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[Valuing rock art: a view from Northumberland in North East England.](#)

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Aron Mazel – Short Biography

Aron Mazel is a Reader in Heritage Studies in the Media, Culture, Heritage (MCH) subject area at Newcastle University (UK). Aron had a 25-year career in archaeological research and heritage and museum management in South Africa (SA) before he moved to the UK in 2002. His primary research activities in South Africa revolved around the documentation and management of the uKhahlamba-Drakensberg rock paintings and the excavation of 15 rock shelters in the Thukela basin. Posts he held in SA included Assistant Director of the Natal Museum (1994-1997) and Director of the SA Cultural History Museum (1998-2002). In the UK, Aron managed the Arts and Humanities Research Board funded Beckensall Northumberland Rock Art Website Project at Newcastle University (2002-2004), which won the 2006 Channel 4 ICT British Archaeological Award. Since 2009, Aron has been the Principal Investigator on two Arts and Humanities Research Council (AHRC)/ Engineering and Physical Sciences Research Council and one AHRC funded projects dealing with (i) the decay of rock art and (ii) the interpretation of rock art using mobile phones. In addition, he has co-led a European Commission funded project dealing with the safeguarding of heritage in the UK, Guyana, Kenya and China. Book publications during the last decade include *Tracks in a Mountain Range: exploring of the history of the uKhahlamba-Drakensberg* (2007, with John Wright), *Art as Metaphor: The Prehistoric Rock- Art of Britain* (2007, co-edited with George Nash and Clive Waddington), and *uKhahlamba: Umlando wezintaba zoKhahlamba/History of the uKhahlamba* (2012, with John Wright).

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Valuing rock art: a view from Northumberland in North East England

Abstract

Since the turn of the millennium three rock art projects focusing primarily on Northumberland in the United Kingdom (*Northumberland Rock Art: Web Access to the Beckensall Archive*, *Rock Art on Mobile Phones* and *Heritage and Science: working together in the CARE of rock art*) have made information and images widely available to the public via the Internet. All three projects were strongly underpinned by the ethos expressed in the Faro Convention and the Ename and Burra Charters that the value of cultural heritage should be enhanced by interpretation. This paper investigates the responses to these digital media initiatives, showing that they have increased the reach of this ancient rock art resource to large numbers of people in United Kingdom and Ireland, and globally. In addition, it reveals that having made these heritage resources available online, they have created a further desire among people to engage with the rock art virtually with the increased possibility of following this up with an *in situ* visit.

Key words: rock art, Internet, virtual, interpretation, value

Introduction

A key tenet of the Council of Europe *Framework Convention on the Value of Cultural Heritage for Society*, 2005 (hereafter, Faro Convention) is that the parties who signed up to it should, on the one hand, undertake to “enhance the value of the cultural heritage through its identification, study, interpretation, protection, conservation and presentation” (Article 5b) and, on the other hand, “develop the use of digital technology to enhance access to cultural heritage and the benefits which derive from it” (Article 14). According to Fairclough (2011), the convention treats cultural heritage as a resource to be consumed, even if in the process it might be “eroded” or possibly even “used-up”. Furthermore, Fairclough (2011) suggests that the overarching value of heritage resources derive from the notion that people, individually or collectively, will benefit from either engaging with it or simply knowing it exists. The understanding of “value” in this paper draws on Fairclough’s (2011) insights along with that of de la Torre (2005) who proposes that it involves the attribution of positive traits to heritage items and locations by a range of stakeholders, including governing authorities, and legislation and regulations.

At roughly the same time as the Faro Convention (2005) was promulgated, the International Council on Monuments and Sites (ICOMOS, 2008) launched the *Charter for the Interpretation and Presentation of Cultural Heritage Sites* (hereafter, Ename Charter), to “define the basic principles of Interpretation and Presentation as essential components of heritage conservation efforts and as a means of enhancing public appreciation and understanding of cultural heritage sites.” In the same year, the English Heritage (EH) Conservation Principles (2008) emphasised that the historic environment is a shared resource and that everyone should be able to participate in sustaining the historic environment and understanding the significance of places, while the Burra Charter developed by Australia ICOMOS (2013, Article 25, original emphasis) stressed the importance of interpretation by noting that “The *cultural significance* of many *places* is not readily apparent, and should be explained by

interpretation. Interpretation should enhance understanding and engagement, and be culturally appropriate.” Drawing on the Burra and Ename Charters and the Faro Convention, the term “enhance” is used in this paper to convey a variety of sentiments, such as communicating the significance of heritage objects and places, as well as heightening public engagement, appreciation, respect, and personal experience of them.

The emergence of interpretation as an increasingly important component of heritage management formed part of the significant shifts that occurred in this field in the latter half of the twentieth century. According to Hall and McArthur (1998), there was an increased focus on the need for interpretation associated with the growing acknowledgement of the human dimension of heritage, while still recognising the importance of the physical conservation of heritage sites. This development was accompanied by the growing appreciation of the relationship between interpretation and heritage value, which has been defined in the EH Conservation Principles (2008) as an “aspect of the worth or importance attached by people to qualities of places, categorised as aesthetic, evidential, communal or historical value.” An example of this relationship is provided by Grimwade and Carter (2000, 34) who proposed that heritage value is enriched through interpretation, where the values associated with a heritage place is generated not only through conservation actions, but by ensuring that it has meaning for the communities who live and work in it. Linked to this, Samuels (2008: 71) has also suggested that value “is increasingly central to discussions about ethical archaeological practice, heritage, and interpretative reconstructions of the past”, while Harrison (2013, 64), following Byrne (1991), argued that the notion of the “universal significance of heritage values” is, in part, underpinned by the understanding that people are interested and concerned about the conservation of heritage resources in countries other than their own; in other words, that “certain aspects of heritage transcend physical and political boundaries.”

As recognized in the Faro Convention, the Internet offers a powerful means through which to interpret information and images about heritage resources for diverse audiences who either live in close proximity or distant from the resource being presented (Article 14). The digitization of resources has lent additional value to this process, especially at it enables the re-purposing of archival resources that were created prior to the digital revolution. This is particularly the case with collections that have inherent lasting value, which lend themselves to reuse (Lynch 2002). Extensive datasets and visual material (i.e. heritage resources) can now be placed online in new formats that provide positive experiences to larger and more diverse audiences than previously. Furthermore, Navarrete (2013, 253) has noted that digitization has promoted new types of representations of cultural heritage and influenced a growth in the variety, supply and use of heritage resources and products as well as the expansion of “new cultural heritage experiences.” It is also being recognized that engagement with cultural activities is increasingly taking place in the home via the Internet (Crossick and Kaszynska 2016).

One heritage resource that particularly lends itself to digitization and virtual interpretation is that of rock art, largely because its overall exceptional visual qualities enable the creation of a powerful connection with past human societies. The county of Northumberland in North East England is particularly well endowed with rock art carvings, which have been comprehensively recorded using different media since the

1960s. These carvings form part of the British and Irish open-air Neolithic and Early Bronze Age abstract rock art tradition, which dates from about 6000 to 3800 years ago, with over 1200 panels known in Northumberland. The rock art was made using a variety of picking or pecking tools; recently uncovered carvings show that some individual pick marks were made with a fine nail-like point and others with a broad chisel, with various ranges in between. Most of these panels still occur *in situ* (Figure 1) but some have been relocated to museums. <Place Figure 1 here>

Since the early 2000s three initiatives have set out to interpret Northumberland carvings to a wider world via the Internet:

- (i) *NRA and NADRAP* - data rich websites with extensive interpretive material (*Northumberland Rock Art: Web Access to the Beckensall Archive* <http://rockart.ncl.ac.uk>; 2002-2004, and the *Northumberland and Durham Rock Art Pilot* project <http://archaeologydataservice.ac.uk/era/>; 2004-2008)
- (ii) *RAMP* - a mobile website that enables people to obtain information about local rock art on their mobile devices at selected sites in Northumberland (*Rock Art on Mobile Phones* (<http://rockartmob.ncl.ac.uk>; 2010 and 2011))
- (iii) *RAUKI* - a Facebook page entitled Rock Art of the UK and Ireland (<https://www.facebook.com/RockArtOfTheUKandIreland>; 2013-ongoing) which was created as part of the *Heritage and Science: working together in the CARE of rock art* project (2013-2014).

These Internet-based initiatives have had a significant impact by exposing this heritage resource to extensive local, national and international audiences many of whom were previously unaware of the rock carvings (Mazel and Ayestaran 2010; Mazel et al. 2012). A common thread running through all three projects was the desire to openly share and interpret information about Northumberland rock art, including locational data, to promote its understanding, appreciation, value and safeguarding. The provision of accurate rock art locations to the public is a longstanding tradition in Northumberland and has not resulted in deliberate or inadvertent damage to the carvings other than on a minor scale. Indeed, the author recorded past damage and current threats to 575 Northumberland rock art panels during the NRA project and observed only one instance of recent graffiti and another of chalking (Giesen et al. 2011). It is appreciated that the three initiatives considered in the paper postdate 2004, however, only one instance of inadvertent damage to a Northumberland rock art panel has come to light since 2005 (Henderson 2014).

In the next part of the paper background context to NRA, RAMP and RAUKI will be provided. Thereafter, the public response to these virtual resources and some of the implications of this will be investigated. It will be shown that the initiatives have reached extensive audiences and significantly enriched the value of the heritage resource.

NRA, RAMP and RAUKI: objectives

NRA

This project was inspired by the extensive rock art recording done by Stan Beckensall, since the mid-1960s, who forged strong working relations with colleagues

at Newcastle University (NU) in the early 2000s. This resulted in NU obtaining an Arts and Humanities Research Board (AHRB) Resource Enhancement Grant to make Beckensall's Northumberland rock art archive accessible to the public via the Internet (Mazel and Ayestaran 2010). NRA's primary goal was the creation of a well-structured and user-friendly website, supported by a database, to enable potential research, educational outreach, and greater public access and understanding of Northumberland carvings (Mazel and Ayestaran 2010). It was premised on the understanding that the creation of an academically rigorous and attractive website with broad appeal could promote future research and support management practices. The entire Beckensall Northumberland archive was made available, which included 1060 rock art panels and 6000 images. The only data excluded related to the identification of individuals in order to avoid potential conflict with data protection legalities. Furthermore, the NRA helped inform the development of the England's Rock Art (ERA, <http://archaeologydataservice.ac.uk/era/>) website, which initially focused on Northumberland and Durham but has been expanded to include carvings from Yorkshire.

RAMP

NRA laid the platform for the RAMP project, funded by an Arts and Humanities Research Council (AHRC) Digital Equipment and Database Enhancement for Impact grant to increase impact from digital research outputs, which had been established with AHRC or AHRB support. Building on the success of NRA and the *Northumberland and Durham Rock Art Pilot Project* (Sharpe et al. 2008), RAMP aimed principally to provide Northumberland countryside visitors with serendipitous access to *in situ* rock art interpretation on their mobile devices. This was achieved through the development of a mobile website so that the interpretation provided would be available on all Internet enabled devices (<http://rockartmob.ncl.ac.uk/>). The interpretation was implemented at three rock art areas in Northumberland and included eight rock art panels (Mazel et al. 2012; Galani et al. 2013). RAMP built on NRA's emphasis on enabling visual access to the rock carvings through the provision of images to enhance the public's engagement with the heritage resource. This included annotating images to highlight various aspects of the carvings that might not otherwise have been evident to its users.

RAUKI

NRA and RAMP highlighted many of the management challenges faced by this heritage resource and, thereby, played a significant role in the creation of the *Heritage and Science: Working Together in the CARE of Rock Art* project, which was jointly funded by the AHRC and the Engineering and Physical Sciences Research Council (EPSRC). In 2013, the project established the *Rock Art of the UK and Ireland* (RAUKI) Facebook page, which includes carvings from the UK and Ireland but has focused largely on those from Northumberland. The aim of RAUKI is "to celebrate and discuss rock art or rock carvings from England, Scotland, Wales, Northern Ireland and the Republic of Ireland" (<https://www.facebook.com/RockArtOftheUKandIreland>). While Facebook permits its members to establish private groups, RAUKI is an open group with the comments of members accessible to all. Although there are ethical concerns about using this material for research purposes, Gregory (2015, 23) drawing on Bateman et al. (2011),

has noted that “social media sites have blurred the boundaries between public and private spaces” and that people are progressively opting to publicly share information about topics presumably on the understanding that it may be used in ways in which it was not originally intended including, for example, academic purposes. The RAUKI posts have primarily revolved around interesting features in the art and their landscape settings although concerns about threats to the art have been raised occasionally.

Responses to the virtual presentation of Northumberland rock art

The creation of the NRA website was supported by the development of an Audience Development Plan (ADP), which identified the likely user groups, why the website might be valuable to them, and what information they would require.ⁱ This was done to try and ensure that there was a clear appreciation of the website’s potential users and the information they would need to make their virtual visit a “valuable and productive experience for them” (Mazel and Ayestaran 2010, 141). The large amount of visitor traffic to the website during its first 3.5 years, the time frame for which overall visitor statistics are available, supported by a more detailed understanding of visitor usage during the first 18 months would appear to affirm the efficacy of the ADP as well as providing an indication of the way in which the visitors valued the ancient rock art carvings as a heritage resource. According to Mazel and Ayestaran (2010) visitor traffic to the NRA website between its launch in January 2005 and June 2008 included: (i) ca. 17 million successful requests (i.e. hits); (ii) an average of 13,500 successful daily requests; (iii) slightly over 500 000 successful requests for pages; and, (iv) 115 000 distinct hosts served, which indicates the number of individuals visiting the website. The latter figure suggests that on average there were more than 3000 virtual monthly visitors to Northumberland rock art, which is considered to be more than those who do so physically. Significantly, these virtual visitors came from over 100 countries, although most were from Europe. No statistics exist for overall public visitation of Northumberland rock art, however, anecdotal evidence would suggest this figure is extremely low other than perhaps at Lordenshaw in central Northumberland (Figure 1), which is probably the best-known and visited rock art area in the county. A one-day RAMP survey of 22 groups, comprising 63 individuals, undertaken at Lordenshaw on a public holiday in May 2010 (i.e. late spring) found that 10 groups included at least one person who had visited the main carved rock at Lordenshaw (Figure 1) previously, while 12 groups had never seen it or other rock art. The primary purpose of the visit for most groups was walking, however, three were specifically visiting the rock art.

Analysis of visitor traffic between January 2005 and March 2006, revealed that an average of 24 website pages were viewed per visit (Mazel and Ayestaran 2010). This observation reveals substantial engagement with the website, which is confirmed by the evidence that while the majority of visits (i.e. 54%) lasted less than 30 seconds, a quarter of users’ sessions lasted between 30 seconds and five minutes, and about 15% between five and 15 minutes. Extensive time spent on the website demonstrated that an active process of engagement was taking place with users viewing many different pages and spending time doing this, seemingly to obtain better insights into the visual qualities of the carvings. This is supported by the fact that visitors viewed 65% of the individual images displayed for each rock art panel that they visited, and that they

enlarged 20% of the images that they viewed (Mazel and Ayestaran 2010), indicating sufficient curiosity to have a closer look at them.

The NRA website experience was enriched by virtual visitors having the opportunity to have a “unique” experience through its search and browse options. The “Panel Advanced Search” facility, for example, allowed users to search and triangulate information using different variables such as panel location, management, archaeological analysis, and motif type. Visitors were then able to (i) map the results and (ii) download their self-generated datasets for interrogation.

An InterACTIVE Zone was created to make the virtual interaction with rock art celebratory and increase its accessibility to non-specialist users. This feature also brought together in a single place several features scattered over the website, such as a gallery displaying striking pictures of Northumberland rock art and 44 images providing 360° views surrounding panels. Although the InterACTIVE Zone appears to have been less popular than the database driven components of the website, it sent a clear signal that the website was intended for use by diverse audiences and that it had an overt interpretation and inclusive intention.

No formal qualitative evaluation of the NRA website was undertaken; however, feedback obtained via emails and blogs following its launch indicated that while a few of the users experienced difficulties with navigation and the lack of images, which was perplexing considering the website contained over 6000 images, the vast majority of them were positive about it:

- “What a lovely site. Easy to use and answers all my questions ie location (grid ref), access (not wheelchair bound but limited walking distance). Thank you.” (15/1/05)
- “this is a great site-lots of good stuff here, thanks! Isn’t it an awesome site? we could use something like this for all our southwestern [American] petroglyphs. this is pretty amazing. thanks!” (16/1/05)
- “I think [it] is the BEST rock art online ever seen. Simply perfect. It gives a clear idea of the art, of the work of the researcher, of the land.” Editor, Tracce (online rock art journal Jan 05)
- Can’t say thanks enough for info and everything else on this excellent website...am now confirmed rock art addict! (29/3/06)
- “Excellent website - thanks for sharing all of this information...I’m chairing the Conservation & Preservation Committee of the Utah Rock Art Research Association as well as an active Board Member of the Colorado Rock Art Association and would like to be able to reference your data in meetings without having to log on. I’m also helping to develop an educational program and like the way you have presented the information” (14/1/2005)

Despite its success in reaching many virtual visitors and the observation that the abovementioned feedback corresponded with the aims of NRA, a shortcoming of the project was that it did not directly investigate the requirements and aspirations of the potential website users themselves. Although this deficiency was in part obviated by the Advisory Committee’s and project team’s experiences of public engagement with archaeology and rock art, it would have been beneficial to have involved potential users in discussions about the content and thrust of the website.

This shortcoming was addressed during the RAMP project, which had as one of its primary objectives to determine what people visiting rock art would like to know about and experience during their visit. To this end, five day-long workshops were held in Northumberland, which involved indoor sessions and visits to rock art (Figure 2). The workshops encouraged people to share their experiences of and relationships with rock art and the surrounding landscape and, to highlight the information they would like to access *in situ* on their mobile devices (Mazel et al. 2012; Galani et al. 2013). While the workshop participants identified as desirable some of the issues and topics already reflected in the NRA, such as the location and “findability” of rock art panels, there were aspects that had not been considered by the NRA project, most notably the desire for ambiguity and speculation with regard to the interpretation of rock art along with the opportunity to connect with the historical, archaeological and natural landscape surrounding the panels. These insights were incorporated into the design and content of the RAMP interpretive materials (Mazel et al. 2012; Galani et al. 2013). <Place Figure 2 here>

RAMP has not matched the large amount of traffic to the NRA website, however, this is unsurprising as it is primarily aimed at *in situ* visitors, and not a broad Internet audience. Even so, many people have visited the mobile website and benefitted from its interpretative features. Google analytics undertaken on 16 June 2016 revealed that since its launch, in July 2011, the website had attracted 5,574 users and 33,654 pages had been viewed. Moreover, the website sessions have lasted on average three minutes and 35 seconds, and returning visitors comprise 27% of the users. These data, and particularly the average amount of time spent on the website and returning visitors, clearly reflect the engagement value of the website, whether it be in terms of, for example, using the navigational facilities provided to locate panels or considering the meaning of the carvings, to which we turn next.

To encourage interaction with visitors, the RAMP mobile website invited users to share their thoughts about the meaning of the rock carvings. This was done by informing users that there are over 100 known theories about the meaning of the rock art and provided them with the possibility of deciding which option they felt was the most appropriate in a section entitled “Your thoughts”: (i) Commemorative markers—memorial stones; (ii) Maps of settlements or field systems; (iii) Territorial marks; (iv) Purely decorative; and, (v) Something else. By 16 June 2016, there had been 10 983 responses to the question with the different options receiving between 16% and 31% of the responses; the most popular being “Purely decorative”. It is not known why “Purely decorative” was the most popular response, however, reflecting back on the choices provided to the users an omission was not to include the options of “Religious” and/or “Symbolic”, perhaps instead of “Commemorative Markers”, as these possibilities have been raised in discussions that the author has had for over a decade with members of the public at, for example, public talks or when leading rock art study visits.

A user evaluation undertaken in 2011 provides further insights into RAMP’s value. According to Galani (pers. comm., 2012), the evaluation showed that RAMP significantly:

- aided the “findability” of rock art, which was a key aim of the project given the difficulties that visitors often experience in locating rock art in the countryside
- increased awareness of the existence of rock art
- augmented the exploratory behaviour of people and encouraged their persistence with mobile interpretation
- enhanced the positive sense of visiting the carvings with other people, which was supported by the dialogic text provided in the virtual interpretation
- encouraged inquiry into, for example, the meaning and significance of the rock art, and
- strengthened visitors desire to have access to more “factual” information about the rock art.

RAUKI, the third of the virtual rock art initiatives has experienced significant growth during the last eighteen months. Started in June 2013, the number of likes for the Facebook page grew to 400 on 12 November 2014, however, by 13 July 2016 it had increased to 1879 likes. This growth in the number of likes (i.e. when people or groups let you know they enjoy your page) appears to be associated with: i) a steady increase in people discovering the page and liking it, and ii) some posts reaching large numbers of people via extensive sharing, and therefore creating growth bursts in the numbers of likes. For example, a post about the Achnabreck rock art panel in Scotland, on 30 March 2015, reached 62 432 people and led to an additional 121 likes between the day of the post and 2 April 2015, with the major increase in likes (i.e. 85) being on 1 April 2015 (Figure 3). The exceptional reach of this post was largely due to it being shared over 440 times. Interestingly, the overwhelming majority of RAUKI likes (67%) are from people aged between 25 and 54, and the people liking RAUKI derive from 45 countries, although they are primarily from the UK (35%), USA (16%), Ireland (8%) and Spain (7%). [<Place Figure 3 here>](#)

Discussion

The Internet based rock art initiatives considered in the paper – NRA, RAMP and RAUKI – were launched between 2005, when the NRA website went live, and 2013. They represent some of the different ways in which the Internet supported by the digitization, visualization and re-purposing of heritage datasets has been used to reach large amounts of people living both in close proximity to the resource as well as further afield. It is evident from the large numbers and geographical reach of the people who have engaged with the NRA, RAMP and RAUKI, along with the comments that users have made about these initiatives that they provided benefit for both individuals and “heritage communities”, which, according to the Faro Convention (2005, Article 2b) “consists of people who value specific aspects of cultural heritage which they wish, within the framework of public action, to sustain and transmit to future generations”. In doing so, it has enhanced the social relevance and value of Northumberland rock art. It is suggested that a major factor contributing to their success was the overarching commitment to inform, educate and inspire people about these generally poorly known Neolithic and EBA carvings supported by the provision of large numbers of images. Moreover, not only does the opening up and sharing of information about Northumberland rock art to a broader audience form part of a strong desire to explain their significance through interpretation as signaled in the Burra Charter (2013), but it has also allowed people to construct their own

meanings and knowledge based on prior knowledge and experiences (see later). In this way, the NRA challenged the conventional “show and tell” approach to websites that was prevalent at the time and provided a platform for developers of other rock art websites to critique and build on.

The engagement with rock art stimulated by these initiatives has taken place at many different levels. Not only have NRA, RAMP and RAUKI increased the interpretive reach of this rock art resource to large numbers of people in UK and Ireland, and indeed globally, but they have perhaps also created the desire among people to visit them *in situ* and provided people with impaired mobility with information about the accessibility of panels to them. In essence, the initiatives have shown that there is an appetite among the virtual public to engage with this heritage resource and provided people with the opportunity to “participate in sustaining the historic environment and understanding the significance of places” (English Heritage 2008). These interpretation and safeguarding sentiments were foregrounded on the NRA website homepage (<http://rockart.ncl.ac.uk>): “It is our hope that the information and images presented in this website will encourage greater enjoyment of this cultural resource; inspire the creation of new knowledge and insights into Northumberland and British rock art; and set the basis for the effective management and conservation of this ancient resource for future generations.”

In terms of information sharing, a decision was made early on in the NRA project by the Advisory Committee that the entire Beckensall Northumberland archive would be made available on the website excluding data related to the identification of individuals in order to avoid potential conflict with data protection legalities. The value of the NRA project sharing knowledge freely, which was continued with RAMP and RAUKI, resonated strongly with the principles later expressed by Open GLAM, an initiative, which encouraged unfettered access to digital cultural heritage held by Galleries, Libraries, Archives and Museums (2014): “When we say that digital content or data is “open” we mean that it complies with the Open Definition, which can be summed up in the statement that: “A piece of data or content is open if anyone is free to use, reuse, and redistribute it — subject only, at most, to the requirement to give credit to the author and/or making any resulting work available under the same terms as the original work.”

Recognition of the value of the NRA website was reflected in it receiving the Channel Four Television Award (ICT Category) at the 2006 British Archaeological Awards. In recognizing the NRA website, emphasis was placed on aspects such as the search options provided and the access of panels to people with limited mobility: “This site provides access to Stan Beckensall’s remarkable archive of images dedicated to this equally remarkable collection of prehistoric sites – the Neolithic and Bronze Age rock carving of Northumberland. There are over 6000 images of rock art panels, which can be searched in a number of ways, including important information on the accessibility of these sites to those of restricted mobility. There are also interactive components, including over 40 Panoramic Virtual Reality views of sites.”

The opening of up this extensive heritage dataset was also reflected, from an academic perspective, in the work of Fairén-Jiménez (2007) and Mazel (2007) as it facilitated the creation of new knowledge and insights that were not feasible previously. The NRA data enabled Fairén-Jiménez (2007) to undertake a landscape

analysis of Northumberland rock art to ascertain a better understanding of how it was used by Neolithic and EBA people. Fairén-Jiménez (2007, 293) acknowledged that the locational and content information she analysed was gleaned from NRA, commenting: “I want to credit here their effort in providing public access to this exceptional corpus of sites”. In addition, Mazel (2007) used the website data to collate the numbers and different types of rock art panels in the county, with a quantitative analysis of the decorative motifs found on the rock art panels. It is, therefore, not surprising that Mazel and Ayestaran (2010) asserted that a key strength of the website was the opportunity it presented to virtual visitors to interrogate the information presented. This resonated with Carey and Jeffrey’s (2006) view regarding the provision of information by museums, that audiences are no longer content with passively having data delivered to their monitors, but desire to remix, re-purpose, and re-use it. Moreover, it satisfies Mason’s (2002, 11) perspective that the “educational value of heritage lies in the potential to gain knowledge about the past in the future.”

No independent research has been undertaken regarding the value of RAUKI, however, according to Mason (2006), Facebook is generally considered to be a valuable learning tool due its helpful qualities such as permitting peer feedback, goodness of fit with social context, and interaction tools. Moreover, Mazman and Usluel (2010, 447) propose that Facebook “and other social networks facilitate informal learning because of their active role in members’ daily lives. Social network sites support collaborative learning, engage individuals in critical thinking, enhance communication and writing skills through activating members work in personalized environments”. In addition, Lee and McLoughlin (2008) believe that social networks are learning instruments because people can use them for co-operative knowledge discovery and sharing as well as creating content and new knowledge.

These insights resonate with how RAUKI has been responded to and used. For example, several followers of the page who were already aware of this heritage resource have expressed how they have learned that the carvings occur in a wider variety of landscapes and archaeological contexts than they had realized, and that there is a greater variety of motifs and designs in the rock art than they had previously been aware of. There are also comments in response to RAUKI posts, which indicate that it has introduced them to the rock carvings, which means a new constituency of people both in the UK and Ireland, and further afield, have learned about this heritage resource: “I love the cup and ring artwork, and hadn’t known about these” (18 October 2015). Moreover, some comments demonstrate that users have introduced their Facebook friends to the rock art and generated a desire among virtual users to visit particular sites, reflected, for example, “this place is next on our list” (11 July 2015). RAUKI has also served to encourage people to consider the elusive meanings of the carvings by sharing ideas on what this may be and mean, for example:

“Personally; I think they are symbolic representations of the Dead. I don't think they believed Death to be a barrier to Life, and rather saw it as an opportunity to discard old-age, and become young again. Most of these symbols tend to reflect this worldview, and is reflected both in the Seasons, and Culturally in the Henges; such as the ones at Thornborough” (4 October 2015).

While it is evident that some members of RAUKI have offered their opinions about the meaning(s) of the carvings there has, however, been a noticeable lack of discussion between members of the group about this and other rock art related topics. This is a shame considering that the enigmatic nature of the carvings lends itself to discussion as was evident during the RAMP workshops (Mazel et al. 2012; Galani et al. 2013). It is suggested that the users of the FB group, which is open to all, do not generally perceive it as a safe environment to express their views, especially as these will not be anonymous. It is possible that members fear that their views will be challenged and dismissed by other members of the group, especially if they do not feel well informed about aspects of the rock art and research and thoughts about it. The challenge for RAUKI and possibly for many other similar types of FB pages is to create an environment in which people feel safe and comfortable to express their views. Greater attention will need to be paid to this issue as we go forward with RAUKI.

The increased desire to promote Northumberland, and more generally the UK and Irish rock art, forms part of a general international trend related to the increased emphasis on the concepts of value and interpretation associated with heritage resources but also one that has witnessed a growth in the appreciation, value and knowledge of rock art worldwide during the last few decades. Clottes (2008) has proposed that professional archaeologists and the general public have appreciated the significance of European Paleolithic art for over a hundred years, but that it took a “number of decades” for rock art on other continents to be accorded comparable standing. Up until the establishment of the NRA project, in 2002, public appreciation of rock art in the UK and Ireland had largely been driven by a small group of independent archaeologists such as Stan Beckensall, who recorded and researched the carvings, and published articles and books (for example, Beckensall, 2001) and who gave public talks with little or no remuneration. With these extraordinary efforts, however, only a limited number of people were reached. The advent of the Internet has therefore opened a new chapter in terms of public engagement with rock art in the UK and Ireland and, it is submitted, that this has significantly heightened public knowledge and value of this resource. Not only have these Internet initiatives introduced many virtual visitors to the carvings and encouraged them to learn more about them, but the large amount of basic data made publically available, especially via NRA, has shaped an additional value by laying the foundation for the creation of new knowledge and insights.

Conclusion

The three Internet based initiatives investigated in this paper have shown how virtual engagement with Northumberland rock art has evolved during the last decade. It has not been a process of replacement but rather taking advantage of new social media opportunities that have presented themselves through time. A common thread running through all three initiatives has been the aspiration to openly share and interpret information about this heritage resource to promote its understanding, appreciation, value and safeguarding. This achievement is reflected in the quantitative and qualitative data presented in this paper although many challenges and opportunities remain, especially with regard to promoting the safeguarding of these vulnerable resources (Giesen et al. 2011, 2014). Particularly, as Gregory (2015, 25) indicates, the “global reach and speed of virtual heritage practices holds tremendous potential to

amplify and extend civic engagement”, which opens up new potential to enhance engagement with Northumberland rock art and the threats to them. The question at hand is how we build on what has already achieved to “amplify and extend civic engagement” with Northumberland rock art, focusing not only on people who live in close proximity to these heritage resources, but also those who live further afield. From a social media perspective, do we investigate whether different applications such as Instagram or Twitter offer opportunities to extend the number of people who can be reached? Or do we continue to use Facebook and explore different ways to enhance engagement? In the context of their research into the relationship between Facebook and Public Health in Australia, Kite et al. (2016) argue that video posts were the most engaging type of post and were likely to be shared four times more often than post with photos. This raises questions as to whether we should make and post videos dealing with Northumberland rock art. Another consideration is whether there should be explicit content showing the threats to the rock art from agricultural practices such as livestock scratching and ploughing and encourage people to raise issues relating to safeguarding with appropriate stakeholders. In sum, there are many issues and challenges that need to be thought about when considering future virtual engagement with Northumberland rock art, or any heritage resource.

Along with seeking new ways to use social media to increase virtual engagement with heritage resources, I would echo Richardson’s (2014, 294) recommendation that there needs to be more effective ways of determining the impact of digital initiatives other than quantifying “website hits, Facebook likes or Twitter followers” and, in the case of three initiatives highlighted in this paper, also drawing attention to available qualitative data. This includes investigating how these engagements influence the value attributed to heritage resources because we need to continually improve our understanding of the attribution of positive traits to heritage items and locations by a variety of stakeholders; in this case, between the significant virtual engagement with Northumberland rock art and its influence on the perceived value of these resources.

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Figure 1 Rock Art at Lordenshaw in central Northumberland. This Fell Sandstone rock overlooking the Cheviot Hills has over a hundred cup and ring motifs reflecting a variety of designs. The most common include linear and angular grooves, cup and grooves, and single or multiple cups.

Figure 2 Participants in a RAMP workshop

Figure 3 Facebook page for the RAUKI Achabreck post of 30 March 2015

ⁱ The ADP's likely user groups included (i) Rock Art researchers, (ii) Heritage managers/Owners/Tenants, (iii) University Lecturers/Archaeologists with a general interest in rock/students/amateur archaeologists, (iv) Locals/Tourists/Visitors to the area/Tour operators, and (v) School teachers/Students/Learners.