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Broadcasting, listening and the mysteries of public engagement:

an investigation of the AAA online audience

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Abstract

For several years now the Australian Archaeological Association (AAA) has been expanding its online presence through the Association's website, Facebook page and Twitter account. In order to ascertain whether these activities are worth the investment of time and energy required to pursue and maintain them, an audience survey was undertaken. Coupled with interrogation of Facebook and Twitter user data, the survey results were assessed to understand better AAA's online audience, the value of particular kinds of content, and the online platforms and their use, in order to tailor the Association's efforts. Results show surprising uptake and use by all age groups, despite the common perception that social media users are predominantly 'young'. Our overall assessment is that a strong understanding of one's audience leads to more sophisticated use of online media, which is proving essential to achieving the objects and purposes of the Association in terms of public education and the dissemination of archaeological information, allowing a much broader audience beyond the Association's own membership base to be reached.

Introduction

In recent years the internet has undergone fundamental changes, facilitating a shift in power from select individuals and companies to the masses, leading to the emergence of a new generation of web-based services (Cann et al. 2011:46; Kaplan and Haenlein 2010:61). Built on the principle of Web 2.0, 'social media'—also known as participatory media (cf. Richardson 2014a)—encompasses a range of internet platforms and applications that include:

- Networking sites, e.g. MySpace, Facebook, LinkedIn and Academia.edu;
- Blogging sites, e.g. Wordpress, Blogger, Tumblr and Weibo;
- Microblogging platforms, e.g. Twitter;
- Collaborative research and writing tools for sharing and editing documents, e.g. Google Docs, Dropbox, Box, YouSendIt and wikis;
- Social tagging and bookmarking sites, e.g. Pinterest and Reddit;
- Conferencing, project management and meeting tools, e.g. Skype and Google Hangouts; and,
- Image or video sharing platforms, e.g. Instagram, Flickr, YouTube, Slideshare, Livestream and Periscope.

From an academic perspective, social media platforms provide users with the ability 'to be able to communicate quickly and effectively with diverse audiences, often at remote distances', along with the opportunity to cross

traditional disciplinary divides and build alternative networks and outlets (Rowlands et al. 2011:190; see also Cann et al. 2011). Perhaps more obviously, social media are also fundamentally 'social', allowing users to maintain contact with friends and family, establish new relationships and generally plug in to the rest of the world. Part of the popularity of social media can be attributed to the relative explosion of portable devices, which greatly enhance an individual's opportunities to upload and access content, provided they can afford a device and access to an internet connection. Yet many criticisms have been levelled at social media, including concerns about privacy, triviality, lack of peer review, information quality, intellectual property rights, credibility and the potentially negative impact on work-life balance owing to the time involved in keeping up with an ever-increasing amount of data (e.g. Bonnewijn 2012; Carr 2010; Colley 2013; Keen 2007; Pett 2012). Nevertheless, and despite their recent emergence, social media are very much engrained in daily life for many people. As such, organisations (and the individuals they represent) need to take seriously the way(s) in which they engage with these platforms.

The online presence of archaeology, particularly on social media, has been increasing alongside the rapid growth and development of internet technologies in society generally (Richardson 2014a), yet there have been few studies of the audiences who consume archaeological content digitally. The exception is the ground-breaking research of Richardson (2012, 2013a, 2014a, 2014b), whose seminal

investigation of participatory media in archaeology found, not surprisingly, that archaeology social media users are embracing these platforms 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 research and discuss professional issues. Pett (2012) emphasised the notion that adopting and adapting to social media is rapidly emerging as an important agenda in the museum sector, as well as archaeology more broadly, and there is a great need to develop clear social media strategies to engage meaningfully with the broader public. However, as Richardson (2014b) commented, the lack of audience research in digital archaeology means that essentially we are making ‘best guesses’ as to what content should be shared, and how, where and when we should share it—decisions that, through time, become refined by trial and error. If social media are to be taken seriously and used successfully, then systematically investigating the online behaviours of the audience is essential (Richardson 2013b)—archaeology, like every other discipline, is no different in this respect (cf. Henson 2012). Therefore, what we are concerned with in this paper is not so much how archaeology is portrayed online generally, but rather to understand the consumers of archaeological content, how they use online services, including social media, and what kinds of archaeological information they value and seek out. With respect to the Australian Archaeological Association (AAA; ‘the Association’), we are interested in how this information might inform the kinds of content presented online, with the goal of improving the Association’s engagement with the wider public.

AAA and Social Media

AAA is the largest archaeological organisation in Australia, typically catering to between 750 and 1100 professional and non-professional members annually (Carah and Ustunkaya 2014). When the Association made the decision to embark on redevelopment of their website in 2010, the opportunity arose to integrate new social media platforms. Previous surveys and the personal experience of members of the AAA Web Redevelopment Subcommittee demonstrated that blogging and microblogging were gaining currency as particularly effective tools to disseminate research to both professional and interested general public audiences (see also Rowlands et al. 2011:190). With this in mind, a decision was made to integrate a blog element into the redeveloped website. A Facebook page was set up at the same time to complement the website, with a Twitter account being created soon after. AAA currently maintains an online presence through four key platforms: the Association’s website <www.australianarchaeology.com>, which was relaunched in its recent configuration on 14 June 2012 and which incorporates a blog¹; an email list linked to the membership database through the website and accessible only to AAA members;

a Facebook page, established 9 October 2012; and a Twitter account, established 10 February 2013.

Given AAA’s increasing online activity, the AAA 2013 Social Media Survey (‘the Survey’) was designed explicitly to consider how people were using these platforms and the relative successes or failures of each. This paper draws on data collected during the Survey, the initial results of which were presented in a poster at the 2013 AAA Annual Conference (Wallis and Matthews 2013). This paper makes more comprehensive use of the data collected and examines respondents’ use of AAA online media, as well as drawing on analytical data from the social media accounts to understand more fully the current state of usage in Australian archaeology. The underlying justification for the Survey was the recognition that, by better understanding AAA’s audience, the Association could strategically plan for, and improve, its use of social media in the future. By reviewing the online media practices and presence of AAA in this paper we:

- Identify and articulate insights into our audience;
- Ascertain whether it is ‘worth the effort’ to maintain all four platforms;
- Determine what might constitute ‘best practice’ for online engagement in Australian archaeology; and,
- Contribute to the development of an informed strategy for communicating archaeological information via social media.

Methodology

Given the benefits of online surveys (Evans and Mathur 2005), the Survey was designed using Survey Monkey® and it was made available online from 26 June to 17 October 2013. It was advertised through the four AAA online media platforms, as well as independent distribution networks. As such, respondents were largely self-selecting, in that the survey predominantly reached those who were already engaged in online media. However, given the general aim of the Survey—to understand the AAA online audience—this was not seen to be problematic. The Survey asked a range of questions of respondents, including general demographics, location and occupation, their use of the AAA online platforms, their use of non-AAA archaeological websites and social media, and their personal use of social media. These questions were tailored to collect information about the forms of online content people were currently accessing and how often, the kinds of content they valued and the kind of things they would like to see. In some instances additional data—sourced from Facebook and Twitter—were utilised to supplement the survey data. The full list of survey questions is available in online supplementary material accompanying this paper.

Results

A total of 274 responses was received. User data for the AAA Facebook page and Twitter account were downloaded on 31 December 2013, providing general data about 1882 and 591 users of these platforms, respectively.

¹ At the start of 2013 AAA began presenting the articles published in its journal, *Australian Archaeology*, in shortened blog form that would be accessible to a general audience (Burke and Wallis 2012). These blogs are part of public outreach efforts and are designed to bring quality archaeological research into the public domain in a way that does not ‘dumb-down’ the content nor sensationalise it. Each blog focuses on the essential points of the peer-reviewed article and explains the importance of the research and the key findings. These elements are combined with explanations of any terminology, and high quality, reliable links and suggested reading lists so that readers can find more information on any given topic if they choose.

Respondent Demographics

All 274 survey respondents were aged 18 or over, with 50% aged 40 years or older (Figure 1). Sixty-three per cent of survey respondents were female and 36% male (1% preferred not to respond to this question).

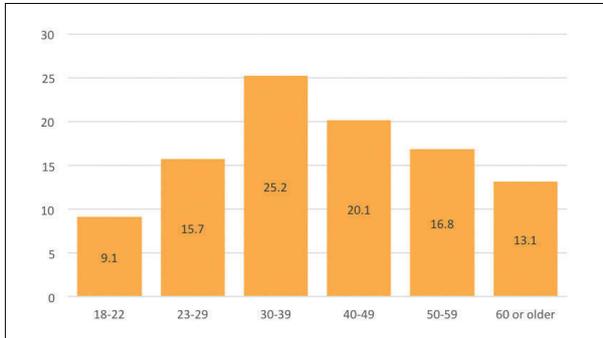


Figure 1 Percentage of respondents in each age grouping (n=274).

Figure 2 presents the proportion of users by gender grouped within ten-year age brackets. The exception to this was users aged 18–29, who were grouped into age brackets of 18–22 and 23–29. This division was based on the desire to understand better the experiences and use of online media by different groups of students, with the rationale that the former were undergraduate students and the latter more likely to represent postgraduate or honours students, and recent graduates. In these two younger age categories the overwhelming majority of users was female. The ratio of female to male users approached parity in the 30–39 age bracket, and shifted to a dominance of male users in the 40+ age brackets. We suggest potential reasons for this trend in the Discussion.

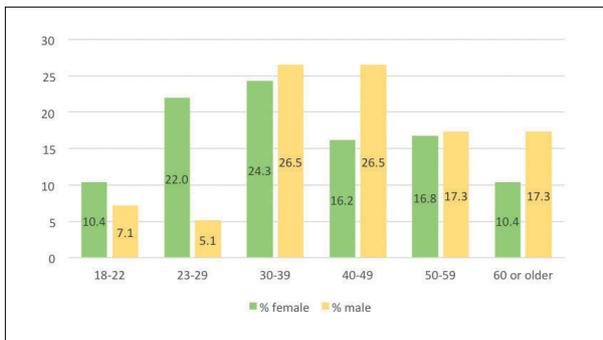


Figure 2 Gender comparison of respondents by age (n=271).

Overwhelmingly, survey respondents were based in Australia (97%), with a small proportion from New Zealand (NZ), the United States of America (USA) and the United Kingdom (UK). Yet both Facebook and Twitter data provide a quite different view of the geographies of AAA’s online audience, with only 67% of likers of the Facebook page and 62% of Twitter followers based in Australia (Figure 3). These international users predominantly came from English-speaking countries: 96% of AAA’s Twitter followers and 85% of Facebook likers (note that these data were only available for those users whose accounts provide such information). Overseas Twitter followers were predominantly drawn from the UK (15.8%) and USA (10.3%), while the Facebook audience was distributed more widely, including across the

USA (5.3%), Italy (4.9%) and the UK (2.9%), with a small group of users based elsewhere in Europe. Nevertheless, and unsurprisingly, again our audience was predominantly from the English-speaking world. Ascertaining how and why individuals based overseas choose to interact with AAA’s social media platforms is challenging owing to their lack of participation in the Survey.

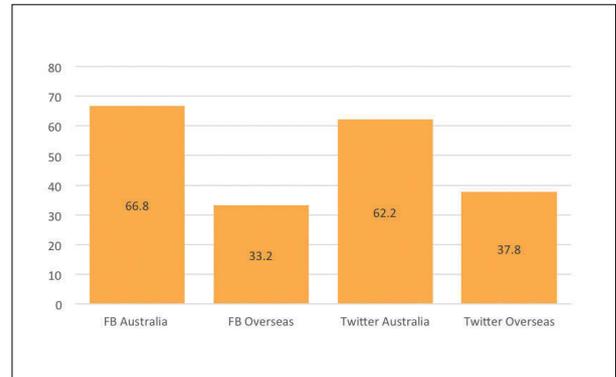


Figure 3 Locations of AAA Facebook page likers (n=1882) and AAA Twitter followers (n=591) presented as percentages at 31 December 2013.

In terms of their occupation, respondents were primarily archaeologists drawn from three main groups: students (33%); private consultants (32%); and those employed in the tertiary education sector (13%) (Figure 4). Other user groups included people working in the government sector (8%), retirees (4.7%), people who were currently unemployed (2.6%) and those employed in the museum sector (1.5%). Assessment of a random sample of 300 Twitter followers indicated that 44.7% were non-archaeologists and 23.7% were archaeologists, archaeology students or museum staff; it was not possible to determine an occupation for the remaining 31.7%. Likewise, for 100 randomly sampled Facebook followers, 34.5% were non-archaeologists and 18.1% were archaeologists, archaeology students or museum staff; it was not possible to determine an occupation for the remaining 50.9%. We draw attention here to the discrepancy between academic and consulting sector users shown in Figure 4, and that between respondent occupations versus our online audience occupations; these patterns are discussed later.

In terms of affiliation, the majority of survey respondents were current or former members of AAA, though nearly 20% had never belonged to the Association (Figure 5).

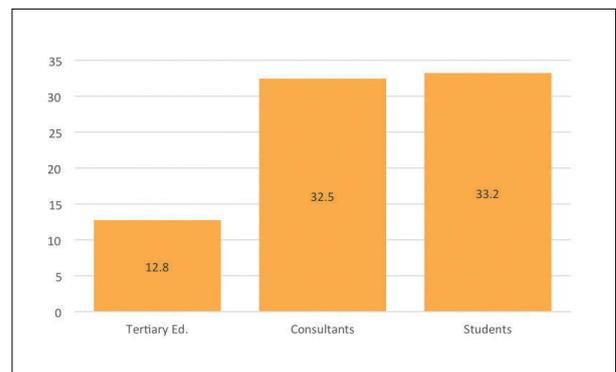


Figure 4 Main occupations of respondents; the percentages presented here represent 215 of the 274 people who responded to this question.

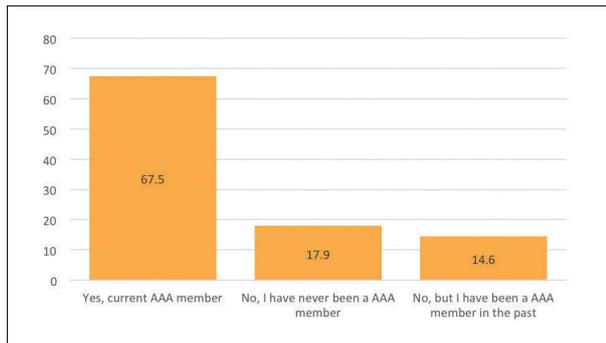


Figure 5 Affiliation of survey respondents with AAA, presented as percentages (n=274).

Use of AAA Online Platforms

Results indicate that the AAA website, email list and Facebook page were used regularly, but that only 15% of respondents used Twitter (Figure 6). When asked to indicate which AAA platforms they used most often, just over one-third of respondents indicated the Facebook page—a relatively new initiative—followed by the website (27.7%) and the email list (23.8%) (Figure 6). The popularity of the Facebook page amongst respondents was echoed by the growing popularity of the page in general over the course of 2013: the year began with 1101 page likers and grew to 1878 by 31 December², a 71% increase across the year. Again, only a small number of respondents indicated that they use Twitter as their most regular platform.

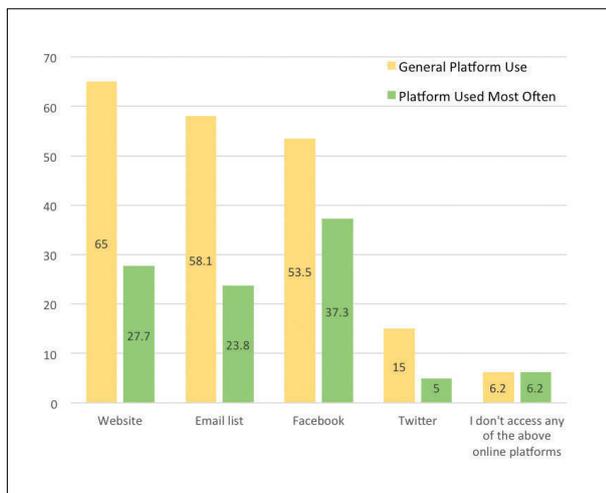


Figure 6 Summary information about the AAA social media platforms used by respondents presented as percentages. The left column presents responses to the select-all-options-that-apply question, 'Which AAA online platforms do you use regularly?' The right column presents responses to the single-answer-only option question, 'Which of the AAA online platforms do you use most often?' (n=260). While 6.2% of respondents noted that they did not use any of the AAA platforms regularly, they must indeed have used at least one of them sporadically or otherwise would not have found and completed this survey.

Unpacking how the different AAA online platforms are used, and by whom, allows us to understand better in what combinations they are used, which will enable us to make informed decisions on how the Association chooses to disseminate information in the future. Data show that 34% of respondents used only one platform, predominantly the website, though this trend does broadly correlate with age (Table 1), with users under 30 more

² As at 1 March 2015 the AAA Facebook page had 3273 likes.

likely to use multiple platforms to access information. Forty-two per cent of respondents used at least two platforms, with 18% using the three most popular platforms (i.e. website, email list and Facebook); only 6% use all four (Table 2). Almost one-quarter of all respondents (18%) used either the website or email list in conjunction with social media accounts, and only two people used Facebook and Twitter in isolation.

Only one in five respondents reported checking AAA online content daily, with most checking several times a week or less (Figure 7). In terms of how much 'interaction' people have with posted items through commenting, liking, sharing or retweeting, most are generally happy to listen and not actively engage with content: 48% reported 'not often' interacting and a further 20% only 'slightly' engaging (Figure 8).

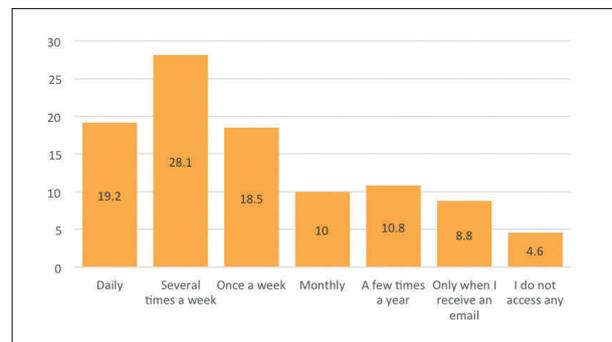


Figure 7 Responses to the single-answer-only option question, 'How often would you normally access any of these AAA online platforms?', presented as percentages (n=260).

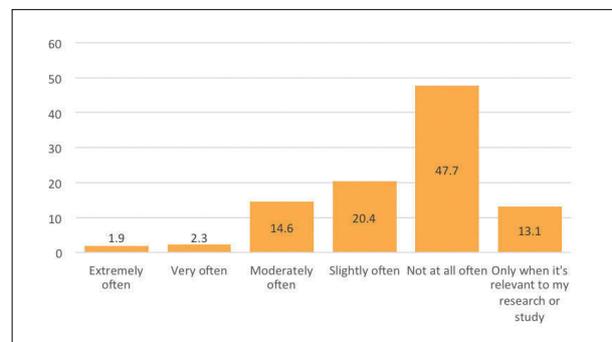


Figure 8 Responses to the single-answer-only question, 'In a typical week, about how often would you comment or interact with (e.g. like, share, retweet) content that AAA posts?', presented as percentages (n=260).

The Most Valued Content

For the purposes of this survey we divided AAA content into ten primary categories based on what was commonly posted by AAA to the website, email list and social media accounts. Amongst the variety of content shared across the AAA platforms, six out of ten categories were identified as being most valued by survey respondents:

- General AAA announcements (74%);
- Information about the AAA annual conference (69%);
- *Australian Archaeology* journal content, including editorials, tables of contents and announcements (62%);
- Seminar announcements (56%);
- Training and professional development opportunities (52%); and,
- Job advertisements (50%).

Age Range	Website		Email List		Facebook		Twitter		Proportion of Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
18–22	1	25	1	25	2	50	0	0	4/23	17.4
23–29	3	43	1	14	3	43	0	0	7/39	17.9
30–39	9	35	8	31	8	31	1	4	26/64	40.6
40–49	7	37	5	26	5	26	2	10	19/50	38.0
50–59	11	65	4	24	1	6	1	6	17/42	40.5
60+	6	54	5	46	0	0	0	0	11/26	42.3
Gender										
Female	22	43	17	33	10	20	2	4	51/155	32.9
Male	13	48	5	19	7	26	2	7	27/86	31.4

Table 1 Respondents who use only one AAA platform by age and gender. For age (n=82) the data exclude those who reported not using any AAA platform. For gender (n=78) the data exclude those who reported not using any AAA platform and those who did not report a binary gender.

Respondents	Website/Email	Website/SM	Email List/SM	Both SM	Website/ Email List/Facebook	All Platforms
Number	38	29	31	2	44	15
Percentage	16	12	13	1	18	6

Table 2 Number of respondents and percentage of total respondents who use multiple AAA accounts in tandem (n=244; this excludes those who reported not using any AAA platforms).

In an attempt to understand whether respondents would like to see more news-style content from AAA, which at the time of the survey was only shared on social media, three additional categories were added to a question about the content of which survey respondents would like to see more. The most popular responses included:

- General Australian archaeology and heritage-related content (67%);
- General international archaeology and heritage-related content (49%);
- Training and professional development opportunities (41%);
- Book reviews (36%);
- Volunteer opportunities (34%); and,
- Job advertisements (34%).

With respect to the value that users assigned to the content of information posted, the ‘reach’ of Facebook posts provides a secondary indicator (please note that similar metrics are not freely available through Twitter). During 2013, each Facebook post reached an average of 366 unique individuals and had an average engagement (i.e. any click on a post, such as liking, sharing, opening a link or commenting) of 21 unique individuals. These averages mask some substantial spikes in page activity and interactions on 18 March (2453 individuals), 3 May (2357 individuals), 18 June (2613 individuals), 22 July (3314 individuals) and 11 November (2131 individuals), all the results of single posts on each day (Figure 9 and Table 3). What these particular figures reveal about the value of social media in disseminating archaeology-related news, and understanding the specific kinds of content that are most popular with AAA’s Facebook users is considered in the Discussion.

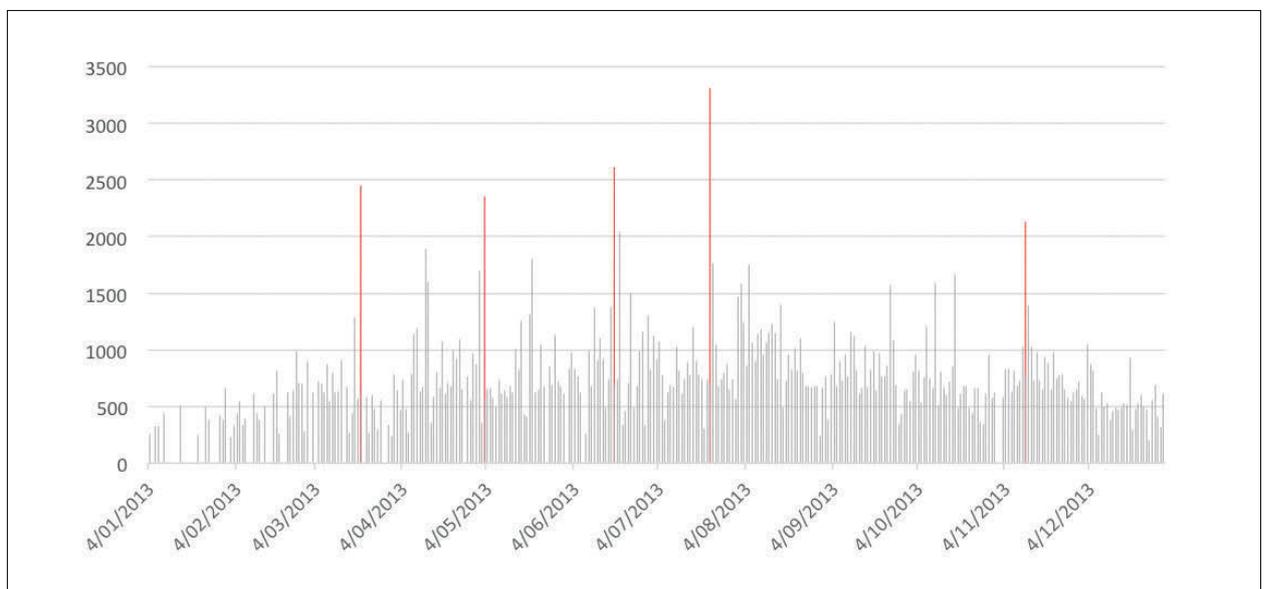


Figure 9 Lifetime reach for each AAA Facebook post in 2013; extreme peaks are highlighted in red.

Post Summary	Type	Reach	Comment	Like	Share	Date
Passing of Prof. Mike Morwood	Status Update	3314	31	42	20	22 July 2013
Information about the screening of <i>First Footprints</i> on the ABC	Status Update	2613	10	76	28	18 June 2013
A humorous look at fictional archaeologists	Link	2453	17	73	23	20 March 2013
Dr Alice Gorman's (aka @DrSpacejunk) TedX talk	Photo	2357	21	145	16	3 May 2013
Thesis abstracts published in <i>Australian Archaeology</i> since 2002 available online	Photo	2131	22	101	23	11 November 2013

Table 3 Top five (by number of users reached) AAA Facebook posts during 2013. (These figures were eclipsed in the first half of 2014 with a humorous post on 13 May 2014 that reached more than 25,000 people and a serious post on the destruction of graves in South Australia on 20 October that reached more than 35,000 people. AAA Facebook posts now routinely reach more than 2000 people each week.)

Personal Social Media Use

In terms of their personal social media use, 62% of respondents reported using social media for personal or general use. If we graph this trend by age, as shown in Figure 10, there is some correlation between youth and personal social media use or, rather, an inverse correlation between older age groups and social media use, with higher proportions of those aged 40 years and over reporting non-engagement with social media.

Amongst those respondents who do use social media for personal purposes, almost 100% of respondents in each age category used Facebook. Use of other platforms is more sporadic, for example, LinkedIn (a professional networking site) is most popular with those aged 23–59 years—the prime working age. Use of Academia.edu (a networking

site aimed specifically at academics/researchers) is more popular with users aged 23 years and older. It is interesting to note that Twitter was used for personal purposes (i.e. non-archaeology related) by 28–53% of survey respondents (Figure 11), despite only 15% of all respondents using the AAA Twitter account (Figure 6)—we discuss possible reasons for this disconnect in the Discussion.

Discussion

While the number of respondents to the Survey might seem low given the high number of potential respondents, it is generally no worse than the level that might have been expected from any other survey type (cf. Evans and Mathur 2005; Fricker and Schonlau 2002), allowing us to explore the current value and use of AAA's online presence. Specifically, we were interested in the composition of the audience, what this tells us about this group's use of online media more generally, how these people use the Association's various online platforms, which platforms are preferred, what kinds of content are most valued and how these insights might be used by the Association to tailor online media to serve better the membership and the wider public.

Characterising AAA Online Media Users

Three years ago, Colley (2013) carried out a survey of Australian archaeologists—some of whom were conceivably amongst our survey respondents—who reported they saw social media as being the domain of 'younger' people. The age range of our survey respondents (i.e. 50% aged 40 years and older) indicate that simple, artificial dichotomies that separate online media users into 'natives' (i.e. younger

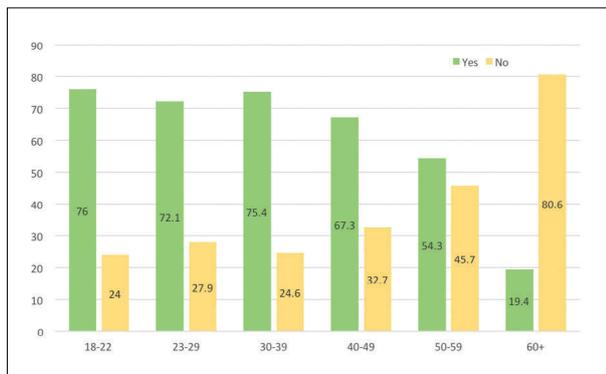


Figure 10 Responses to the question 'Do you use or engage with social media for personal use?' broken down by age categories and presented as percentages (n=274).

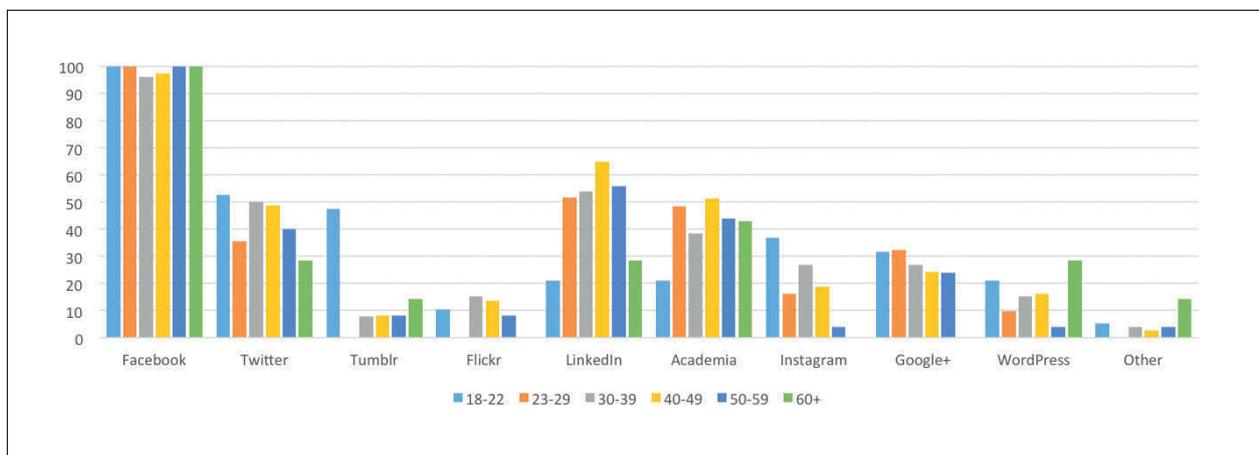


Figure 11 Responses to the question 'Which of the following social media platforms do you use or maintain a profile on?' (n=171, i.e. those who responded affirmatively to using social media for personal use).

users who have been surrounded by these technologies all their lives) or ‘immigrants’ (i.e. older users who were not born into a digital world) (Prentsky 2001), are inadequate for fully explaining the patterns apparent in our data. Half of AAA’s users would be categorised as digital immigrants, and yet our data indicate that some of the Association’s most active audience members are amongst this group; thus age alone is not a robust indicator of the likelihood of a person using social media (see also Kaplan and Haenlein 2010). Rowlands et al. (2011:188) saw ‘the *real* difference between old and young’ users as being ‘the passion exhibited for social media by the young: for them there was more to it than simple use. It was also about a philosophy, a culture’ (original emphasis). The Survey data suggest that young archaeologists are not ‘better’ or more actively or passionately engaged with social media simply by virtue of their age; the (anecdotally known) lack of uptake of social media by archaeology students in Australia suggests this is far from the truth. Not only does this highlight the value of doing targeted audience research rather than relying on generalisations, it also indicates an interesting factor when tailoring content for archaeology audiences.

In the younger age categories there was an overwhelming majority of females compared to males, a trend that levelled out after the age of 30 and then reversed as age increased (Figure 2). These results mirror the general disciplinary gender trend that sees large numbers of young females at entry level, but a dominance of males in older age categories as female attrition, owing to a range of causes, takes effect (Smith and Burke 2006; Ulm et al. 2005, 2013; see also Bowman and Ulm 2009). However, in terms of respondents who use social media for personal (as opposed to AAA-specific) use we do not find any gender-based distinction among our younger users (Figure 10). These results are congruent with those of Rowlands et al. (2011:189), who found that there was no statistical difference in the gender up-take of social media.

The high proportion of young females (and young people in general) using AAA online media raises certain issues for how the Association approaches online communication. A recent survey by Perry et al. (2015) of international archaeologists’ online experiences indicated a worrying lack of reporting and protection measures to deal with online harassment, which they convincingly argue fuels inequalities within the discipline. One recent initiative of AAA with regards to the Association’s use of online media has been the implementation of specific policies that provide explicit guidelines about content and expectations of user behaviour on AAA platforms. This initiative was requested by AAA’s insurance provider, and was agreed by the Executive and IT Subcommittee as necessary to minimise potential risk to the Association and its members. These policies are clearly available and highlighted on all platforms (including the social media accounts; <<http://australianarchaeology.com/website-and-social-media-policies/>>), and have been circulated to AAA members. This makes AAA somewhat unusual, as it appears that the majority of archaeological organisations using these platforms rarely have explicit policies dealing with online conduct to which they adhere (see Pett [2012] for an example from the British Museum)—despite the advice of Pearson (2012) that all users should familiarise themselves with the current legal situation and consider the associated risks of engaging online. The strong

use of AAA’s online media by young women emphasises the importance of these innovations, all of which enable AAA to ensure that users are protected when engaging with AAA online.

There is a strong divergence between the location and occupation of our survey respondents (e.g. 97% of whom were based in Australia and the majority of whom reported being involved in archaeology to some extent), versus our full complement of Facebook and Twitter followers. This disconnect is demonstrative of the wider appeal of Australian archaeology—and archaeology generally—to non-Australians and non-archaeologists. Given that the survey was distributed by, and on behalf of, AAA, it was perhaps unsurprising that the majority of our survey respondents were in fact archaeologists. However, the make-up of AAA’s Facebook and Twitter followers suggested we might have expected a much broader range of respondents. Given that most respondents *were* Australian archaeologists, our data reflect a subset of our users, but this, in itself, is interesting in that so many members of the non-archaeology audience chose not to complete the survey. Why this might be is not clear, though in addition to other general reasons for low survey response rates suggested by Evans and Mathur (2005), we posit that they may have seen the survey as ‘academic exercise’ for AAA members that in some way did not apply to them, despite our assurances that we were particularly interested in the opinions of non-archaeologists. While it seems that our broader social media audience is indeed interested in what we do, they are not yet engaged enough to participate in AAA activities, such as responding to surveys or becoming members. The lack of international and non-archaeology respondents means that we cannot speak directly to what such individuals currently value or want from AAA. While continually increasing social media follower numbers indicate an inherently positive response to AAA’s online activities, how we might better engage with, and become more inclusive of, our diverse audience remains frustratingly unclear. Nevertheless, we argue that this issue is worthy of further consideration in order to achieve the mandate of publicising the work of the Association more broadly, and helping to foster public engagement and interest in heritage, especially Australian heritage.

Public engagement through social media is particularly pertinent because, in the current political climate where there is a prioritisation of development and economic growth often at the expense of cultural heritage places (both Indigenous and non-Indigenous), there are only a small number of people willing to advocate publicly for heritage and usually only in extreme circumstances. In 2014, for example, a repeal sought over large areas of the Tasmanian World Heritage area (see Baxter 2013; Fairman and Keenan 2014)—supposedly to facilitate the growth of the timber industry—faced immense public criticism and outrage and likewise the actions of local councils in South Australia reusing graves in crowded cemeteries (Wallis et al. 2014). However, in most other situations the Australian public do not appear to be routinely invested in cultural or archaeological heritage. We argue that the online presence of AAA, along with other organisations and individual archaeologists, will come to play a critical role in fostering greater public engagement with, and understanding of, what archaeologists do, the value of our work and why archaeological heritage matters.

Academics and Consultants: Traversing the Binary Online

Based on UK research, Richardson (2012) theorised that the early adopters of social media would be those with reliable internet access and typically a desk job. While most academic Australian archaeologists would seem to fit these criteria, only a small proportion of this group completed our survey. This result is in line with the findings of Colley (2013), who documented a reluctance amongst Australian academic archaeologists to use social media. Despite increasing requirements for academics to demonstrate evidence of community engagement and ‘impact’, we suggest a lack of genuine recognition and/or benefits from universities, ranking systems and funding bodies for doing so may make already overtasked academics reluctant to accept another addition to their workload (cf. Mewburn and Thomson 2013).

In distinct contrast to academics, our survey results show a strong uptake of social media platforms by individuals employed in the archaeological consulting industry. Consultants are another group of individuals who fit Richardson’s (2012) early uptake criteria, since many, while often engaged in fieldwork, also spend long periods of time in the office. We suggest the uptake of social media by these professionals is perhaps demonstrative of the value of social media in helping them keep up-to-date with industry news and as a means by which they can engage in public outreach. Worryingly, however, we wonder whether our survey results may represent a continuing perceived separation between the consulting and academic realms of archaeology in Australia (cf. Gibbs et al. 2005; Lydon 2002; McBryde 1980).

We also note here that, while our survey required individuals to select their *primary* occupation, resulting in the separation of respondents into three main categories (academics, consultants and students), for many these boundaries are more fluid. Many postgraduate students, for example, are engaged in the academic sphere through their research but might also participate in paid consulting work to supplement (or provide) their income. One of the great challenges and opportunities of archaeological online media is to provide content that is transferable and understandable in multiple contexts (i.e. both within archaeology and outside for the various publics with whom we seek to engage [Holtoft 2007]); for the AAA platforms specifically it is essential to ensure that we provide content that is tailored to our entire audience, rather than being focused on any one subgroup.

Elsewhere, presenting archaeological research in blog form is an increasingly common form of public outreach (e.g. Rocks-Macqueen and Webster 2014). A non-disciplinary specific, international survey conducted in late 2010 by Rowlands et al. (2011) of 2414 individual researchers considered how social media was impacting (or not) researcher workflows, and how influential factors such as age and gender were in shaping the demand for social media. Results were telling: nearly 80% (n=1923) of researchers were actively engaging in social media (Rowlands et al. 2011:184), which highlights how unusual is the seeming reluctance of Australian academic archaeologists to adopt social media. The translation of academic research into material suitable for general consumption often requires the specialist language and content to be removed and the more ‘marketable’ and ‘exciting’ aspects to be featured (Aitken 2013). To some extent this is what AAA is attempting to

achieve through publishing blogs based on papers in the Association’s journal *Australian Archaeology*.

Diverging for a moment, the question has been asked as to whether the use of social media in fact attracts new audiences or whether it merely increases the frequency of interactions with an existing audience (Pilaar Birch 2013). For example, Richardson (2013b) noted that there is a rather closed community on Twitter, with professional archaeologists tending to tweet and retweet each other, rather than engage with non-archaeologists. Our data shows a very similar trend, with the majority of our responding audience being currently or formerly associated with AAA. However, it is encouraging to note that about 20% of our survey respondents were individuals who appeared to have no current or former association with AAA. Further, AAA’s Facebook user numbers—which are now more than triple our membership numbers—demonstrate clearly that we are reaching a wider audience with social media than we do through our website and email list, which are traditionally only used by members of the Association. Perhaps, in terms of using social media to publicise the work of the Association, these ‘new audience’ members are our most important demographic. Future surveys or some form of focus group discussions with these users would be valuable in ascertaining how they found AAA and what they, in particular, value about its online offerings; unfortunately, this was beyond the scope of the 2013 survey.

Are There no Twits in Australian Archaeology?

In 2013 an estimated 500 million tweets were sent each day (up from 140 million per day in 2011), and the average number of followers per user was 208 (Smith 2014), although the fact that many celebrities have millions of followers somewhat skews the data. In comparison, AAA’s Twitter presence (as at 1 March 2015 n=1283 followers, up from 982 as at 31 December 2013) is reasonably modest.

Richardson (2012:10) found that ‘the number of archaeologists using the platform [Twitter] remains small and unrepresentative, with around 1000 archaeological users, heavily concentrated in the UK and USA, and predominately from desk-bound work in commercial archaeology companies, museums and academia’. This snapshot also appears representative of the AAA online audience, with relatively few of our respondents using Twitter. The discrepancy between the numbers of survey respondents who use Twitter, and the number of people who follow the AAA Twitter account, is worthy of consideration. We would argue that the few Twitter users in our survey data are perhaps the early adopters of this platform, while the majority of archaeologists are waiting to ascertain its value.

What Content do Users Most Value?

Striking a balance between important content and more humorous material is a serious consideration on social media. It is unsurprising that serious news, such as the death of Professor Mike Morwood in 2013, reached thousands of people; it is expected that the passing of an extremely well-known Australian archaeologist with an international profile would have a great reach on social media. This reflects the sometimes serious responsibility of social media to share such news in an appropriate manner. It is also illuminating to see important news items, such as announcements of the *First Footprints* documentary series, and the availability of thesis abstracts online, proving very popular alongside some of the

more light-hearted content (archaeology-themed cakes, for example, are perennially popular).

While the AAA social media audience does indeed have a serious interest in archaeology, we must remember these platforms are also for personal use and, rather than replicating an academic research environment or professional business context, archaeologists should seek to provide audiences with a balance of content and tone when communicating through these platforms. In many respects it is a trade-off: the sharing of cartoons, humorous articles and light news stories allows us also to share critical, but usually drier, information on the business of the Association (e.g. membership reminders, conference news, calls for comment on legislative reforms) without losing the audience's attention or loyalty. This also relates to the issue of 'broadcasting' in online communication. Richardson (2012:6) noted that, 'Archaeologists that use Twitter in the workplace have commented during my research that the practice of using official organisational accounts as a method to only 'broadcast' archaeological information, rather than construct dialogue with the wider tweeting public, has restricted the development of meaningful public engagement.' The extent to which the AAA is able to construct a dialogue in this way is limited. While comments and discussion through the Facebook page in particular are encouraged, the extent to which the AAA Facebook page managers engage in discussion with the public is limited to answering questions or providing more information to accompany a news story. The use of sign-offs by page managers on AAA social media (i.e. finishing a post with the manager's initials) has made it easier to comment on the interest value of the content and to be more engaging without necessarily speaking on behalf of the Association, which partially deals with this problem. The issue of broadcasting and how to facilitate deeper forms of engagement with the broader public requires serious thought, and particularly so for professional organisations and individuals representing themselves as professionals online who need to operate within their legal obligations (see also Pett [2012] for more detailed comments on these issues in regards to the museum sector).

Where to Now? Strategies for the Future

The results of this survey have provided some important insights that will help the Association to make best use of its existing platforms, as well as inspiration on how to proceed in future. For example, the low percentage of respondents who access the AAA Twitter account raises the question: is Twitter really relevant to Australian archaeologists? Or are there still lingering suspicions of it as generally frivolous and a waste of time that place a barrier against its wider adoption (see Richardson 2013a)? The increasing levels of engagement on the AAA Twitter account through time indicate that there is an engaged audience using this platform, despite their not being well represented in the Survey. This discord suggests that we need to rethink how AAA uses Twitter to make it more engaging and differentiate it from other social media platforms. Thus, in early 2014, as the (then) current AAA social media officers, we reconsidered our approach to the use of Twitter and started using the social media management tool Hootsuite. Rather than automatically directing our Facebook posts to Twitter, Hootsuite allows us to schedule posts and tailor our content to the specific platform (e.g. including more text for Facebook, and incorporating hashtags and user handles on Twitter); thus far our impression is that

this strategy has been very successful in facilitating more engagement on Twitter, as indicated by the vast increase in followers through 2014 and into 2015.

The fact that almost 100% of survey respondents on social media use Facebook, regardless of age, indicates that social media are beginning to overtake traditional platforms for disseminating information. In the case of AAA this is the website and email list (see Richardson [2012, 2013a] for the UK). This also suggests that attempts to reach online audiences effectively and efficiently must pay attention to Facebook, as it consistently proves to be the most popular platform. However, care must be taken not to disregard the users of traditional platforms, many of whom are unlikely to use Facebook and probably did not participate in the Survey. Determining why such people choose not to engage in social media will require a different survey approach than that adopted here.

Recent studies have suggested that the popularity of Facebook will not be sustainable over the long-term, with Cannarella and Spechler (2014) citing the demise of MySpace as a key example of how quickly social media platforms can fade into obscurity. Using epidemiology models that equate social media use with 'infection' and their abandonment with 'recovery', Cannarella and Spechler (2014) suggested that Facebook has already entered into the recovery phase, predicting a rapid decline in its use over the next few years. This model is supported by Miller (2013), who suggested that younger social media users are leaving Facebook for other platforms, such as Reddit and Snapchat. However, at least to date and in the short-term future, AAA Facebook and Twitter data show no such decline in the users of these platforms. Our number of Facebook likers is more than triple that of the membership of AAA—this is extremely promising in terms of AAA meeting its mandate of publicising archaeology more broadly. However, in comparison to Facebook pages about science generally (e.g. 'I Fucking Love Science', with 19,907,346 followers at the time of writing) and heritage more specifically (e.g. 'Archaeology News', with 85,206 followers at the time of writing) we still have room to grow.

The data generated from the Survey have shown that not all respondents access AAA platforms every day, which has important implications for ensuring that we are reaching our intended audiences (archaeologists and the broader public interested in archaeology) and communicating critical information. The turnover of information delivered via the website and email list (primarily official AAA-related information intended for AAA members and Australian archaeologists) is relatively slow, and thus checking these platforms only a few times a week does not pose any great risk that users could potentially miss important information. In contrast, for Facebook and Twitter on any single day we may share up to 10 news stories, blog posts or updates. Thus, users who only access these platforms a few times a week or less run the risk of missing a great deal of content. One way that we have attempted to alleviate this concern is by repeating posts, sometimes with multiple postings for information we consider to be of high importance (given the mandate of AAA and its social media policies, this is generally content that is directly related to AAA business, such as conference announcements and AAA deadline reminders). In the case of upcoming events, an online calendar has also been integrated into the AAA website <<http://australianarchaeology.com/blog/events-calendar/>>

to allow users to see all of the current archaeology-related events being advertised through the Association; in this way it does not matter that a user may not have seen the specific announcement about an upcoming lecture, so long as they occasionally check the calendar to access this information when it suits them.

Regarding the low levels of *active* engagement with posts, and whether this is an issue that needs to be addressed and rectified, there are several ways to read and respond to the trend of 'listening' (sometimes unproductively referred to as 'lurking'), i.e. reading and receiving, but not otherwise engaging with content on social media. Given that social media research on user interactions indicates that the majority of users fall into this category (see Crawford 2009; Nonnecke and Preece 2003), we are not concerned that our data indicates that the Australian archaeology audience largely follows this trend—we regard this as normal and are not seeking to change this behaviour but simply to understand and cater for audience needs and wants in the hope of better facilitating public engagement.

While platforms such as LinkedIn, Flickr and Tumblr are commonly used by archaeologists in our survey, it is unlikely that the Association will make use of them, as they either do not provide substantially different services to the current platforms or are aimed more at individual networking and discussion, in which the Association cannot participate. Establishing an Academia.edu presence for our journal, *Australian Archaeology*, however, would be useful and indeed is currently being investigated by the Editorial Committee. A range of authors and organisations have demonstrated the value of YouTube for online engagement: for example, Colley and Gibbs (2013) highlighted the ability of YouTube to function as a highly effective education tool for archaeologists in the classroom, while Pett (2012) highlighted its value for engaging with the broader public in the museum sector. The work of public education groups, such as ArchaeoSoup and DigVentures, who successfully use this platform further emphasises its value, therefore we suggest that YouTube (and/or other video sharing platforms) should be considered for the future online expansion of AAA and Australian archaeology more generally.

Conclusion

If archaeologists are to be successful in public engagement through online media then they need to be prepared to engage with audiences on their terms. As Kaplan and Haenlein (2010) have demonstrated, it is critical for organisations to attempt to blend in with their audiences on social media, remembering that the majority of users also use these platforms in their personal lives. While the AAA website and email list conform strictly to the expectations of any other professional organisation, it is through social media that the Association is able to engage directly and informally with its diverse audience, thus cementing the place and role of AAA as a valued source of archaeological information. A critical aspect of making effective use of social media relates to the importance of retaining a 'personal voice'. The spelling and grammatical errors that often occur in Facebook posts and tweets alongside comments on interest value and responses to questions make it clear that there are real people behind the Association's social media platforms, personalising what can sometimes appear to be an otherwise anonymous or authoritarian digital presence.

In terms of how to handle the dissemination of information, it is clear that AAA's social media platforms will never replace the Association's website or email list, for which they were certainly not intended. The findings of this survey reinforce existing practices of sharing key information through a variety of channels that include, but are not restricted to, social media, as well as making clear a definite, and growing, role for Facebook and Twitter in public engagement.

Overall, the results of the Survey are encouraging, in that the vast majority of AAA's audience seems to value and appreciate the AAA website and social media accounts. As social media continues to grow in importance across a range of spheres it is critical that archaeologists use these media in an informed manner. Furthermore, AAA needs to take the time to understand who the online audience is, and what they want and value if it is to continue this successful venture. Future work on AAA's website and social media should involve:

- Continuing to improve the AAA website by making it easier to navigate and ensuring that it delivers more of the content that people value;
- Continuing to publish blog posts on the AAA website to provide valuable archaeological resources for the public and interesting content for AAA members;
- Balancing content and moving away from simply broadcasting on Facebook; and,
- Seeking ways to improve and distinguish the Association's use of Twitter.

Future research that needs to be undertaken includes conducting surveys with a range of people not captured by the present data, including those who do not use social media to access archaeological information and non-Australian and non-archaeology audience members. This was beyond the scope of this paper and the Survey, but would be critical in designing strategies to continue to improve into the future.

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