

From overlooked objects to digital 'icons': evaluating the role of social media in exhibition making and the creation of more participatory and democratic museums

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From overlooked objects to digital 'icons': evaluating the role of social media in exhibition making and the creation of more participatory and democratic museums

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ABSTRACT

This article highlights the opportunity for social media to play a greater role in critically and democratically evaluating museum displays and exhibitions in order to increase their popular appeal. By comparing data-sets obtained from traditional (often in-person) evaluation techniques with those expressed by visitors using social media platforms, it is possible to assess the relative strengths and weaknesses of each, resulting in a more holistic approach to audience reception. Based on the results of a curatorial experiment to diversify the type of objects displayed in a major exhibition held at the British Museum ('The world of Stonehenge'), this paper uses qualitative and quantitative (over 1000 images and 50,000 words) methods to explore the potential, wider, role of visitor-generated social media content. We highlight the potential of this approach for critiquing and rethinking exhibition design, marketing and the ethics that underpin pressing moral issues such as the display of human remains and the reductive and problematic process of 'iconification' whereby certain museum objects and heritage assets are selected to represent whole geographies, peoples and eras.

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Introduction

Social media is now a ubiquitous element of museum exhibition making and audience experience. Museums use social media for marketing and for engaging existing and prospective visitors with approved stories and insights into museums' collections, values and ethos (Bosello and van den Haak 2022; Gonzalez 2017; Jarreau et al. 2019). However, beyond this unilinear application as a tool for broadcasting, social media can provide an arena for audiences to share and discuss objects and ideas, expressing thoughts, emotions and impressions of their visit through text and images. Rao (2017) notes that social media platforms provide 'interstitial spaces' between museums and their audiences. It follows that, although perceived as transitory (and even frivolous) by some commentators (e.g. Codik 2018; Coslett 2018; Gibson 2013), social media platforms have the potential to reflect current audience preconceptions and attitudes, and even to identify scope for improvements in exhibition making and community engagement policies (Balshaw 2024, 76–7). Indeed, a recent study by Bosello and van den Haak (2022) acknowledges the potential of social media for democratising museums: making them more participatory, transparent and visitor-centred places.

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The opportunity to realise the latent potential of museums' social media platforms was partially recognised during the global COVID-19 pandemic when initiatives using hashtags such as #MuseumsFromHome and #MuseumsUnlocked helped to increase online engagement during the first UK lockdown (Larkin, Ballatore, and Mityurova 2023). However, this interest was not maintained into the second and third lockdowns and has served to highlight important disparities in the capacity, direction and resources for online engagement across the museum sector in the UK and beyond (ibid., 641–3). It is certainly true that, post-pandemic, most large museums and galleries continue to use social media primarily as a broadcasting and marketing tool rather than to engage in online conversations, or to listen or learn from visitors' engagements with objects and collections in a sustained or productive way (Bosello and van den Haak 2022, 576–78). There have, however, been several recent attempts to develop more democratic and participatory collections-grounded research avenues based on exhibition-related social media content created by visitors (e.g. Budge 2017; Budge and Burness 2018; Jarreau et al. 2019; Rhee et al. 2022; Rhee, Pianzola, and Choi 2021; Weilenmann, Hillman, and Jungslius 2013).

Bosello and van den Haak (2022) have recently outlined the importance of social media as a tool for pursuing the 'democratic museum', highlighting four key qualities: inclusivity, transparency, visitor-centred and participative approaches. They note that social media platforms provide opportunities for audience agency and individuality (each visitor experiencing exhibitions in different ways depending on their 'personal and social context' (ibid., 568)) and, perhaps most importantly, the opportunity for museums to listen to visitors' reactions and responses and to be self-reflective and thoughtful about what they have to say, using those findings to inform future exhibitions (ibid., 567–68; cf. De Angeli, Kelly, and O'Neill 2020, 169–70). The opportunity to use social media in this way – as a responsive, listening device, rather than as a way of broadcasting the museum's established or existing internal knowledge – is still underdeveloped but marks a major shift for museums to embrace and an opportunity to develop and change with their audiences. This shift echoes long running attempts to reorientate visitor research away from traditionally assumed concerns (e.g. marketing, learning and education) towards more alternative (e.g. more emotionally and embodied) foci that may offer greater insight into how audiences engage with and understand museums' experiences (e.g. Smith 2015, 2015).

In this paper, we draw upon a major exhibition at the British Museum as a case study to evaluate the characteristics of objects selected, shared and discussed by visitors on Instagram and Twitter (now known as 'X'). We contextualise these findings using more traditional evaluation data (collected, typically, in-person using observation, questionnaires and structured interviews). These approaches have several limitations in how they can access and reveal insights regarding visitor's embodied or emotional engagements with objects and exhibits (cf. De Angeli, Kelly, and O'Neill 2020; Smith 2015, 2015). Our hypothesis was that social media posts would provide a different (but potentially complementary) perspective on audience interests and engagements compared to traditional, in-person audience research techniques (cf. De Angeli, Kelly, and O'Neill 2020). To test this idea, we analysed data from social media platforms (and corpus linguistic analysis of these) alongside data obtained from in-person tracking, questionnaires, interviews and focus groups (Morris Hargreaves McIntyre 2022a, 2022b; Ryder 2023; TWResearch 2020, 2022) for audiences visiting *The world of Stonehenge* ('WoS') staged between February and July 2022; this was a pay for entry temporary exhibition in a self-contained gallery at the British Museum. We commissioned audience consultants to undertake additional, targeted evaluation to gather data on the appeal of objects of different materials (see Morris Hargreaves McIntyre 2022a, 51–73). This provided an in-person interview dataset that we could then compare to, and contrast with, the data gleaned from social media platforms.

Photography, social media and audience agency

Museum photography has been transformed by the rise of smartphone camera usage in the last two decades. Today visitors capture an almost unlimited number of images for themselves and regularly

share them in both curated/discursive and seemingly instantaneous ways on social media. The positive potential and implications of this habit (for enriching visitors and informing museums about their audiences) is increasingly apparent (Hughes and Moscardo 2017; Rhee et al. 2022; Stylianou-Lambert 2017; Weilenmann, Hillman, and Jungslius 2013). This activity requires numerous, personal, decisions and choices to be made about what to capture and what to exclude. As Stylianou-Lambert has noted, audience photography can, therefore, 'reflect what we value, our worldviews, and our sense of identity' (2017, 130). For Budge and Burness (2018), museum photography in the digital era is characterised by a more democratic ability to communicate by sharing images via social media. Rather than being the preserve of a few specialist curators and museum professionals, this is undertaken by museum audiences who engage immediately with the objects on display and gain 'agency and authority' by sharing their own images, thoughts and reflections. The result is the creation of 'object-orientated networks' (*ibid.*), which produce arenas for the sharing and interpretation of museum objects beyond the bounds of officially sanctioned museum narratives (Hughes and Moscardo 2017; Rhee et al. 2022; Stylianou-Lambert 2017).

Although a recent report highlighted the importance of in-person focus groups for shaping exhibition planning (Marshall 2024), this is the first study of British Museum social media data on this scale and depth and one of the first to approach a large-scale, limited duration and pay-for-access 'flagship' or 'blockbuster' exhibition in this way.¹ One acknowledged limitation is that we did not evaluate the *motivations* of visitors using social media to respond to the exhibition. There have, however, been several studies into the overarching motivations of this practice. Stylianou-Lambert (2017) outlines six key reasons for photographing objects in museums. They are (in order of prevalence): (1) to aid memory; (2) to share with others; (3) for further (personal and academic) research; (4) to inspire; (5) as a means of building a self-identity; and (6) as a form of art. Discussing Instagram in particular, Rhee et al. offer an overlapping and complementary list of motivational factors: 'self-image construction, remembrance, memory, aesthetic inspiration, interpretation, creation, self-curation, play, place-making and social presence' (2022, 585).

As Stylianou-Lambert (2017, 115) has argued, audiences are not always in search of the quiet enjoyment of aesthetic value and may be motivated by a range of interests (including the desire for intellectually rich, emotionally or spiritually charged experiences) which photography enables. Smith highlights the embodied and performative quality of museum visits, through which audiences (re)create meaning by experiencing it, noting that 'the knowledge, or sense of what was learned at a museum visit, often does not stay with many of those surveyed... although the memory of the visit may endure' (2015, 463). Self-created social media posts incorporating photography may function as important media in acts of both performance and memory creation. Others have, rightly in our view, questioned whether 'digital' and 'physical' museum experiences can even be separated, suggesting that they are, in fact, interconnected and overlapping in most dimensions of modern life (cf. Burness 2016; Budge and Burness 2018, 137–38). Our desire to draw upon social media information as a source of insight and reflection is part of a much wider change in how museums are reorientating themselves with the aim of becoming more inclusive places that foreground community collaboration, co-curation, listening and empathy (Ali 2023; Bosello and van den Haak 2022; Brown and Mairesse 2018; De Angeli, Kelly, and O'Neill 2020).

From 'iconification' to greater participation and democratisation

One of the defining features of museums and exhibitions today are the pulling power of traditional 'star' or 'iconic' objects. The British Museum (2023) hosts a web page entitled '14 things not to miss at the British Museum' and visitors to many foreign cities are familiar with the check list approach to museum visits. How and why these objects came to be 'top' things, and how this process relates to current debates around repatriation and the strengths and weaknesses of so-called 'encyclopaedic museums' like the British Museum (Andersen 2023; Grau 2021; Hicks 2020a), is a matter worthy of reflection. Photography has arguably played a key role in promoting a particular group of 'iconic'

things in the museums and galleries of the Global North during the twentieth and twenty-first centuries. The photographic medium also played a critical role in popularising archaeology from the early twentieth century onwards. For example, images of the death mask and other elaborate grave goods of Tutankhamun helped to mythologise and embed Howard Carter's discoveries in the popular imagination (Riggs 2019), while Heinrich Schliemann's interest in photography (alongside a range of other novel visual techniques) helped to bring his now famous Bronze Age discoveries at Troy and Mycenae to a new, mass, audience (Maurer 2009).

However, the 'frame-ability' of iconic objects transcends the photographic medium. As the huge popularity and success of the radio/audio series *A History of the World in 100 Objects*, a collaboration between BBC Radio 4 and the British Museum, illustrates, objects often resonate most powerfully when they are singular, distinctive and evocative things (cf. Monti and Keene 2013, 1–7), even (or especially) when they are unseen. The series provided an overview of global history told in the bite sized format of 100 individual object/episodes and gained a huge listenership on radio and readership when published as a freestanding book (MacGregor 2010). The series is a good example of a wider trend within museums and the heritage sector more broadly, which can be described as a process of 'iconification', whereby particular objects are selected to stand for whole periods, peoples and processes of cultural change, even though (or, rather, because) these things can be wide-ranging, complex and difficult to pin-down or explain to a public audience (Garrow and Wilkin 2024). If selection of these icons is the purview of only a handful of specialists, then the project is in danger of being criticised for lacking a democratic or critical view (Brusius, Das, and Stevenson 2019).

For the era of Stonehenge in Britain and Europe, we have sought to critique assumptions (and prejudices) underpinning the selection of objects from this period for display in museums and exhibitions (Garrow and Wilkin 2024). We have drawn attention to the preferential display of objects made of precious material, at the expense of artefacts and assemblages that are harder to comprehend or less immediately appealing but which have the potential to tell both more representative and more emotionally charged and human stories. We have also sought to suggest and test 'alternative' icons: objects and assemblages that fulfil this more democratic brief while being compelling for the widest possible audience (*ibid.*). This critical attitude to object selection, materiality and appeal underlay our aims and objectives in this paper and our curiosity about how the public (rather than the museum) perceived the aesthetic and narrative appeal of artefacts displayed within the WoS exhibition.

Many museums around the world have promoted 'star' or 'iconic' objects as a key interpretative and visual ethos for decades. Within this widespread aesthetic approach, singular objects are presented as fine jewel-like items, isolated and dramatically spot-lit in a manner that evokes treasures and high-end shopping arcades. While this approach can make even the most challenging aesthetic objects appear more interesting and appealing, it also evokes values and principles that are potentially less desirable, relevant or intended: commercialism, market economics and elite consumerism. In the case of prehistory (including 'The world of Stonehenge' especially), these concepts are far from the socio-economic, cultural or cosmological values that curators or archaeologists wish to explore or project. It is, however, important not to overlook single, aesthetically pleasing artefacts and related design approaches that may attract visitors in the pursuit of more academically integrated or 'sophisticated' narratives (Monti and Keene 2013, 288–9). Instead, we advocate for a better grounding and understanding of what the public looks at, focusses on and shares in the context of museum exhibitions.

In place of 'star' or 'iconic' objects, many of which have been highlights of collections since the inception of the museum as a place of civic education, enjoyment and entertainment in the 19th century (Waterfield 2015), contemporary museums and their communities have a hitherto under-appreciated opportunity and power to refashion and remake what constitutes a key or star object or set of objects by drawing on a more democratic and participatory approach, in which digital technologies and platforms, including social media, can play a key role as both a mode of

communication and a source of information that can be evaluated and interpreted (cf. De Angeli, Kelly, and O'Neill 2020). Exploring the potential of 'alternative' icons – that is, new (kinds of) object(s) that can express different, more representative, and ethically more sound narratives about the past – may enable museums to more fully reimagine and redisplay permanent displays and make them relevant to and appropriate for the twenty-first century. The same approach can also help to counter and 'defuse' the misplaced but pervasive notion that the return or long-term loan of famous objects would leave European museums with 'empty galleries' (Hicks 2020b; Sanghera 2020, 62).

Loosening the grip of museums by encouraging more democratic and reflexive uses of visitor photography and encouraging museums to view their own collections through the lens (literal and metaphorical) of visitors' engagements (Budge and Burness 2018) can, we suggest, assist in testing the appeal and interest they have for alternatives: providing replacements for over-exposed and contested artefacts (for example, those around which there are calls for repatriation). In doing so, museums can begin to work towards reimagined exhibitions and displays that better reflect current academic knowledge as well as the cultural and social interests of audiences and ethical standard of museum display and inclusiveness.²

Methodology

Our analysis and interpretation of visitors' social media content are based on data drawn from Instagram and Twitter/X. For analytical clarity, our sample is composed of posts by people who opted to use '#worldofstonehenge' (for Instagram posts) and '@britishmuseum' accompanied by comments about the Stonehenge exhibition at the British Museum (for Twitter/X posts). Following the ethical guidelines of Townsend and Wallace (2016), we have assumed that these hashtags and @ labels indicate the willingness and interest of participants in being involved in the discourse around *The world of Stonehenge* exhibition.³ Although the exhibition opened on 17 February 2022, press coverage, previews and marketing efforts began some time before. It was felt that collecting this data would provide a useful addition to audience gathered content. Instagram content was therefore collected between midnight 7 December 2021 and midnight 23 July 2022; Twitter/X data was collected for the slightly shorter period between midnight 17 February 2022 and midnight 31 July 2022. Our primary focus in collecting Instagram posts was the analysis of visitor images, but we also collected associated text posted with images. Because Twitter/X use is primarily aimed at sharing text supported by image(s), data from this platform was collected for the analysis of text; any associated images were therefore not collected or analysed. For the corpus linguistic analysis, these data were compiled together into a corpus and analysed on Sketch Engine. Only those tweets or posts that were written entirely in English were considered (a) to avoid issues in translation, and (b) because certain corpus-linguistic techniques, such as collocations or keyword analyses, could unfairly favour those words as they would be unusual when compared to typical examples of English language use.

In-person evaluation was conducted by the independent consultants TWResearch (2020, 2022) and Morris Hargreaves McIntyre (2022a; Morris Hargreaves McIntyre, 2022b) before and during the exhibition. Our study draws primarily on MHM's findings, which consisted of surveys emailed to exhibition visitors post-visit and accessed via QR code surveys placed at the end of the exhibition. This sample was made up of 8,154 complete responses.⁴ To complement and enhance this dataset, the authors commissioned additional qualitative research which was gathered through 68 visitor observations, 51 in-gallery vox pop interviews and accompanied visits (10 participants). This aimed to target visitor engagement with different kinds of objects in terms of their visual appeal, appearance and materiality (cf. Garrow and Wilkin 2024), with the ambition of comparing this data to other proxies for engagement, including social media posts. Neither traditional in-person audience research based on established evaluation techniques nor social media data can provide a full view of how audiences receive or experience exhibitions. The WoS exhibition contained over 450 objects and, by our

estimate, 171 ‘stops’ (i.e. spaces where visitors could take photos and read accompanying text labels). The analysis of our results is presented by exhibition section. There were eight sections in total, arranged broadly chronologically. Each covered the key themes and cultural changes taking place in the Stonehenge landscape and the wider world between 6,000 and 3,000 years ago (Garrow and Wilkin 2022).⁵ When clear patterns emerge in terms of the objects people chose to photograph and then post online, we might assume that selection can tell us something about how audiences perceived the exhibition and its narrative. However, as explored below, what exactly it tells us is subject to a range of variables that can be difficult to navigate. These include the position of the object in the overall narrative arc told by the exhibition, the split-second psychological effect on attracting and holding attention that certain materials and kinds of objects can have on audiences (Bitgood 2006; Monti and Keene 2013, 3–6) and the combination (including juxtapositions) of objects within particular sections of an exhibition.

Results

Our final dataset consisted of 502 unique, publicly visible Instagram posts. The total number of images was 1,253; 304 of these were single images from the exhibition, while 198 posts contained several, linked images (the average was five). It was notable that selfies or even images featuring both objects and people were extremely rare within the dataset. This is consistent with analysis of other ‘special’ (temporary/paid) exhibitions (e.g. Budge 2017, 78), suggesting a strongly object-focused perspective among audiences who have dedicated time and money to visit. The Twitter/X dataset consisted of 1,278 individual posts, 1,212 (95%) of which were in English (Table 1).

Table 1. Breakdown of tweets and Instagram posts and words collected for this study.

	Twitter/X	Instagram	Total
Number of posts	1,212	502	1,714
Number of words	31,085	25,355	56,440

Images of objects

The most popular (top five) objects posted on Instagram by visitors to the exhibition were the Nebra Sky Disc (77 posts), followed by the Seahenge timbers (52), carved stone balls (47), the Mold Gold Cape (47), and the axehead ‘wall’ (36) (Figures 1–3).⁶ The prominence of the Nebra Sky Disc – despite clear signage above the case asking visitors not to take photos of this object – is unsurprising: it is an ‘icon’ of the European Bronze Age and featured prominently in the British Museum’s press and marketing campaigns (Figure 4).⁷ The visually striking and beguiling qualities of the Mold Gold Cape and Late Neolithic carved stone balls from Scotland are also well known from visitor evaluations (Morris Hargreaves McIntyre 2022a; 2022b). Perhaps more surprising were the prominence of the Seahenge timbers and the axehead ‘wall’ (Figures 5). Both elements were large in scale and eye-catching but neither can be considered well-known touchstones of the period, although, critically, they were given significant space and design presence. Notably, the Seahenge installation within WoS was accompanied by a specially commissioned sound-piece which 92% of visitors felt enhanced the display (British Museum 2022; Garrow and Wilkin 2024).

Other popular objects posted include two groups of decorated stone stelae from Valcamonica in Northern Italy (Figure 6). Photos of the single stele positioned in the introductory section of the exhibition were more common than the Gleninsheen gold gorget, a remarkable and attractively shiny gold object. Taken together the stelae were second in popularity only to the Nebra Sky Disc. The reasons for this may lie in their scale and the presence of figurative art (something otherwise absent from much of north-west Europe at this period and therefore from

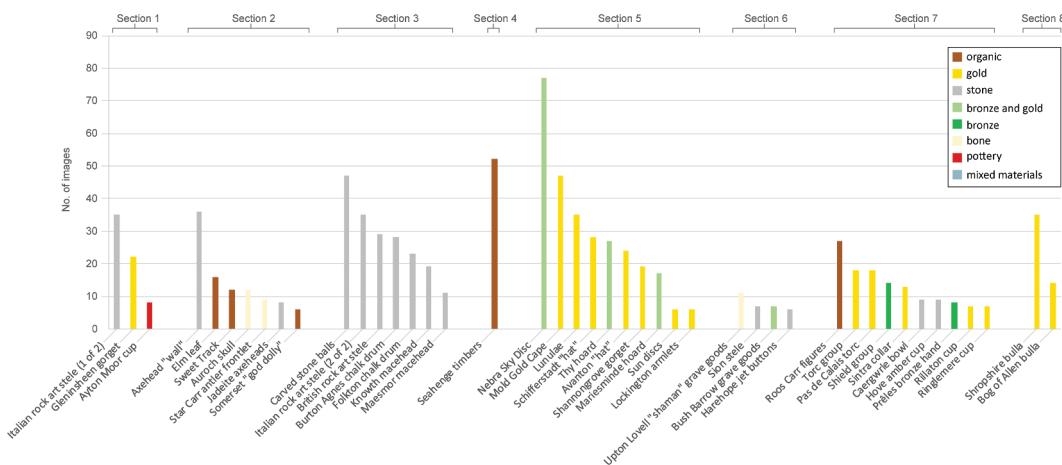


Figure 1. Objects from 'The world of Stonehenge' exhibition posted on Instagram, arranged by exhibition section (note that only objects with more than five posts are included).

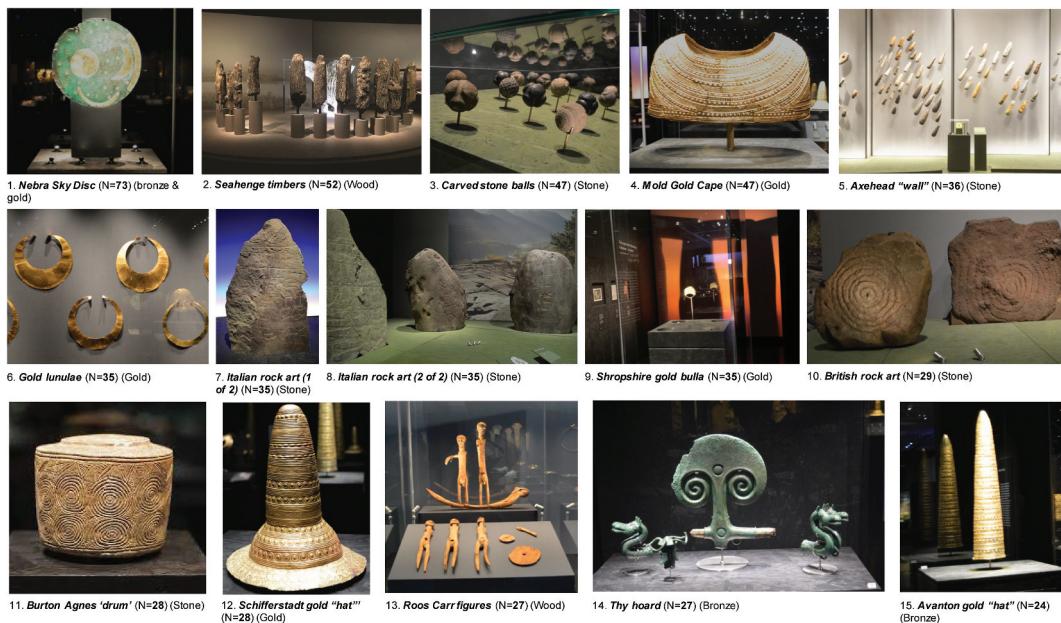


Figure 2. Top 15 objects posted on Instagram by visitors to 'The world of Stonehenge' exhibition (image: Rose Ferraby, Jennifer Wexler and Neil Wilkin).

the exhibition). However, it is also notable that the stelae from Britain, featuring abstract designs were also well represented (28 posts). The popularity may reflect an interest in the texture and aesthetic properties of stone connected to expectations set up by the exhibition's title and guiding underlying theme: Stonehenge itself.⁸

The most popular objects in the first two substantial exhibition sections (2 and 3) were all located on the right-hand side of the gallery (Figure 3). This is consistent with studies showing the predilection for right turns when visitors are presented with both options (Bitgood 2006). This is an important reminder that patterns of visitor engagement are unlikely to be based purely on the contents of exhibitions. Indeed, Bitgood's research explicitly warns against 'designing two-sided exhibitions where exhibits on one side compete with those on the other' (ibid., 472).⁹

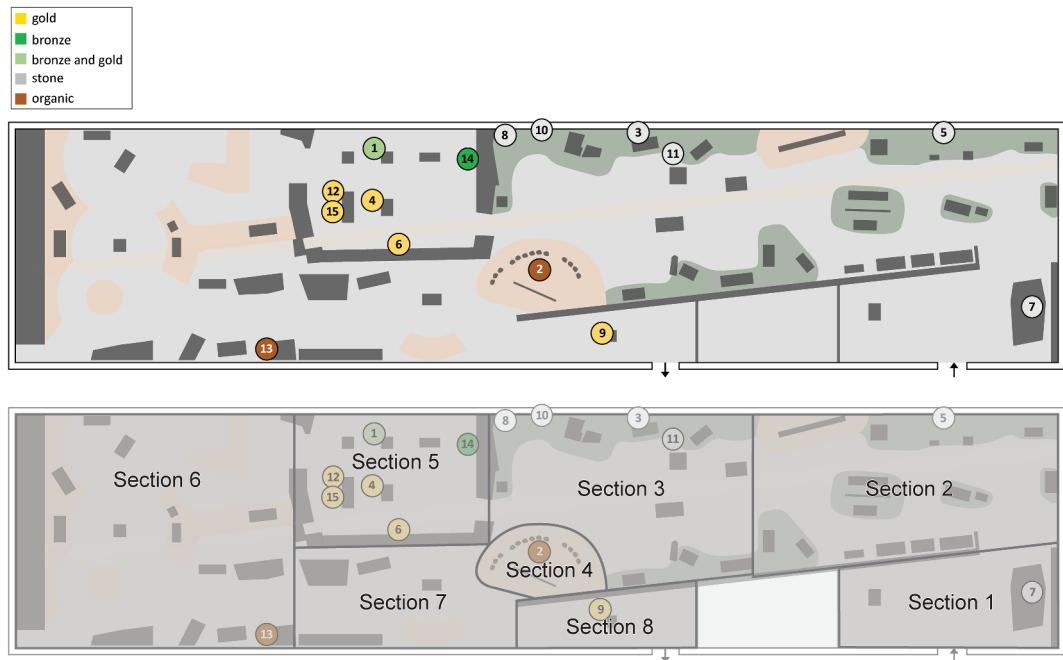


Figure 3. Distribution of the top 10 most-photographed objects in 'The world of Stonehenge' exhibition (top image) and exhibition sections (bottom image) (image: Trustees of the British Museum).

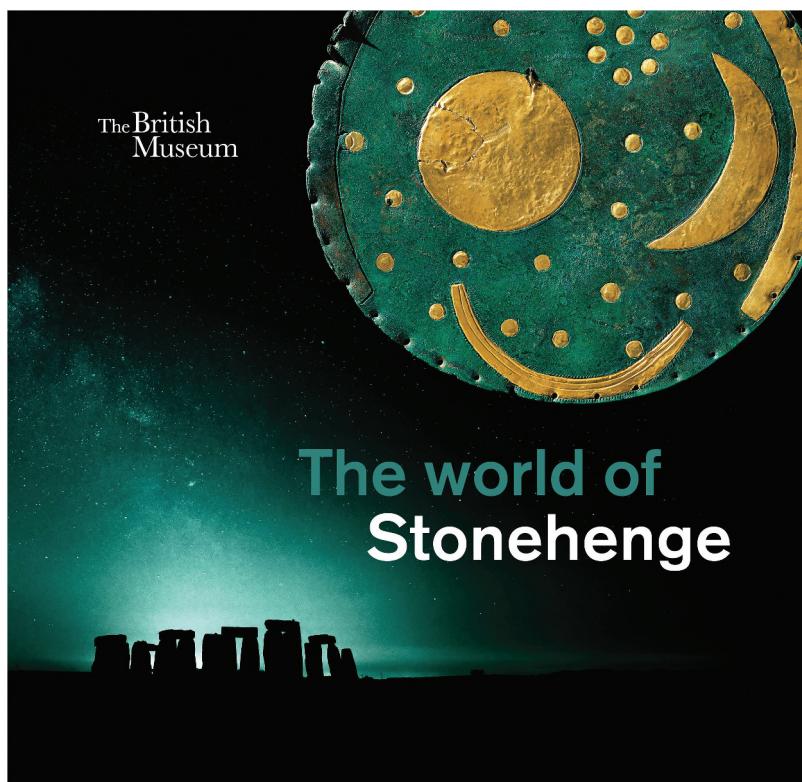


Figure 4. British Museum marketing poster for 'The world of Stonehenge' exhibition (image: Trustees of the British Museum).



Figure 5. The axehead 'wall' in 'The world of Stonehenge' exhibition (image: Trustees of the British Museum).



Figure 6. Stele from Valcamonica, Northern Italy in 'The world of Stonehenge' exhibition (image: Trustees of the British Museum).

Textual analysis

To supplement and contextualise the visual analysis of Instagram images, we undertook corpus linguistic analysis on both Twitter/X and Instagram posts (Ryder 2023). The most frequently occurring nouns (Table 2) and phrases (Table 3) were identified. These correspond fairly closely with the most posted objects on Instagram: the Nebra Sky Disc, Seahenge, the gold hats and the Mold Gold Cape (Figure 2). Gold features much more prominently in this textual data than nouns describing alternative materials (Table 2), in contrast to the impression given by the analysis of Instagram images by material. However, there are some notable exceptions. The 'elm leaf', a remarkable 6,000-year-old survival that was presented to symbolise the crucial moment of

Table 2. Highlighted items from the top 100 most frequently-occurring nouns (corpus linguistics analysis).

Noun	Frequency
sky	153
gold	144
disc	133
nebra	133
seahenge	86
bronze	69
cup	55
axe	54
hat	50
leaf	39
timber	36
barrow	34
drum	32
jewellery	31
disk	26
chalk	25
cape	24

Table 3. Highlighted items from the top 100 most frequently-occurring phrases (corpus linguistics analysis).

Phrase	Frequency
Nebra Sky Disc	161
elm leaf	52
sarsen stone	31
stone axe head	26
gold Mold cape	18
chalk drum	17
timber circle	14
gold jewellery	13
sun pendant	10
Bush Barrow	9
carved stone	9
mace head	9
gold cup	8
gold hat	8
gold lozenge	8

deforestation as hunting, gathering and fishing gave way to a new, farming, way of life, is more prominent in the linguistic analysis than in the Instagram images, where it featured only 16 times. This may be the result of visitors wishing to explain and communicate the power of this seemingly unassuming object which, nevertheless, had a story to tell about environmental change since the Neolithic and the fragility of the archaeological record.

The Instagram photographic data and Instagram and Twitter/X textual data compare favourably to insights obtained from traditional interviews. From a sample of 51, 39 interviewees provided answers to questions about objects that they particularly liked or that stood out. Four objects were mentioned

five or more times: the Nebra Sky Disc (19), Seahenge (12), Rock Art (non-specific) (5) and the Shropshire gold bulla (5), all of which featured prominently in Instagram posts (Table 1; Figure 2).

What was not photographed: attitudes to visceral displays

The social media data we analysed is also notable for what was missing. One of the most arresting features in the exhibition were the two vertically mounted displays of burials: the first, of three humans (one adult female with a baby and one adult male), the second, of two large oxen and traces of a wooden cart (the latter animated with an overlying projection) (Figure 7). A further element of WoS consisted of a 3D printed vertically mounted section of a Late Bronze Age battlefield in Tollense, Germany, showing the density of human remains scattered over the site. Similar vertical displays enhanced with projected light and animations had been a commended and much discussed element of the British Museum's *Ashurbanipal* exhibition (8 November 2018–24 February 2019) (e.g. Marchini 2019, 55). On that occasion, vertically mounted stone wall panels (which had originally been coloured) were brought vividly back to life using special lighting techniques that projected images onto the carved panels and animated their story. Ninety-six percent of visitors who were interviewed thought these had 'strongly' (85%) or 'slightly' enhanced (12%) their exhibition visit (Morris Hargreaves McIntyre 2019, 28). The animations were filmed and frequently shared on social media (Twitter/X and Instagram) by visitors to the exhibition.

It is notable, then, that both the vertically displayed human burials and the oxen cart burial with its animation featured in a total of only 12 Instagram posts. One important distinction concerns the material and subject. The subject of the *Ashurbanipal* installation were stone relief carvings, while WoS featured a real, sacrificed, animal burial and human remains, expertly preserved by conservation scientists at the State Museum of Prehistory in Halle, Germany. Summative evaluation revealed that the presence of human remains divided opinion, although few of those interviewed were strongly opposed to their inclusion (Morris Hargreaves McIntyre 2022a, 38).

One interviewee commented:

Please do not display human remains mounted vertically on a wall, like trophy heads in full view. Completely disrespectful and unethical museum practice.

While another noted:

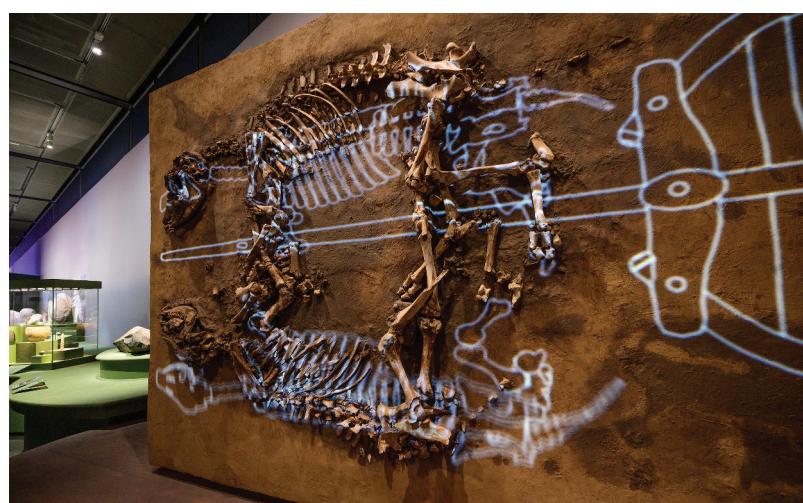


Figure 7. The oxen and cart burial brought to life using a projected light animation in 'The world of Stonehenge' exhibition (image: Malcolm Park/Alamy Stock Photo).

Human remains always make it especially relevant. Thank you for including them and not shying away from part of the story.

If we combine the divided responses given during summative evaluation with the paucity of social media responses, we can be more confident in asserting that WoS audiences were negative or cautious about these elements of the exhibition. It is notable that animal remains were as neglected as human remains. The unifying element was the (perhaps overly) visceral qualities of these corporeal exhibited elements. There may have been a degree of ethical respect exercised in not taking (or at least not posting) images of the human and animal remains on social media platforms. This is perhaps unsurprising given the long-running controversies, particularly around the display of human remains within museum displays, in Britain and at a global scale (e.g. Brooks & Weston, 2006; Alberti et al. 2009; Licata et al. 2020; Giles 2020, 253). The carefully curated and staged atmosphere, 'feel' and sense of 'reverence' created within WoS (a feature common to most flagship special exhibitions) may have influenced how audiences reacted to these components of the exhibition. They certainly contrast with the less controlled storytelling, lighting and soundscapes of permanent galleries where more positive responses to human remains have been recorded, at least within a British Museum setting (e.g. Antoine 2014, 6; Frost 2018; Garrow and Wilkin 2024, 18).

Tracing narrative themes and emotions

Instagram images can also be analysed in terms of number of images relative to the number of 'stops' in each exhibition section (see Figure 3 for their locations). We define 'stops' as single or clustered objects that reflect the position, design and arrangement of the display cases in the WoS exhibition. The results of this analysis (Table 4) provide a proxy for engagement of visitors underpinned by the notion that visitors had freedom to photograph and then post the objects that they found most interesting, compelling or communicative (cf. Budge and Burness 2018; Stylianou-Lambert 2017; Weilenmann, Hillman, and Jungslius 2013).

As Table 4 shows, there was a high level of initial engagement, with 17 images per stop for the introduction (section 1) followed by a sharp drop off in sections 2 and 3 before a strong spike in interest for sections 4 and 5, followed by another sharp decline in sections 6 and 7 before a final, smaller peak in section 8. This pattern was also identified using traditional audience research techniques: the Nebra Sky Disc (section 5) and Seahenge (section 4) were the two objects most often cited by those who participated in interviews (Morris Hargreaves McIntyre 2022a, 69–70). For example, one interviewed visitor noted:

I think Seahenge was the most interestingly displayed and interpreted of the objects. That was the bit of the exhibition that had the most interest and drama for me. I thought the soundscape was really good.

Another said:

Table 4. Comparison of object images and number of exhibition stops by section (rounded to nearest whole).

Exhibition section	No. of object images	Total no. of object 'stops' in section	No. of object 'stops' photographed	Percentage of 'stops' photographed	No. of images : No. of 'stops'
1	67	4	4	100	17
2	136	36	24	67	6
3	234	46	25	54	9
4	52	1	1	100	52
5	298	17	15	88	20
6	59	23	15	65	4
7	180	38	27	71	7
8	52	6	4	67	13

I liked the room where the [Nebra Sky] disc was . . . I thought that was nicely laid out and sort of a nice, nice shift, you know the other rooms were nice too but it was nice to have a change of pace and a change of atmosphere.

The interpretation of these results requires careful consideration. The sections that contained larger numbers of objects (and therefore many stops) had the lowest ratios of images to stops (sections 2, 3, 6 and 7). This suggests a degree of audience ‘fatigue’ and disengagement (Davey 2005; cf.; Monti and Keene 2013, 41). However, the results for sections 2 and 3 are quite different. Section 3 had more of the kind of objects we would identify above as traditional ‘icons’ (e.g. carved stone balls and chalk ‘drums’, see [Figure 2](#)) than section 2. While section 2 had greater photographic coverage of stops than section 3 (67% vs 54%), the ‘average’ number of images taken per stop is higher in section 3 than section 2 (9.4 vs to 5.7). It therefore appears that the presence of fewer traditional ‘icons’ led to greater engagement with more things, while more icons led to greater attention being paid to a smaller number of objects.

Another point of note is the significant drop in photographs taken in Section 6 where there was relatively high coverage in terms of stops photographed (65%) but a very low ratio of number of images to number of stops. This was – by some way – the lowest of any section in the exhibition. There are several possible reasons for this including design and the materiality of objects on display (see below). While these points may hold true, the exhibition’s narrative arc and tempo is also a significant factor. As noted, WoS was designed to have a strong emotionally charged and centrally placed narrative climax based on the contrast between the atmospheric staging of the 4,000-year-old monument known as Seahenge (section 4) and the highly attractive and beguiling Nebra Sky Disc and other ‘cosmological’ objects that can be defined as ‘icons’ (section 5) ([Figure 1](#)). The apparent fall-off in Instagram engagement in section 6 appears to endorse that intention. This suggests that, firstly, this kind of analysis is valuable and reflects genuine insights and, secondly, that the tripartite narrative we implemented can create ‘aftershocks’ that must be carefully managed to avoid loss of engagement and the squandering of potentially valuable stories told through objects that are positioned after more strongly charged sections of an exhibition, at least in terms of their emotional impact.

Object materiality

Materiality is a key feature distinguishing what we define as ‘traditional’ and ‘alternative’ icons. Often, traditional icons are made from valuable, precious, eye-catching and enduring materials (e.g. gold, bronze or stone), sometimes brought from considerable distances away. By contrast, alternative icons tend to be comprised of organic and locally abundant materials such as wood, animal skins or ceramics (see Garrow and Wilkin 2024 for discussion of what we have termed ‘traditional’ and ‘alternative’ icons). There is strong evidence for the attractiveness and holding power of traditionally defined iconic objects (Monti and Keene 2013, 1–7) and we might, therefore, expect precious material to be well represented among the images shared on Instagram. While this is largely true, our analysis suggests that stone was the most popular material, closely followed by gold. Bronze objects, despite their abundance, were not as well represented as organic remains ([Figure 8](#)).

The materiality of objects mentioned during audience interviews was largely consistent with the Instagram images but differed in one notable way: the prominence of organic objects in the former ([Figure 9](#)) (Morris Hargreaves McIntyre 2022b). Seahenge was a feature of both datasets but other, more difficult to photograph organic objects are mentioned in interviews but did not feature as prominently on Instagram (for example, the remarkable but small and brown-coloured grave goods from White Horse Hill, Dartmoor (*ibid.*, 46, 57)). We suspect this reflects an important distinction between the nature of answers given during in-person interviews, where ideas can be fully articulated and explained, and Instagram, where visual clarity and impact are more important. Of course, curators and exhibition

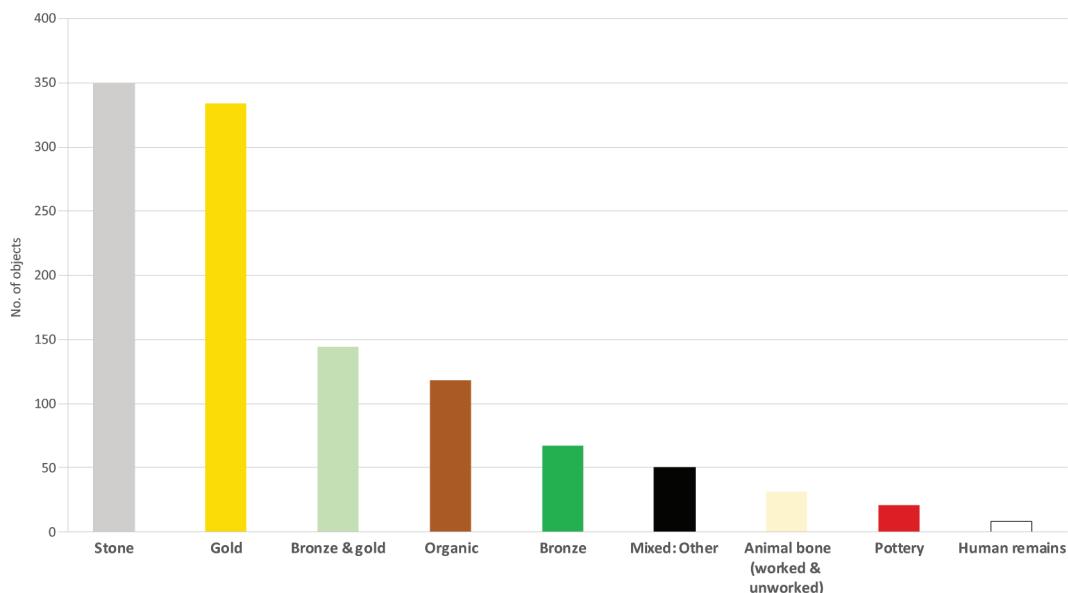


Figure 8. Material of objects featured in Instagram posts.

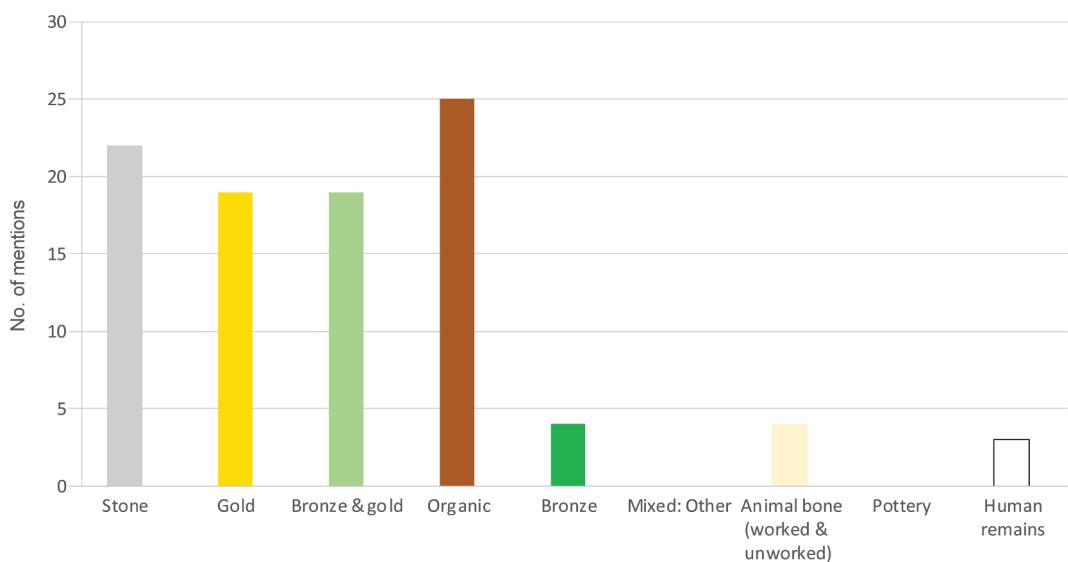


Figure 9. Materials of objects mentioned as being 'stand out' or 'memorable' during in-person interviews (data: Morris Hargreaves McIntyre 2022b, based on 51 interviews).

makers value both properties and this underscores the importance of considering both kinds of data when evaluating audience interest and engagement.

A more objective and in-depth understanding of the patterns can be gleaned by presenting the Instagram data in terms of percentage weighting of object materials (Figure 10). This helps to reveal that photo representations of both stone and gold exceed their physical presence in several sections of the exhibition. In contrast, objects made of bronze, pottery and, especially, mixed materials performed poorly.

The low engagement with mixed material assemblages is unsurprising. Our audience research revealed the difficulty in attracting and holding the attention of visitors with groups of objects made

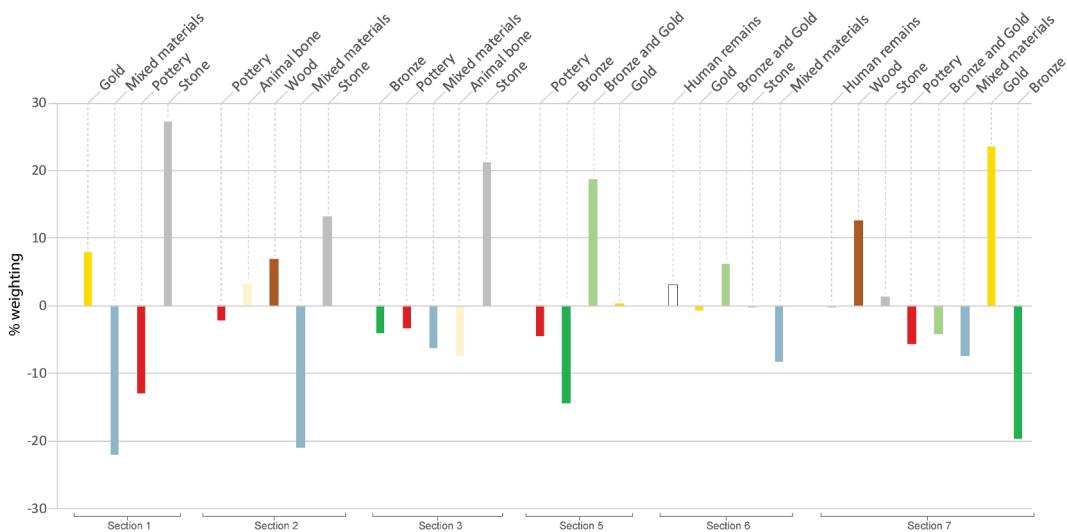


Figure 10. The relative representation of materials (omitting section 4: Seahenge). Graph shows the difference between % of objects made from each material and % of photographs of those objects in each section. Those which have positive bars (above the x-axis) have relatively more photos than they 'should' do, those with negative bars (below the x-axis) have fewer.

of different materials, despite the best efforts of the project team (Morris Hargreaves McIntyre 2022a, 62–73). In the WoS, these tended to be the surviving fragments of events like feasts and ceremonies: fragments of pottery, animal bone and stone tools. Some of these mixed assemblages represented highly compelling and evocative archaeological stories. For example, recent scientific analysis of the material traces of a feast that took place a short distance from Stonehenge, around 6,000 years ago, suggest a situation in which indigenous hunter-gatherers met and dined with incoming farmers from continental Europe (Gron et al. 2018). Our audience research highlighted that, despite having strong underlying narratives, the displays of mixed material assemblages were less attractive and had relatively short dwell times (Morris Hargreaves McIntyre 2022a, 62–73). The Instagram data supports this impression and suggests that more could be done to make this kind of display more visually exciting and enticing to maximise audience engagement.

Posts containing multiple images

Posts containing multiple images make up a sizeable percentage of the Instagram dataset (39% of posts and 76% of all images). As already noted, the decisions made in selecting and ordering these images is not arbitrary but, rather, reflects aspects of visitors' perceptions and preferences. It has been argued that through such posts, audiences 're-curate' aspects of exhibitions (Weilenmann, Hillman, and Jungslius 2013). In our analysis, we restricted our focus to the order and subjects of multiple image posts, as it is here that we can look for quantifiable evidence for object selection.

Where multiple image posts consist of objects from more than one section ($N=107$), 42% were arranged in the same order as they were viewed in the exhibition, while 58% were not.¹⁰ The first, conforming, group are reproducing the order in which they saw and recorded objects. In several cases, visitors bookended their posts with images of, for example, the advertising banners outside the exhibition and the front view of the British Museum itself. This reflects and reproduces the authenticity and authority of the museum's exhibition narrative and the visitor's experience. The second, non-conforming, group exercised a greater degree of agency over the structure and order of how objects could be seen.¹¹ One-third of these posts led with the Nebra Sky Disc ($N=19$), the most frequently posted image from WoS (Figure 2). Among both conforming and non-conforming posts, the Sky Disc featured in 43 (22%) and was the leading

image in 25 (13%). By comparison, Seahenge, one of the other most frequently posted objects (Figure 2), featured in 36 group posts (18%) but was the opening image in only seven posts (4%). A considerably higher number of posts began with an object made (fully or wholly) of precious metal (40%, $N = 79$) compared to stone (24%, $N = 47$), despite the popularity of stone objects overall (Figures 9). These trends suggest that when visitors were asked to order objects and materials, they privileged more iconic and immediately striking things. It is also possible that visitors were influenced by the British Museum's marketing imagery which, as mentioned above, featured the Disc prominently.

The popularity of the Nebra Sky Disc

Although the Nebra Sky Disc is widely known and celebrated in Germany, its country of origin (e.g. Meller and Michel 2018), it received relatively little exposure in Britain prior to WoS. The exhibition's marketing campaign, which was undertaken online, in print and on billboards on the London public transport system featured the Disc (Figure 4). This is an obvious and important explanatory factor underpinning its prominence in the Instagram data reviewed above. However, we suspect there were other, deeper and more complex reasons for its appeal.

In many respects, the Disc is an ideal museum icon of the 'traditional' variety described at the start of this study: visually striking with its most important elements (sun/moon and stars) made of gold, it is big enough to be easily viewed in the context of a busy exhibition yet small enough to be photographed and to seem personal, possessable, tangible and, perhaps most importantly, symbolic of larger and more compelling concepts. In this case, the symbolic content relates to ancient astronomical knowledge that paralleled some of the appeal of monuments such as Stonehenge and that were, by extension, fundamental to the exhibition's over-arching appeal, as revealed by formative audience research (TWResearch 2020). Indeed, a key element of the WoS narrative explored how the solar and astronomical functions of monuments like Stonehenge were transferred to portable and possessable objects at an important social and religious juncture in British and European deep history (Garrow and Wilkin 2022). The success of the Disc in terms of its Instagram visibility may stem from it being simultaneously fresh (and therefore tantalising) and yet fulfilling some deeply held expectations: for the astronomical and celestial themes suggested by the exhibition narrative and its very title's evocation of Stonehenge. To realise the full potential and potency of 'new' or 'alternative' icons, the right kind of interpretative framing – based on an informed understanding of visitor desires and expectations – is therefore required.

Discussion and conclusions

We have compared audience insights drawn from in-depth, traditional, audience research reports and data drawn from visitors' responses to the exhibition on two prominent social media platforms. The former are adept at categorising the internal motivations and interests of audiences and mapping movements around galleries. In contrast, analyses of visual (and textual) media shared on social networks can reveal how visitors (re)produce their visits during and after the event and thus reflect and inform their perceptions and categorisations of objects encountered in exhibitions. Taken together, both sets of evidence can provide a fuller picture of what audiences see, and how they react to it in the context of an exhibition and then selectively reproduce those impressions and memories. This – more holistic – view is important to understanding how and why certain kinds of exhibition and object become influential, sometimes rising to the status of 'blockbuster', 'star' or 'icon' of certain historic periods and cultures.

The study has reinforced the validity of analysing social media data for a range of audience grounded research questions, perhaps particularly when other methods of audience research are not available for time, access and/or budgetary reasons. The relatively close correspondence between our results using the two methods supports the impression that certain kinds of objects are often

prioritised by audiences, curators and museum marketing departments alike. Both methods also revealed audience attitudes to the display of human remains as being consistently respectful, and also uncertain regarding the ethics of their display and the relatively visceral way they were displayed in WoS. One of the most striking observations is the way in which posts with multiple images revealed biases towards more visually impressive objects. A notable number of Instagram users placed the Nebra Sky Disc as the leading image in a group of images, reflecting and perpetuating the visual branding and marketing of the exhibition (despite photography of this object being explicitly forbidden within the exhibition setting). The appeal of the hitherto under-appreciated Sky Disc (in a UK context) may stem from a combination of marketing deployment and its distinctive properties: photogenic, intriguing and possessing qualities that both confirmed and confounded expectations about the subject matter of the exhibition. It was suggestive of the enigmatic character and appeal of the monument (Stonehenge) around which the entire exhibition was framed.

There were, however, some important differences in what the two methods revealed. Notably, the prominence and popularity of objects made of stone emerged strongly from a materials-based analysis of the Instagram data. This perhaps makes sense in the context of an exhibition about Stonehenge but was not recognised by traditional audience research. We suspect this reflects an inherent bias of traditional evaluation approaches, which tend to focus questions around the most striking, impressive, or important artefacts and thus fail to recognise the active and equally important role played by other (kinds of) objects. Indeed, it was arguably only because we commissioned a specially targeted, in-person evaluation exercise, and undertook the social media analysis reported in this study, that we learned anything about the attractiveness of alternative materials and potential icons (Morris Hargreaves McIntyre 2022a, 51–73).

It is important to differentiate between data from visitor evaluations, social media platforms and the overarching atmosphere experienced by exhibition audiences. It is firmly established that design and interpretation play a fundamental role in setting the tone and mood of an exhibition and influence how objects are received, to the benefit of some objects and the detriment of others (Bitgood 2006; Monti and Keene 2013). It is difficult to pin down this elusive atmospheric quality in interviews (or other traditional audience research methods) or to capture it through object images, like the ones analysed in this paper. What can, however, be gained from the spatial analysis presented is a better sense of key (or ‘nodal’) points of interest for audiences. In the case of WoS, this highlighted that the curatorial ambition to create a strong climax moment to the exhibition was achieved, but that it may (inadvertently or perhaps unavoidably) have created a dip in audience engagement and interest in the shadow of this high point.

As museums and galleries continue to confront their institutional histories, colonial legacies and reimagine how their galleries should be displayed, they require the voices of audiences and communities to guide them, to inform them about how successfully they are navigating the many, urgent challenges they face. The subject matter of the ‘The world of Stonehenge’ exhibition may seem removed from highly contested areas of museum policy such as repatriation and other decolonisation debates. However, the lessons learned from critiquing ‘iconic’ objects from deep history – and exploring audience reactions to these attempts – do have relevance to other periods and places and can be understood as part of a wider movement towards democratising museums. As we have shown, the appeals of singular objects (based on their aesthetic appeal as much as their marketing) are difficult to alter (at least immediately) due to their entrenched position in both museum and visitors’ learned and subconscious perceptions of what is attractive within an exhibition setting (cf. Monti and Keene 2013, 1–4).

Our experimental efforts show that the dial can be moved, albeit slowly, by employing more visually remarkable (‘Instagrammable’) displays, and that audiences have an appetite for both alternative icons and more narratively (rather than purely or predominately aesthetically) driven displays, as demonstrated by the popularity of less well-known objects and monuments in the case of ‘Seahenge’ and the ‘axe wall’. One limitation we noted at the outset of this study was the absence

of in-depth evaluation of the motivations for visitors posting content related to the exhibition on social media. This relates to a wider issue: the tendency for large arts institutions like the British Museum to be focussed on transmitting knowledge via social media rather than using it to listen to audience opinions or engage in participatory techniques that draw visitors and museums into mutually beneficial conversations (De Angeli, Kelly, and O'Neill 2020; Rhee et al. 2022).

Throughout this article, we have presented data drawn from social media as a tool for audience research rather than focusing on the potential of those platforms as sites of and for audience-museum dialogue. An important 'next step' for developing and deepening the observations made in this paper would require museums to proactively encourage reflection and critique of curatorial decisions concerning the type, qualities and range of objects put on display by enabling their own social media channels to become arenas of debate and discussion (Rhee et al. 2022, 585–6). This is an area in which audiences and museums can grow and change together, moving towards the greater democratisation of exhibitions. In assessing changes in public interest and engagement with objects and materialities, social media can provide a unique visual 'lens' and source of multivocality that usefully complements traditional methodologies and refocuses attention on the need to modernise and give more informed thought to the visual and ideological reception of objects within museum exhibitions.

Notes

1. In the UK, the term 'blockbuster' is widely used to describe successful temporary exhibitions staged by museums and galleries, usually national collections and mostly in London. Although definitions vary, blockbuster exhibitions tend to draw audiences of more than 150,000 people during their limited runs that can last four to six months (cf. Jurčišinová et al. 2021, 22–3). They very often rely for their appeal and impact on being the first opportunity to see a group of artworks or objects brought together, at least within that country or territory and are therefore often heavily reliant on incoming loans from other museums and private collections. In contrast to general admission to national museums in the UK, which is free, 'blockbusters' charge for entry and they can therefore play an important role in museum fundraising.
2. We should, of course, be aware of the limitations caused by digital exclusion, although access to smart phone technology is increasingly common. A bigger limitation in the case of our project was the paid-for access to the exhibition itself.
3. Only regular posts made on Instagram were gathered; we did not collect the feature known as Instagram Stories (temporary posts which last for only 24 hours before disappearing).
4. This represents the current standard level of evaluation for British Museum flagship exhibitions, intended to establish who attended the exhibition, the motivations and outcomes of their visit and whether their expectations were met (Morris Hargreaves Macintyre 2022b, 2).
5. Section 1 introduced key concepts, before visitors entered Section 2 (Working with Nature), a large area that explored the shift from hunting, gathering and fishing to agriculture. Section 3 (Sermons in Stone) explored the associated move towards the creation of shared decorative motifs and styles on a range of ceremonial objects and the construction of monuments like Stonehenge. Section 4 (Seahenge) represented the shift to monument building physically, while Section 5 (Under One Sky) explored objects reflecting the symbolic and cosmological significance of the sun. Section 6 (New Horizons) shifted the emphasis to death and burial, reflecting the increased number of burial mounds in the landscape surrounding Stonehenge. The penultimate Section 7 (To the Sea) explored the reasons why Stonehenge and related ceremonial complexes began to lose their power as long-distance trade and exchange increased. The final Section 8 provided a brief conclusion to the narrative by returning to key concepts and symbols.
6. The scale of objects may also have played a role here. It is notable, however, that the Shropshire gold bulla featured highly (Figures 1–2) despite being both diminutive and hard to photograph.
7. The Nebra Sky Disc was registered as a trademark with the German Patent and Trademark Office and, subsequently, the European Union Intellectual Property Office by the State of Saxony-Anhalt in Germany and this has resulted in the reproduction of the image of the disc being tightly controlled.
8. The scale of objects may also have played a role here. It is notable, however, that the Shropshire gold bulla featured highly (Figures 1–2) despite being both diminutive and hard to photograph.
9. Traditional evaluation techniques also detected a problem with the layout of the exhibition. Around half (51%) of visitors to WoS felt that the layout of the exhibition enhanced their visit. This was notably lower than previous, comparable, exhibitions held in the same gallery (Morris Hargreaves McIntyre 2022a, 39).

10. Not all the group posts comprise of objects drawn from different parts of the exhibition: 46% consist of images of one object, object group or exhibition section.
11. Other factors may be relevant, including multiple visits to the exhibition or doubling back to take images later in their visit.

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Data availability statement

The data from audience research evaluation undertaken by Morris Hargreaves McIntyre (2022b) is available from the corresponding author, NW, upon reasonable request. The corpus linguistics analysis of social media data by Chris Ryder (2023) is also available on reasonable request from NW. The dataset of Twitter/X and Instagram posts is, however, not available as we actively decided not to ask for consent for identities and content to be shared in this way.

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