking these issues into account we move beyond a one-dimensional view of data as simply present, to something that actively shapes the social world – what David referred to as 'the social life of data'.

One way in which data shapes our social world is through the work of algorithms which filter data in ways that inform our choices without us necessarily being aware of this. Therefore, while we can think of content shared on social media sites as a personal archive or as an archive of the everyday, classificatory systems embedded within these archives actively shape this content. David pointed out that as researchers and as consumers/producers of social media content we are now reliant on these classificatory systems as well as the infrastructures and gatekeepers that maintain them. David ended his talk by emphasising that the rise of digital worlds is the backdrop to digital methods hence the importance of understanding the interactions between the creation and circulation of digital data and the social and material world.

Noortje Marres

Dr Noortje Marres is a Senior Lecturer in Sociology at Goldsmiths, University of London. Noortje's work has focused on the identification and analysis of issue-networks online, and she has been instrumental in the development of different platforms for this including *Issuecrawler* and *Issue Mapping Online*. She is convenor of the MA/MSc in Digital Sociology at Goldsmiths.

Noortje spoke about issue mapping as a method that utilises the links between technology, science and society to identify and analyse topical issues and the 'actors' or networks involved. She argued that issue mapping was not a new concern for the social sciences and emphasised the underlying affinity between tools used on the web and those used by the social sciences. Noortje argued that rather than being territorial about methods about we need to see them as different or overlapping sites of engagement and be creative in our use of them. Methods simply allow us to see the world in a particular way.

For instance, digital tools such as the mapping programs *Twitter StreamGraphs* and *Infomous*, amongst others, allow researchers to visualise the co-occurrence of words relating to specific issues. Examples of issue mapping touched on during Noortje's talk included the Guardian's data visualisations of tweets about the closure of the News of the World. However, Noortje cautioned against taking the co-occurrence of words at face value as the frequency of certain words or terms might only indicate how active or popular they are rather than necessarily indicating their relevance. Echoing the previous points made by David Beer, Noortje's talk emphasised the ways in which the

social, and our analysis thereof, are changing in the context of digitization, and underscored affinities between existing methods and emerging digital tools.

Christine Griffin
Christine Griffin is Professor of Social Psychology at the University of Bath. With a long track-record of research on the lives, identities and leisure practices of young people, Christine presented some of her recent work on young people's drinking and cultures of intoxication.

One of the ways in which Christine became interested in digital methods was her research into the ways in which alcohol is promoted to young people in novel ways online. She spoke about the increase in spend on social media marketing by alcoholic beverage companies, for example: in 2011 Diageo - the parent company for brands including Guinness, Baileys, Smirnoff and Moet and Chandon, among others - allocated 21% of their overall marketing budget to social media marketing, resulting in a 20% increase in sales. However, she also pointed to the ways in which marketing practices and user-generated content are increasingly blurred online, with young people effectively, but potentially inadvertently, promoting alcohol brands on their social media profiles etc. In this way, Christine argued, we are now both the consumers and the products in social media.

According to Christine this blurring of the consumption and production of digital data – and the vast amount of data generated as a result – is one of the key challenges of researching the digital world. She emphasised that the debate should not be about whether social media, or the Internet, are good or bad but about how we can develop the right tools to research how our use of digital technologies shape our worlds, cultures, discourses, relationships, and identities.

Rachel Gibson
Professor at the Institute for Social Change at the University of Manchester, Rachel Gibson spoke talk about CODE ('Comparing Online Democracy and Elections'), an ESRC-funded project that undertook a four-country comparative analysis of the use of new media by political parties and citizens.

The project explored the role of new media in the context of electoral campaigning, asking, amongst other things, whether or not new media allowed for a democratisation of the electoral process through citizen involvement. Rachel spoke about the different approaches adopted by UK and US political websites during electoral campaigns, including how they encouraged citizens to get involved, what kinds of information they provided, and how successful they were. For example, on UK websites, political parties tended to provide information but not to allow feedback, while in the US campaign hub-sites allow citizens to experience campaigns in a different way online.

Overall the project found that new media changed the nature of the way in which people participated in electoral campaigns but did not greatly change the nature of the main methods of campaigning used by political parties. Rachel reflected on the fact that the project made use of digitized, rather than natively digital, methods in order to carry out the research, and discussed how this would change in future research.

Digital methods – looking towards the future

The final workshop in the network series of events concluded with a discussion session, in which panelists were asked to reflect on the extent to which their work was part of the mainstream of their discipline. First to reflect was Noortje Marres, from the perspective both of an innovator in digital methods herself, and from her experience of the mainstreaming of digital methods as convenor of the MSc in Digital Sociology at Goldsmiths, University of London. Noortje described her own participation in multiple disciplines, giving her optimism about inter-disciplinarity which to some extent prompted a caution about the notion of mainstreaming within any discipline. She warned that mainstreaming could be seen as potentially implying a move away from these productive mixings and a loss of distinctiveness. At the same time, however, Noortje pointed to the great opportunity for social science methods offered by the current significance of the digital economy which place many of the issues

explored by digital social science methods in centre stage. She reiterated the importance of not too quickly positioning ourselves in the margins in relation to some notion of the mainstream, and stressed that instability in these notions can be very enabling for our work in various disciplines.

Rather than framing digital methods as inexorably moving from marginal to mainstream, then, Marres' perspective stresses that the adoption of digital methods might be a vital step for social sciences in establishing themselves as central in comprehending and responding to issues of major contemporary significance. This theme of digital methods as a necessary response to developments in contemporary society and as a vital component of a social science equipped to interpret the world around us today pervaded comments in the final session of the workshop. Christine Griffin suggested, indeed, that all social scientists needed to be aware of such developments, and described the extent to which digital methods and the digital world were increasingly of central significance within psychology in various substantive domains. She also indicated, however, that different methodological communities persist in psychology, and some of the persistent divisions between different approaches within psychology may discourage potentially productive collaborations in development of approaches to digital phenomena. Helene Snee described the often opportunistic nature of the early development of digital methods as researchers found themselves confronted with richness of online narrative accounts. Having had experience of developing approaches to such data in isolation, she saw the development of the methodological networks which now exist as a very positive sign. Echoing the experiences of other members of the network, however, she noted persistent problems in gaining acceptance for digitally derived data in peer review, when such data does not come accompanied by conventionally accepted demographic information. There appears to be considerable work still be done in articulating the value of digitally derived data which brings its own distinctive qualities to the understanding of social phenomena but does not conform to established notions of provenance and quality control in the discipline. Whilst we await formation of consensus around the acceptable notions of provenance for digital data in the social sciences much is left to the discretion of individual peer reviewers and editors. For an early career researcher, the incentives against methodological experimentation can be a barrier to use of digital methods.

Rachel Gibson found that funding mechanisms had been very open to digital methods, and that in many cases it was accepted that the significance of the phenomenon spoke for itself as appropriate for investment. This much was positive, but she suggested that there was still a tendency for funding opportunities and conference streams for the digital to be compartmentalised, lending a perception that they were in some way not connected to other ways of understanding similar substantive phenomena. She discussed the methodological challenges offered by the data deluge, but suggested that there has also never been a greater need for "little data", exploring the origins and significance of emergent online phenomena, stressing once again the importance of methodological diversity. Rachel Gibson also described the conditions under which interdisciplinary work was done, describing collaborations between different forms of expertise which may sometimes happen organically, but might often be prompted by the demands of specific funded projects.

Yvette Morey described her research experience in different disciplinary settings, and stressed her experience of marginal and mainstream as shifting phenomena concerning the audiences for different research projects and their notions of the ways to understand phenomena. In some cases digital methods may appear as the obvious way to address a phenomenon, whereas in other instances a digital approach will appear more esoteric, or more detached from forms of research which appear mainstream by comparison. She also described the problems of fitting digital methods into disciplinary conventions regarding ethics, confidentiality and the reporting of research findings. An open floor discussion then discussed a range of issues concerning the practicalities of maintaining ethical research relationships in online settings, developing interdisciplinary projects and acquiring the necessary forms of expertise to develop digital methods. Participants pointed out that the researcher's role vis a vis digital data shifts dramatically in different research settings: some forms of research require a presence and engagement from the researcher in a digital setting which can be challenging in terms of both ethical and epistemic issues. Claire Hewson described the process of developing new ethical guidelines for the British Psychological Association and invited reflections on the extent to which publicly available online discussions should be thought of as available for research purposes. From the responses it became clear that researchers in digital settings have found themselves

developing creative strategies to deal with the searchability of online settings and also examining afresh what ethical commitments to the anonymity of informants entail, but that these strategies are not as yet fully institutionalised on the form of acceptance by ethical review bodies and peer reviewers.

Conclusion

In summary, this network for methodological innovation found much to be positive about in the development of digital methods as one among many accepted approaches for conducting research across the social sciences and humanities. The field is innovative, and has found numerous sites in which to flourish. Nonetheless, researchers in this domain have often found themselves needing to address questions about ethics and epistemology which are taken-for-granted among more conventional approaches, and needing to educate audiences about the strengths and drawbacks of digital approaches to research. While there is no single take-away message from the series of seminars, the following points have arisen many times over across the three events, and deserve to be reiterated in closing:

- The emerging significance of the digital within contemporary society, and the development of digital methods offers a crucial opportunity for the social sciences to place themselves within the mainstream of contemporary concern.
- It is unhelpful to situate studies using digital methods in separate conference streams, journals, etc. A productive mixing takes place when studies of similar substantive phenomena using different forms of data, including digital methods, are juxtaposed.
- The lack of agreement around notions of confidentiality and provenance in digital data and the on-going lack of consensus around the value of digitally-derived data as compared to other data sources are currently acting as barriers to publication of this work in some outlets.
- There is a great potential for innovation in digital methods offered by interdisciplinary collaboration and a need for combinations of expertise in dealing with digital methods (and for funding mechanisms which encourage this kind of collaboration).
- The institutionalization of digital methods, in terms of acceptance by peer reviewers and ethical review bodies is ongoing, but far from complete.
- Binaries between mainstream and marginal, and between digital and conventional data should not be too readily taken as real distinctions. Productive tensions emerge as notions of marginal and mainstream shift, and as researchers move between different perspectives on phenomena of concern.

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Digital Methods as Mainstream Methodology: Opportunities and Challenges

Methods and tools
- Constant change
- Different methods interconnecting / informing each other
- Understand alongside other methods
- Caution re: tools as 'black boxes'
- Problem of avoiding methodology (methods seperated from theory)
- Epistemology

Technology
- Need for training
- Need for guidance
- How to take this forward
- Identifying skills to capture / process information

Dissemination
- Publishing outcomes: timeliness / formats / raw data
- Media impact

Why use digital methods?
- Comparison easier (same tool for everybody)
- A starting point for (apparently) non-digital issues
- To considering the banal / everyday
- Accleration of research process (pro or con?)
- Easier longitudinal research
- Exploring interactions rather than single units
- Wide range of data available
- Good for studying certain groups (age, elite)

Defining the terms
- "The mainstream"
  - Thinking critically about the mainstream
  - Why do we want to get into the mainstream?
  - Native digital methods (Richard Rogers) — Does this limit meaning?
- "Digital methods"
  - Convergence between online and offline
  - Not just observation - interaction and participation (e.g. crowdsourcing)
  - What makes 'digital methods' distinctive?

The field
- Defining / bordering the field
- Implications of online phenomena and practices for theories of the self, society, and identity & culture
- Distinction between online methods, and social & cultural practices that happen online
- Tensions and paradox: general and particular
- Boundaries of academia - where does innovation come from? Parallels with journalism

Interdisciplinary work
- Research students training
- Knowledge exchange
- Larger research teams in social sciences
- Career opportunities for early career researchers
- ECR as innovative and pioneering
- Implications for progression re: publication and outputs in large teams
- Disciplinary turf-wars?
- Potential for collaboration

Populations and context
- Identifying populations
- Identifying participants
- Self-selecting samples
- Boundaries of networks you study / networks you construct
- No apparent Hawthorne effect
- Offline vs 'real'
- Hyperreality
- How do people engage with internet content?
- Able to access previously inaccessible discussions and topics
- Best place to research taboo
- Paradox = online places that show social taboo are unusual

Data
- Archiving
  - How to gather and store data efficiently
  - Heterogenous data
  - What to archive?
  - Reuse might not be possible (ownership)
- Allure of 'quick and easy' data — How to prioritise beyond what's easy to do?
- Data-driven research — Research questions should drive research
- Analysing / making sense of diverse forms of data (visual, textual. etc)
- Identifying data sets
- Cost of data
- How big is 'big data'?
- Big data vs thick data
- Access
  - Money
  - Gatekeepers
  - 'Data wranglers'
  - Populations that are not represented — Digital divide

Ethics
- "It's in the public domain" not good enough — Privacy
- Ignorance
- Depends on: context / RQs / topic / platform
- Hidden populations / marginalised groups

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