

Micro-blogging and Online Community

Lorna-Jane Richardson

[UCL Centre for Digital Humanities](#), Department of Information Studies, UK.

l.richardson@ucl.ac.uk

 <http://orcid.org/0000-0001-8848-4182>

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Summary

The dominance of social media technologies on the Internet has located virtual communities around the use of proprietary social networking platforms such as Facebook, Twitter, or Instagram, although the situation, location and definition of any online community are constantly evolving. Belonging to a number of these online communities, through social networking sites or forums is becoming a normal practice among Internet users. Yet much of the academic analysis of these online communities and networks takes place in isolation from the activities of the community itself in real life. This abstracts the community ties that people also hold offline with their online networks and does not consider the relationships and interactions that may also exist offline. This article will explore the experiences of archaeologists using the micro-blogging platform Twitter, and explore how the format and communication supported by Twitter creates a sense of community online and offline, and support professional and personal networking, using the concepts of weak ties and social capital.

Features

- Key words: online; community; relationships; weak ties; social capital
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1. Introduction

Scholarly research into online communities has been part of the landscape of social science since the earliest developments of the participatory aspects of the world wide web and the work of Rheingold (1993) and Wellman and Gulia (1999), amongst others. There has been extensive research into the phenomena, location, psychology and activities of what have been variously termed social networks, networked relationships, online communities, online discussion communities or Internet-mediated communities (Rheingold 1993; Rainie and Wellman 2012; Alton and Balkunje 2013). Understanding how these online communities work, and estimating the peer effects of online social influence, are critical to understanding the impact of social media technologies on public engagement with archaeology, and the potential for exploiting social networking for archaeological publishing, public engagement, networking, fundraising and activism (Aral and Walker 2012, 337).

The definition of 'community' has been a central concern of historians, philosophers and sociologists since the 19th century, and one with a narrative of decline, as the traditional forms of geographically located community were observed by sociologists to be threatened by the social changes that accompanied the growth of urbanisation, communications technology and modernity (Bender 1978, 3). For example, Tönnies' classic work of social and political theory, *Community and Civil Society* (Tönnies 2001), first published in 1887 as *Gemeinschaft und Gesellschaft*, explored the personal and collective tensions presented by the definition of small-scale rural community and wider, urbanised society. He distinguished between traditional geographical and kinship-based community, *Gemeinschaft*, and broader, market-driven society and social ties, *Gesellschaft*. German sociologist Weber wrote on many aspects of the rise of urbanisation and the decline of community in his works *The Protestant Ethic and The Spirit of Capitalism* (1930) and *Economy and Society* (1978) and he defined community formation as one which has 'any sort of affective, emotional traditional basis' (Whimster 2004, 344). Subsequent generations of researchers moved further from the debate about the *loss* of traditional community, including Bender who built upon the concepts of *Gemeinschaft* and *Gesellschaft*, and explored the modern American experience of community as a 'communion' of human relationships, serving their own community interests, with communities defined by limited membership, shared purpose, affective ties and a sense of mutual obligation (1978, 8).

As Fremeaux has argued, the term 'community' was one of the most important sociological concepts to have 'been appropriated' in the discourse of the UK's New Labour government' (2005, 265), alongside the role of heritage in tackling social exclusion (Newman and McLean 1998; Simpson 2010). As Yar has observed 'New Labour's political programmes and policy proposals closely follow the communitarian line that links social problems with a lack of community in contemporary society' (2004). Derivatives of these concepts of community

engagement and involvement have been equally used by the coalition since 2010 (Department for Communities and Local Government [2010](#); [2013a](#); [2013b](#)). The modern political concept of communities, in the UK at least, is dynamic, and is certainly being reworked and renegotiated, depending on social and political influence, often defined in contemporary terms with reference to history (Cohen [1985](#); Cohen [1986](#); Isherwood [2009](#); Pyburn [2009](#)). Yet as Waterton asserts, 'community ... is judged in the minds of the participants rather than the geographical spaces they occupy, and is defined by the subjective experiences and associations it engenders' ([2010](#), 6).

With Waterton in mind, the term 'community' has a strong symbolic value that is not always reflected in the types of group interaction that can be found online, although it is frequently applied to social and participatory media sites on the Internet (e.g. Rheingold [1993](#); Rainie and Wellman [2012](#); Alton and Balkunje [2013](#)). We must consider whether the casual use of the term 'communities' to mean electronic forms of grouping and networking may in fact be incorrect, and may not reflect the opinions of the participants in these networks. Do online communities dilute group intimacy and shared purpose and can these networks develop a sense of mutual obligation and support? Are there issues with the lack of visual cues in online communications? I would argue that there are low or non-existent barriers to joining, leaving, or ignoring many social networking communities, and interaction is shaped by personal commitment, as well as technological and temporal limitations. Can the benefits of weaker online relationships reflect similar relationships in real life when Internet communications make the expression of discontent as simple as a click? Are stronger interactions, personal support and networking online most likely to take place between people with similar interests and ambitions or kindred spirits seeking similar knowledge or experiences — do these shared interactions mark belonging to an online community? (Isherwood [2009](#)).

Back in the 1990s, Rheingold defined online communities as 'social aggregations that emerge from the Net when enough people carry on discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace' ([1993](#), 5). Social media platforms and the communities and affiliation supported by these forms of communications are fluid and dynamic, and as the use of these platforms saturate our societies, so too do opportunities to form, and participate in, communities of interest online.

Connections made through Facebook 'friendships' may cover a mixture of real friends, work colleagues and casual acquaintances, while membership of Facebook groups, or pages, encompasses another layer of 'belonging' to online communities situated around shared interests in music, politics, books and so on. Flickr networks exist — it is more than a photo storage site, and Burgess has argued that it is a place for enactments of 'vernacular creativity' ([2007](#), 8). Flickr contains communities of social practitioners, who situate their sense of community around thematic presentations of images, geographic locations or professional identities. The site offers a space for the discussion of the visual and dynamic representations of archaeology and heritage objects, sites and actions within a community space, as a form of intangible heritage renegotiated in the present (Affleck [2007](#); Freeman [2010](#); Terras [2010](#); [2011](#)).

As Wellman and Gulia argue, the Internet 'is not a separate reality' ([1999](#), 170). Mazali notes that there is a close relationship between virtual and real communities — digital communities grow from communities that have 'specific and localised values, problems and identity' ([2011](#), 291). For most people, the relationships performed through Internet technologies complement and enhance most real-life relationships in the real world, rather than replace them

completely. As Wellman ([2001](#)) acknowledges, these relationships, these networks, rather than communities in the traditional sense of the word, are most people's current experiences of social relationships in real life, and modern communities are defined relationally not spatially. Wellman himself defines community as 'networks of interpersonal ties that provide sociability, support, and information, a sense of belonging and social identity' ([2001](#), 228). Being connected online serves to amplify and extend real-life relationships, enabled by Internet and mobile autonomous communication by any means necessary; always-on wireless connectivity, text-messaging, Twitter, Facebook, mobile internet technologies, and all available at your convenience, often through a portable device carried everywhere. But is this narrow definition of what constitutes a community enough to really be a community on the Internet? Are one-topic groups communities, and can shared identities situated around the subject of archaeology be a catalyst for community formation? Since the location of these communities is in a new space, online, where discussion and interaction take place in varying formats, time zones and at a different pace — synchronous and asynchronous — do these differences matter any longer to the formation of a sense of connection and belonging to a network? What conditions, institutional or otherwise, need to exist to support the development of online networks and communities?

The mourning of the loss of rural community ties by the 19th century sociologists is reflected to a certain extent in the sociological thinking of the 20th century on the issue of community and society. Breakdowns in group memberships and institutional loyalties have been a trend in the more economically developed industrial democracies, resulting from pressures of economic globalisation, spanning a period from roughly the 1970s through to the end of the last century ([Putnam 1995; 2001](#); [Block 2008](#)). The shift from group-based to individualised societies is accompanied by the emergence of flexible, social, weak tie networks ([Granovetter 1973](#)). Granovetter's (1973) concept of social networks based on weak, rather than strong social ties is increasingly applicable as western society moves away from connections formed by membership of social and cultural organisations. These weak tie connections are created and maintained within fluid social networks and supported by communications undertaken on social media platforms, without the scale of organisational control needed to situate these connections amongst a formal membership. This independence offers opportunities for a reconfiguration of social relationships and information exchange, and has seen wider discussion of the impact of social capital beyond the academy ([Castells 1996](#); [Portes 2000](#); [Bennett and Segerberg 2012](#)).

However, the very structure of some social networking platforms and discussion forums can act as 'walls, hallways and doors with electronic locks' ([Kling and Courtright 2003](#), 222), providing rules about who can participate and who is excluded; rules for communication; acceptable conventions (for 'newbies' for example) as well as social control agents and their practitioners within the communities in question. White and Le Cornu ([2011](#)) use the metaphor of place for online networks and communities, in which Internet users can be present with other people, and enact a membership of the web. Structural adjustments therefore may be necessary to stimulate engagement, instil trust, and support group identity when using Internet technologies as part of a digital public archaeology. Developing groups and networks online will require special support — it cannot be assumed that ready communities exist or that they will.

So what drives individuals to participate in these online communities and social media platforms? Access to technology and the skill to use those technologies remains stratified. The democratic and utopian ideals attached to the Internet by early pioneers (see Rheingold

[1993](#)), along with the potential for widened patterns of research, must also be tempered with a more critical awareness of inequalities, which sees online users of many social media platforms dominated not only by Western countries, but also a demography characterised by white, middle-class males (Nakamura and Chow-White [2011](#); Wessels [2009](#); [2013](#)). Indeed, as many scholars have pointed out, the use of the Internet in society reflects the power struggles, divisions and asymmetries of the 'real' world in terms of gender, sex, religion, age, class and ethnicity (Nakamura and Chow-White [2011](#); Hargittai and Hsieh [2013](#)). This is a significant point of caution for any research undertaken both through and on the Internet, and highlights the need for a careful assessment and understanding of audience needs and digital literacies, alongside institutional desires to use these platforms for communications.

Communities forming online need not be considered to be wholly different to those created offline. They can be re-imagined as communities with similar complex relationships, with elements of camaraderie and support, which form in a new space, or place. Online relationships are forged and new ways of being are enacted and embodied within these self-identified communities. The use of digital technologies for community archaeology may uncover barriers to acceptance as authentic and trustworthy voices, precisely because they are gathering through a medium which may not immediately demonstrate, affiliation with an academic or professional archaeological authority to reinforce their legitimacy (Richardson [2014](#)). As such, while the Internet offers access to a virtual world with the potential to reap cultural and social benefits, it also brings with it a range of tensions and examples of misrecognition of data, authority or participation that cumulatively and unsatisfactorily renders it unhelpful (Richardson [2014](#)).

Gere writes that despite the promises of social media to embrace nostalgia for the lost communities of the past, there are 'historical precedents for the failure of every new form of communication to fulfil the Utopian ideals which almost always accompany their first appearance' ([2012](#), 7). The iterative process of development and support for online communities in archaeology, as elsewhere, will require long-term commitment on the part of the originator to sustained communication and the encouragement of social interaction, as well as maintaining the relevance of both discussion and platform. Participatory projects are questionable in their effectiveness, when balanced against 'democracy and ownership' (Kidd [2010](#), 65). The potential for public engagement and participation requires a considered strategic approach, since the concept of a participation division within online interactions has been explored in a variety of demographic, economic and geographic contexts and participation is clearly related to variable educational achievement, ICT skills and a higher socio-economic status (Hargittai and Walejko [2008](#); Mossberger *et al.* [2008](#)).

The success of any social media endeavour in public archaeology must first recognise the need for a nuanced approach to the technologies involved, with careful consideration of the need for an investment of time, flexibility and commitment to collaboration with, and inclusion of, the wider public. Kling and Courtright's ([2003](#)) socio-technical model of the Internet sees social behaviour online as an interaction with technical aspects of the Internet. They claim that communal space online must be seen as structured both socially and technically to understand behaviour in online communities. The sustainability of these online communities is a complex issue — technological and fashionable obsolescence; user-unfriendly, complex sign-up processes; active exclusion and clique behaviour (Kling and Courtright [2003](#); Isherwood [2009](#)); and the need to support online dialogue. The next section will discuss the concepts of social capital and weak ties, and the relevance of these concepts for emerging archaeological communities and online networking.

2. Social Capital and Weak Ties

One key dimension to understanding the potential and problems of archaeological uses of social media is the concept of social capital. This is a concept defined as the benefits and resources accumulated through social relationships and social networks (Portes [2000](#), 43). The importance of the concept of social capital is reflected in the diversity of interest in the subject beyond academia (Warren *et al.* [2001](#); Office for Public Management [2005](#); World Bank [2011](#)). Within academia, it is a concept most associated with the work of Bourdieu ([1984; 1986](#)), Loury ([1977; 1981](#)), Coleman ([1988](#)), and Putnam ([1995; 2001](#)).

Pierre Bourdieu explored the concept of social capital in his 1986 work *The Forms of Capital*, which he conceptualized as the social benefits gained through nurturing and using social networks, which in turn recreated and reproduced elitism and inequalities (Portes [2000](#); Gauntlett [2011](#)). Bourdieu defines social capital as 'the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition' (Bourdieu and Wacquant [1992](#), 119). Both Loury and Coleman approached social capital as a platform through which to gain trust, social contacts and social organisation (Coleman [1988](#)). Putnam examined the forms of social capital, labelling the different uses 'bonding capital' (strong social ties amongst formal groups) and bridging capital (weaker, more informal ties seeking specific forms of support or information) (Siisiäinen [2000](#); Larsen *et al.* [2004](#)).

Strong social connections rely on elements of connection, social recognition, and mutual support over a period of time (Granovetter [1973](#); Berkowitz [1982](#); Marsden and Lin [1982](#); Weenig and Midden [1991](#); Wellman [1992](#)). Granovetter measured the strength of social relationships on these factors ([1973](#)). Weak ties are based on a lesser degree of intimacy and time-established relationships, such as those between work colleagues and acquaintances and which Grannovetter sees as a support network for information or ideas which 'traverse a greater social distance, when passed through weak ties rather than strong' (Granovetter [1973](#), 1366).

Weak ties are relationships based perhaps on an absence of intimacy and reciprocity, and less frequent contact, but which can provide information and professional contacts (Constant *et al.* [1996](#); Wellman [1992](#)). Weak ties, such as the ones supported by the types of connections and relationships fostered by social media platforms, create relationships between people and information that would otherwise remain unconnected or undiffused (Kavanaugh *et al.* [2005](#)). The flexibility of this kind of networking 'impose[s] fewer concerns regarding social conformity' and offers space for discussion, cohesion around specific topics and asynchronous communications (Ruef [2002](#)). It is worth noting that research into the diffusion of information has shown that the presence of pre-existing personal relationships are an important part of the communication process, and social capital has an important part to play in the transmission of information, as well as its reception (Kavanaugh *et al.* [2005](#)).

Positive online engagements — rather than personally abusive communication or 'trolling' — between community members and social networks, however dynamic, asynchronous or geographically distant, are always socially embedded. Hampton suggests that online interaction should be considered another form of community interaction, facilitated by technology, rather than a distinct form of relationship and social practice ([2003](#), 427). Research has demonstrated that social networking platforms are the most popular tools for

addressing activism about social issues (Lovejoy and Saxton [2012](#)). According to research by Denning ([2000](#)) there are five methods and stages of Internet activism: collection of information; publication of information; dialogue; coordinating actions and lobbying decision makers. Work by Warren *et al.* on the use of Facebook for online activism suggests that there is a distinct 'online community that supports and educates their online audience with similar intentions for the good of the community' ([2014](#), 288). The work of Jensen *et al.* ([2007](#)), which explored the role of the Internet in community groups and political activity, suggests that while online activity is socially embedded, online community activism clusters around political action, information seeking, and contacting political actors, and the level of social engagement is reduced when compared to being a simple extension of offline relationships. It is the indications within these data that participation in online political engagement does not depend on education, age, belonging to a specific community or household income that are especially significant for public archaeology (Jensen *et al.* [2007](#), 47).

A number of studies have been undertaken on the role of Internet technologies and communication in the impact of weak ties, bridging social capital and community activism (Wasko and Faraj [2005](#); Gladwell [2010](#)). However, the exploration of the influence of online communities is tainted by the presence of homophily, confounding effects, and simultaneity (Aral and Walker [2012](#)). The hypothesis that influential individuals act as catalysts for information dissemination is not supported by the academic literature: a variety of research papers suggest that susceptibility to influence is more important in the spread of information and ideas than an individual point of contact for information sharing (Aral and Walker [2012](#), 337). These suggest it is unclear if influence, susceptibility to influence or spontaneous adoption will affect the type of information or behaviour being shared (Centola [2013](#)). As my data below aim to show, these factors will be highlighted even further in a small discipline such as archaeology.

3. Twitter as an Online Archaeological Community

This section will take forward the ideas outlined above. It will discuss the social media platform Twitter as a location and tool for the creation of archaeological community and networking. It will examine the experiences of archaeologists using the platform, and consider how the format and communication supported by Twitter creates a sense of community and supports networking, reflecting on the sociological concepts of weak ties and social capital. The data for this section were collected through a series of three annual online surveys from 2011 to 2013, 'Twitter and Archaeology', and a 'Live-tweeting at Archaeology Conferences' survey taken in 2013. These surveys were designed to collect data that were both descriptive and exploratory and were not designed for formal hypothesis testing. I also began observing the use of Twitter for archaeological discussions and interactions during 2010, and made a formal netnographic entrée to the archaeological Twitter community in April 2011 through my own website ([Richardson 2011](#)).

These archaeological activities were taking place on Twitter in a very unstructured and informal manner, and the platform was also being used as a 'first-port-of-call' means of transmitting archaeological news among archaeological peers. The potential to increase the use of the platform for the public and intra-disciplinary dissemination of information about archaeology projects, new discoveries and active excavations was exciting, but how did the

platform work with and for archaeologists as an online community? As Miller notes, Twitter offers 'an unprecedented opportunity to study human communication and social networks' ([2011](#), 1814). However, little peer-reviewed academic research had yet been undertaken that examined the use of Twitter in the archaeological sector apart from Morgan and Eve ([2012](#)), Richardson ([2012; 2014](#)) and Marwick ([2013](#)) who have begun to explore the impact of these technologies on the profession and its data. An investigation into the use of the platform for public archaeology would provide useful data to examine the issue of online archaeological communities.

Twitter is a web-based application that combines aspects of social networking, instant messaging and blogging into a fast, simple and convenient mode of communication. Twitter enables registered users to post short status updates, messages, trivia, news, links, photos and videos, known as 'tweets' to a web-based public time line, or 'micro-blog'. Originally designed for use with mobile phone text messaging services, the brevity of the format and restriction to 140 characters creates an informal and economic communication channel (Cain Miller [2010](#)). The disclosure of personal information in the user profile section is pared down, optional and brief, allowing only for name, location, a short 160-character biography and a web address. Limitations of real-life identity can be maintained, abandoned or re-imagined, as the emphasis of the Twitter platform is in the present, the real-time update, rather than heavily focused on a detailed biography such as that found on the social networking platform, Facebook. Thoughts, links, commentary and questions take precedence over the user's identity and any information disclosed on Twitter is there to create and enhance the user's digital identity. After the user profile's creation, updates and interactions from that point on create a personal digital presence within Twitter and allow the user to 'live' their tweeted life. Since its founding in 2007, Twitter has developed beyond the scope of the original social networking application, into a platform for news, commentary, opinions, networking, marketing, political activism, photo-sharing, event documentation, conversation and community. The attraction of the platform may be in part to its innovation and immediacy;

The expressive limits of a kind of narrative developed from text messages, with less space to digress or explain than this sentence, has significant upsides. The best people on Twitter communicate with economy and precision, with each element –links, hash tags and comments – freighted with meaning (Carr [2010](#), 1)

Access to the 'thoughts, intentions and activities of millions of users in real-time' (Phelan *et al.* [2009](#), 385) has created a powerful channel for understanding the immediate, in-the-moment Internet. Twitter supports communication, between individual-to-individual, and to a broader individual-to-public: a 'broadcast' via Twitter to the time-line audience.

According to research by Java *et al.* ([2007](#)), Takhteyev *et al.* ([2012](#)) and Leetaru *et al.* ([2013](#)), social networks are created and maintained through common language and users tend to cluster with others that share a language. Research has shown that the most predominant language used on Twitter was English, followed by Spanish, Indonesian, Malay and Portuguese (Mocanu *et al.* [2013](#)). Java *et al.* ([2007](#)) categorised user intentions into four types: 'Daily chatter' with comments and reports on aspects of daily life and routine; 'Conversations' between Twitter account holders, using the @user syntax; 'Sharing information' such as news and resources via URLs and 'Reporting news' by providing information on recent events. The researchers noted that users frequently have more than one intention when using the platform, reflecting different roles within different online networks, often concurrently.

Research into the presentation of self in different mediated contexts has shown that the 'imagined audience' is a key consideration for account holders when using social media (Marwick and Boyd [2010](#), 115). The disconnection between user and audience is important to consider, given the potential reach of the retweet, universal access to all public accounts via search engines, the possibility that there are significant numbers of dormant or infrequently used Twitter accounts, and the likelihood that not every single follower reads every single tweet on their time line. An audience on Twitter is constructed through the presentation of a constructed personal representation, personal relationships built through conversations and managing the balance between one-to-one and one-to-many communications (Marwick and Boyd [2010](#), 130).

The inherent contradictions of this 'digital intimacy' or 'ambient awareness' (Thompson [2008](#)) means that users and followers can experience a relationship on terms negotiated individually and without the other's consent, beyond the ability to block a user, or indeed strike up and maintain a conversation with a complete stranger. The brevity of the information available about Twitter users ensures that the development of a deeper sense of trust through personal relationships within the platform is a longer process. The personal information available from a Twitter profile is limited and optional, and is an example of the online performance of the archaeological self. Vazire and Gosling's work on personality impressions on personal websites concluded that 'every detail of a personal website is the result of a conscious decision on the part of the author' (Vazire and Gosling [2004](#), 124).

The Twitter platform has been used by those working in archaeology as a conduit for information sharing, cooperation and discussion, frequently mentioning the existence of an archaeological community on the platform, often sharing information centred on the use of hashtags. Since 2009, Twitter has hyperlinked all hashtags in tweets to the Twitter search facility ([Wikipedia 2014](#)). Hashtags are now also found in use across a number of social networking platforms, including Facebook, Instagram, and Google+. Hashtags are a form of metadata tag, and their use allows Twitter users to collate and follow disparate asynchronous conversations across time zones, listen and respond to Twitter users outside their follow list, and further refine the Twitter platform's search facilities. Hashtags can assist in the search for specific discussion topics in what is potentially an overwhelming number of tweets, and it is now possible to search for hashtags directly on search engines such as [Google](#) and [Bing](#). The hashtag, indicated by the use of the # (hash) symbol and placed before words within the text of the tweet, allows the annotation and clustering of relevant tweets around specific themes (as demonstrated in Figure 1, which shows the use of the hashtag [#archaeology](#)).

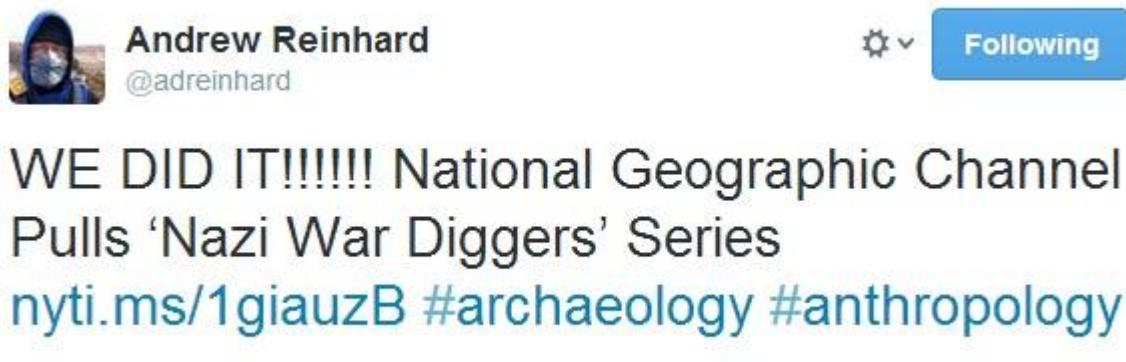


Figure 1: Screenshot from Twitter demonstrating the use of the hashtag #archaeology. Retrieved from: <https://twitter.com/adreinhard/status/450782661523406848>

The results of the three 'Twitter and Archaeology' surveys clearly demonstrate that archaeological communities worldwide are embracing the Twitter platform for the same reasons as everyone else — to broadcast, listen and network with others in their field, but also to share and benefit from current archaeological research and discuss professional issues. This boundary-crossing global network lies both within and outside archaeological specialisms, and provides collaboration and contact that could only otherwise be facilitated by geographical proximity, synchronous research fields or conference attendance, organisational membership or personal acquaintance. Indeed, the majority of users have already met in person, or plan to meet in person, those archaeological acquaintances made through Twitter — which again demonstrates the existence and importance of weak ties and social capital for these communities (Granovetter 1973; Putnam 2001). Archaeological tweeters report that they are active on the platform, with the majority regularly posting about archaeology-related topics each week. The survey respondents report that they are enthusiastic about sharing their subject: tweeting frequency on archaeological topics does not depend on whether they have an official work account or one for personal use and the use of archaeology-related lists to filter and manage information is common.

The survey results demonstrate a sense of belonging to a specific and growing archaeological network or community. The respondents especially valued the way in which Twitter facilitated small-group interaction across archaeological disciplines and the opportunity to learn from new, unpublished research and 'listen' and comment during tweeted conferences. However, there are barriers to a sense of archaeological community. Some noted the perception that there are low numbers of archaeological Twitter users, and highlighted a concern that infrequent participation, or satisfaction with a passive role, would fail to establish a meaningful sense of belonging, as an individual, in a larger archaeological network. Although social media offers a variety of platforms on which to communicate, the unique functionality of Twitter, which provides a simple, informal networking channel and access to immediate news, would be sorely missed should it fold, and similar experiences would be sought out using other web tools. The survey noted that the use of Twitter in communication with the public could create friction with organisations. There was a notable lack of information on organisational guidance for the use of Twitter, and indeed other forms of the social web, mentioned in the surveys. Whilst organisations such as universities and larger commercial archaeological organisations have policies for social media use, the scant information from the survey on this subject could also be due to the prevalence of the use of

the platform for personal opinion, news and dialogue, using non-work devices, as highlighted by the number of mobile phones used to tweet, rather than any form of prescriptive organisational broadcasting.

4. The Use of Twitter at Archaeological Conferences

The 'Live-tweeting at Archaeological Conferences' survey covered the use of Twitter as a conference discussion and sharing tool and was designed to collect data on participants' experiences and attitudes to tweeting at academic archaeology conferences, both as online spectator and active physical participant. Perspectives were sought on a number of subjects: the preferred method for accessing archaeological conferences if unable to attend; the elements of Twitter use that encourages or discourages participation in live-tweeting; the personal benefits from participation in live-tweeting; the perception of the impact of live-tweeting on public engagement between archaeologists and non-archaeologists; collation and distribution of live-tweeted archaeological debate after events; and the need for live-tweeting etiquette and guidelines at archaeological conferences. The survey investigated how participants, both physically present and those online, can contribute to, and conceptualise, their involvement in academic discussion and wider public engagement through this Twitter back channel.

Twitter can be accessed through mobile devices and, in an era of increasing use of smartphones and tablet computers, alongside the increasing availability of Wi-Fi or mobile broadband connections at conference venues, there has been a subsequent increase in the use of the micro-blogging platform as an informal back channel for discussion and debate at academic conferences. The live-tweeting of archaeological conferences is growing in popularity in the UK, as the archaeological Twitter community expands and more conference organisers recognise the need and expectation for an official hashtag and Wi-Fi at events. These back channels (Ross *et al.* 2010, 214) are a location of temporary community formation, beyond the direct control of the conference organisers, which take place between both the conference attendees and remote followers, and the discussions are most frequently situated around conference hashtags. The ability to participate in events remotely through the medium of Twitter, has increasing appeal for those unable to attend in person, as well as for those in attendance, in order to follow discussions, foster debate, and support personal networking. There are a number of benefits of the creation of a back channel to explore networking opportunities beyond the physical and disciplinary presence at the conference itself. The challenge presented by the presence of a digital discussion channel, which lies beyond the formal conference structure of speaker, audience, question-and-answer-sessions, and physically seeing and experiencing the presentation of academic papers, has been explored in only a small handful of academic papers (Jacobs and McFarlane 2005; Reinhardt *et al.* 2009; Ross *et al.* 2010).

There are a number of issues involved in the use of these back channels at academic conferences, where previously undisclosed information may be shared as part of the presentation of new research material and data. On 30 September 2012, academic debate on the subject of live-tweeting from academic conferences, where the possibility of unpublished research being shared through social media was the subject of alarm among some parties and became the so-called '#Twittergate' debate (a Storified version of the debate can be found at:

<http://storify.com/adelinekoh/what-are-the-ethics-of-live-tweeting-at-conference.html>). This led to intense discussion on the issue of the ethics and use of live-tweeting at academic conferences, and a series of blogs and advisory notes were published in the higher-education media (Prieago 2012a; 2012b). The question of the benefits and risks involved with live-tweeting at archaeological conferences is interesting from the perspective of public archaeology. There is potential for the discussion back channel to reach beyond the echo chamber of the professional archaeology community, but the survey does not provide a clear indication how the archaeological community on Twitter envisage this happening.

Respondents to the survey note that they participate in the Twitter back channel for a variety of reasons situated around the sense of *professional* archaeological community found on the platform; a sense of wider community 'I am encouraged by the ability to participate if I'm not attending, or to provide my colleagues with a chance to participate if I am attending'; sharing the excitement of new archaeological information at conferences 'anything that came up in a session that was revolutionary'; a feeling of 'heightened inclusivity' and wider reach for information by sharing and retweeting conference tweets and furthering collaboration and discussion online and offline and 'joining in with a community of other people tweeting about/discussing the same issues' (Survey 7, Question 5). The benefits of following conferences through Twitter, rather than attending them in real life include a sense of vicarious participation and reduced isolation, professional networking, keeping abreast of the latest issues and discussion in archaeology and accessing the thoughts and opinions of participants rather than the speakers themselves (Survey 7, Question 8).

Using a hashtag as part of the online back channel at a conference acts as a community focus-point for debate and commentary. It allows real-life conference participants to share and categorise their tweets with Twitter followers that are specifically interested in certain topics, and acts as a bridge to participation for those following online. This also widens the reach of conference tweeting, since anyone using a public Twitter account can search and view any post that includes a hashtag, even if the account is not being followed directly. It is also beneficial for any asynchronous followers who want to pick up on the conference discussion after the event. The ability to use a hashtag within a conference setting is '... extremely useful ... it not only allows individuals to generate a resource based on that specific thematic ... but also bridge knowledge and knowing, across networks of interest' (Reinhardt *et al.* 2009, 2). Many archaeology conferences and events now create an 'official' hashtag, to encourage back channel discussion e.g. the UK Current Archaeology Live conference in March 2014 used [#calive2014](#) (Figure 2) as their hashtag.

ca **Current Archaeology** @CurrentArchaeo · Feb 28
Heading to Senate House for Day 1 of Current Archaeology Live!2014. Hope to see lots of you there #CALive14
[Collapse](#) [Reply](#) [Retweet](#) [Favorite](#) [More](#)

RETWEETS FAVORITE
2 1

7:20 AM - 28 Feb 2014 · Details

Reply to @CurrentArchaeo

Figure 2: Example of the hashtag #CALive. 27 March 2014.
<https://twitter.com/CurrentArchaeo/status/439299014874640384>

However, as the respondents to the survey note, there is no written convention for using and applying hashtags and no way of enforcing their use at any event. Not all tweets on a conference topic will be suitably annotated, as the use of a hashtag remains a personal choice, and the 140-character limit may force users to omit the hashtag to continue the debate. The use of conference hashtags allow tweets to be retweeted numerous times, and these will then appear more than once in people's timelines. They can also include social, post-event conversations, and these may clutter the discussions about the conference content, although these types of connections are important for building real-world social interaction and a sense of community. Discussion or comments that may be seen to be outside the remit of the conference topic, or which the tweeter may not wish to form part of an official archive of conference tweets will not use hashtags, so often debate and comments continue outside the official back channel.

5. Discussion

The concept of online community formation is a key issue for archaeology in the UK, especially during a period of unprecedented threat to the public funding of heritage organisations and the archaeological aspects of the planning system. There is potential for heritage organisations to exploit opportunities to leverage the interest of archaeological communities online, and the associated weak ties and social capital is an important area for further research.

Social media appears to support networking, the establishment of the type of weak tie relationships outlined above, and even foster the development of lasting friendships and connections within the archaeological sector worldwide. Conversely, the platform can misrepresent, intimidate and exclude participants who are not as familiar with the platform, are without a recognisable affiliation, or do not have the confidence to participate fully. The data demonstrate that through identifying the self as belonging to online archaeological communities, a sense of group intimacy and shared purpose can be created, and that, in many cases, these networks develop a sense of mutual obligation and support, both online and offline.

This brief encounter with a sense of community, I argue, in an archaeological context, is an encounter with the past, a fleeting experience of awareness of the importance of this shared interest, and this creates ties through a collective understanding of a shared fascination, and a shared experience. The types of online archaeological community found on Twitter certainly clusters around information sharing and seeking, although the survey results lead me to question the effectiveness of the use of these media alone. We can see from these data that online activity in archaeological circles is socially embedded. This social element poses difficult questions for the issue of public engagement between archaeologists and non-professionals through the use of social media platforms, if the weak tie is necessary before trust and inclusion can occur.

In order to stimulate public engagement, instil trust, and support community allegiance and identity through the active use of Internet technologies, as part of a digital public archaeology project, we need to undertake audience research and be prepared to provide further practical support and be open to dialogue with both non-professional recipients of the archaeological broadcast, as well as colleagues and students who may be intimidated by social media. It cannot be assumed that ready communities exist or hope that they will be easily created, or indeed found through platforms such as Twitter, and issues of digital literacy, archaeological authority and top-down approaches to public archaeology must also be carefully considered.

Peer Comment

Gareth Beale

Centre for Digital Heritage, University of York, UK. gareth.beale@york.ac.uk

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The complexity, diversity and politics of archaeological communities have been a matter of interest to archaeological researchers for some time (Marshall [2002](#); Smith [2004](#)). There have been attempts to grapple with some of the issues associated with the development of archaeological communities online and the relationship between archaeological communities and technology; however, this is an area that is in need of further critical attention (Beale [2012](#); Lake [2012](#); McDavid and Brock [2014](#)).

[Richardson's article](#) is of great value in this regard in that it begins to characterise the dynamics of online communities and deals with the role that mediational technologies (such as Twitter and Flickr) play in dictating the form and character of digital archaeological communities and the extent to which technologies facilitate and constrain certain behaviours. Richardson also deals with the interplay between offline and online communities and the extent to which these entities are comparable.

If we are to reach deeper understandings of the impact of online technology on communities of interest surrounding archaeology, it is important that we acknowledge the diverse forms taken by archaeological communities outside of an ostensibly digital context. To reach this point, we must consider the extent to which these groups can still be considered non-digital.

As argued by Richardson, the precise impact that technological mediation is likely to have upon the form and character of an archaeological community is poorly understood. Within this setting the addition of digital technologies serves to complicate a social space already characterised by social, political and cultural tension. There is a clear need to understand the ways in which technologies can be used to facilitate better and more rewarding relationships between individuals and communities. In order for this to occur it may be necessary to consider the processes at work in the development and marketing of technology but also its eventual appropriation by users.

Technologies, particularly technologies that are comparatively new and so poorly understood, are often described explicitly in terms of affordance; the extent to which technologies facilitate human action (Gibson [1982](#); Hutchby [2001](#)). The concept of affordance allows us to analyse a technology critically, and apparently to deconstruct it to some kind of essential set of functional criteria. This means of describing technology has been contrasted with sociological definitions of technology, which suggest that technologies are formed by social activity (Sterne [2003](#)). The appeal of sociological definitions (such as Bourdieu's) is that they are inherently political. They require us to consider the social, political and commercial forces that are at work in the development of technology and in attempts to characterise and control the use of technologies. In this case it is valuable to draw upon both of these approaches; while technologies do afford or constrain human activity they do so within a politicised space. Despite the enthusiastic discourse of democratisation and inclusiveness that has surrounded social media, the underlying social reality remains complex and democracy is (as ever) not easily won.

By and large, social media are not common spaces; their use and their development are in most cases constrained by the structure of specific platforms, including mechanisms for the formation, discovery and membership of multi-lateral relationships or groups. The design of social media platforms are developed in accordance with interests that are, at best, tangential to the needs of the broader heritage community. However, as in the physical world, spaces that are carefully managed and controlled can have value and can afford activities in unforeseen ways.

Drawing upon Bourdieu's ideas regarding the development of a reflexive sociology, Sterne ([2003](#)) argues that we must establish an epistemological break from the accepted wisdom of technology if we are to study it meaningfully. This is, he argues, necessary in order to establish a discourse that is independent of the hype, hyperbole and control emanating from the commercial world of technology. For those of us who study and use social media it may be hard to imagine what form this break might take or what the resultant communities might look like. The realisation that the affordances of social media are carefully orchestrated and designed in order to control behaviour is highly significant and is essential in helping us to negotiate their responsible and successful use.

Perhaps, as Richardson suggests, in order to better understand the value of social media to heritage we need to observe existing communities that are directly or indirectly involved with archaeology. Some of these communities may be consciously exploring the potential for use and appropriation of digital media while others may, through the use of different technology or through fluid development, have developed other organisational forms or group dynamics. Essential to this study is that we ultimately extend our focus to include a wider gamut of online communities but also that we consider the offline communities that underpin, overlap with, and exist independently of them.

A substantial body of literature surrounding the use of social media has begun to assert that in many cases the use of social media may serve to reinforce membership of social networks and exposure to views that occur in our offline lives (O'Hara [2014](#); Pariser [2012](#)). This blurring of the online and offline, identified by Richardson as being key to the contextual reading of specific online archaeological communities, is also essential in realising the complexity and diversity of what may be considered to be archaeological communities of interest. The breadth and heterogeneity of communities that have a stake in heritage discourse has been demonstrated across a wide range of literature that has sought a more inclusive and democratic form of archaeological and heritage practice in the non-digital world (Marshall [2002](#); Smith [2004](#)). Definitions of community that assert an offline/online dualism are increasingly untenable. Richardson identifies that the study of Twitter communities in isolation from a broader network of social and professional connections is to decontextualise relationships. Similarly, communities that have existed offline will very often now have some form of digital expression; the [National Trust](#) Facebook page, for example, has more than 299,000 followers (at the time of writing). Conversely, online groups very often have ties spread across different social media and even with real-world expressions.

An example of this is [York: Past and Present](#), a closed Facebook group of c. 6500 people. The topics of discussion relate almost exclusively to the past of the city of York and its environs but feature personal reflections on wide-ranging elements of York's history, many of which would never feature in a formal publication or official narrative of the city. Therefore, while this is a digital reflection of a physical community, the affordances of the technology enable interactions and a form of publication that would not ordinarily be possible. Whether groups like this expand the community of people interested in heritage or whether they merely provide a focal point for those with a pre-existing interest is hard to say. They do, however, provide a forum for an unauthorised heritage discourse to take place, to be propagated and to be presented to a wide audience. In this way, heritage professionals come into contact with a far wider range of opinions and heritage narratives than might otherwise have been the case. An interesting development of the *York: Past and Present* group is that the digital community is increasingly taking a physical form through social events and structured activities such as building recording and consultation with local archaeological and heritage professionals. The Facebook group is the main platform for the organisation of these activities. This mobilisation of a community that previously did not exist is testament to the enabling power of social media but also to the power of self-organising groups to utilise technology in innovative ways; ways that do not necessarily respect the constraints of specific media or forms of interaction.

As we begin to see social media at work within a broader social context it may perhaps not be surprising to find the inequalities and barriers to inclusion that exist within heritage and archaeology at large being replicated. As Richardson points out, there is no reason to assume that technology alone would address any underlying social inequalities. The same battles for inclusivity and participation must be fought online as are being fought offline.

One way in which these asymmetries can be addressed is to be mindful of the range of voices that are already active within the sphere of online heritage discourse and to consider ways in which the range of voices present can be increased and also how those voices can be incorporated into academic discourse. It is important to acknowledge the power of groups and individuals from outside of expert or professional archaeological networks and organisations to initiate and to conduct meaningful discourse relating to archaeology and heritage. In her discussion, Richardson identifies the possibility of exploiting 'opportunities to leverage the

interest of archaeological communities online', but it is also important that professional archaeologists and heritage practitioners listen to and participate in discourse that has its origins outside of our communities.

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