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## A Very Remote Storage Box Indeed: The Importance of Doing Archaeology with Old Museum Collections

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### ABSTRACT

Although our practice has come to be defined by a focus on excavation as the trademark of archaeological research, research on archaeological collections lies at the scientific heart of the discipline. We demonstrate through two very different case studies how a return to primary sources (in this case, boxes of artifacts) can upend our understanding of the objects themselves and create new narratives of social and technological change. At the same time, access to museum collections is becoming increasingly difficult as institutions struggle with the growing pressure to enhance public outreach and modernize data management, while simultaneously contending with persistent budget cuts. As archaeologists who work closely with museum curators and museum collections, we offer suggestions for how researchers can work with museums to ensure that future generations of researchers and the general public can learn from the ancient materials preserved within their collections.

### KEYWORDS

Collections-based archaeology; collections management; material culture studies

### Introduction

To the public, to many prospective students of archaeology, and to a very large proportion of professional archaeologists, doing archaeology means doing fieldwork, specifically excavation. While this often leads to the aggregation of large collections of materials in archaeological repositories and museums, it does not, unfortunately, always mean processing, recording, and fully publishing these collections. Consequently, our museums are full of understudied material (FIGURE 1) that, with some time and attention, can yield great insight into specific sites, periods, and archaeological questions about the past (Voss 2012; Hicks and Stevenson 2013). Moreover, the challenges to collections-based research, as detailed below, mean that even the seemingly best known assemblage, far from being over-studied, may in fact be less well understood than we assume.

The future of archaeology lies in museums and archaeological repositories whose collections were and continue to be central not only to the construction of archaeological narratives, but also to the continuing development of our discipline (Lynott 1997; Trigger 2006: 535–536; Hicks 2010; King 2016) and to the ability of the public to engage with our work (Witcomb 1997; Buchanan 2016). Archaeologists' work necessarily revolves around objects, whether it involves building chronologies; identifying ancient genetic, isotopic, or other chemical signatures; discussing entangled networks of material agents; or choosing flint tools for public handling sessions. Museums and collections sit at the intersections between these various nodes: they connect past collections to present research, they preserve recently uncovered material for the future, and they present archaeological stories of the past drawn from both these sets of materials to the wider public. Ultimately, through their display cases, museums shape the public's image of the past (as exemplified by Jones and

Pay [1994] and Frieman [2012b]). The stories they tell about past people are not neutral, but are synthesized from decades of small- and large-scale research activities that engage both the beautiful objects that inspire the public and the boxes of dusty materials that are never displayed (King 2016).

Most importantly, these syntheses are dynamic entities that change as our methods of analysis and interpretation evolve. Thus, continuous contact with and use of collections is a relevant component of archaeological research that can contribute as much as, and sometimes more than, excavation does to our understanding and reinterpretation of the past. Navigating the various complexities of museum access and collections recording can therefore prove incredibly worthwhile for both researchers and curating institutions. In this article, we suggest that, in the current moment, when the plethora of external pressures on individual museums, collections managers, and public heritage agencies has become increasingly onerous, archaeologists have a major stake in maintaining and supporting continued access to the collections held by these institutions. We propose a set of best-practice guidelines for the practice of museum archaeology to facilitate our own research, engage collaboratively with museum professionals, and work to improve the future of archaeological collections. We base this in our own experiences of working with a variety of small and large museum collections and the insights these give us into both the difficulties and the rewards of museum-based research. We argue that, as archaeologists, we have an ethical duty to work with museums and alongside curators—prior to, during, and post-excavation—to improve access to material, to safeguard funding, and to ensure that future generations—of both researchers and members of the public—can look at, learn from, and handle the ancient materials preserved within their collections.



**Figure 1.** Original collection container filled with microblade flakes from Site 31 (AMNH 73/2738). From the 1928 Central Asiatic Expeditions. Photo by Lisa Janz, courtesy of the American Museum of Natural History.

## The Rewards of Museum-Based Archaeology

### *An overstudied assemblage*

Flint daggers are among the most heavily studied category of lithic tool produced in prehistoric Europe. They were made and circulated widely from the fourth millennium B.C. through to the mid second millennium B.C. Several different varieties of flint daggers have been found in a variety of archaeological contexts from Italy to Norway (Frieman's [2012a] references include many examples). By far the most heavily studied flint daggers were produced in southern Scandinavia in the late third and early second millennia B.C. (Müller 1902; Forssander 1936; Lomborg 1973; Apel 2001). These daggers were long and flat, some of them clearly made with particular refinement for the funerary sphere (Sarauw 2007, 2008). They range in form from thin and lanceolate to examples with broad leaf-shaped blades and elaborate fishtail hilts carefully ornamented with lines of elegant punching. Their production seems often to have required the application of specialized techniques on specially sourced or mined flint, which appears to have contributed to their value and led to them being exchanged over quite long distances (Frieman 2012a, 2012c).

Due to their impressive numbers, their striking appearance, and their frequent inclusion in funerary contexts, flint daggers have been a source of fascination for archaeologists from the nineteenth century onwards. They are very frequently described as direct morphological imitations of metal (Apel 2001; Callahan 2006; Honegger 2006, 2011). They are regularly featured in museum displays, on book covers, and on tourist post cards. The Danish flint dagger from

Hindsgavl has become so recognizable that it was included on the 2009 run of Danish Kroner (FIGURE 2). This dagger in particular has elicited extraordinary interest from researchers who have carried out technological and microscopic studies to determine how it was made and with what tools in order to extrapolate the results to the rest of the Danish flint dagger corpora (Stafford 1998). Archaeologists, obviously inspired by the stunning examples reproduced in every publication—academic or popular—about Scandinavian flint daggers, regularly interpret them as items for display, as having had a singular and shared function, as indicating great status, and as being so technically complex that their production was necessarily controlled by emerging chiefs or local specialist master knappers (Apel 2000, 2006; Earle 2004; Olausson 2008; Skak-Nielsen 2009). Despite the attention accorded to this specimen, most of the more than 10,000 flint daggers in Scandinavia are not nearly as fine as the example from Hindsgavl.

Commencing in 2006, a research program was designed to re-evaluate the Scandinavian flint daggers, as well as a contemporary assemblage of flint daggers from the British Isles—including broken and only partially identifiable material and collections with no documentation—that had previously seen neither extensive nor intensive analysis (Frieman 2012a, 2012c, 2014). In looking beyond the especially shiny examples of flint daggers in the glass display cases, it has been possible to delineate a model of flint dagger production and use that is distinctly different from the traditional narrative. In particular, the previously clear link between flint daggers and metal daggers has been disrupted, not to mention that their position as prestige display artifacts is considerably weakened. In fact,



**Figure 2.** A Danish 100kr note showing the Hindsgavl dagger. Photo by Catherine J. Frieman.

even a cursory examination of the non-displayed collections of flint daggers kept in museum stores reveals that, far from being exquisite display pieces, the majority of flint daggers were re-sharpened at least once and some so extensively that their functionality as cutting or stabbing implements would have been lost (Lindman 1988; Frieman 2012a) (FIGURE 3). Moreover, even broken and damaged flint daggers remained in circulation, some converted into other tool types, others simply as broken flints (Trnka 1991; Peiler 1999), perhaps because of the value accorded to their raw material or the fine knapping techniques obvious even on the broken fragments.

In fact, rather than being unused, high prestige display objects responding directly to metal prototypes, the Scandinavian flint daggers fit neatly into a continuum of flint dagger production and use that spanned much of Europe during the late fourth–early second millennia B.C. (see papers in Frieman and Eriksen’s [2015] edited volume). The development, use, and deposition of Scandinavian flint daggers cannot be understood without understanding the wider sphere of flint dagger manufacture and distribution. Rather than being easily classed as morphological imitations of metal, Scandinavian flint daggers are better understood along with contemporary metal daggers as part of a much more longstanding “dagger idea” linked to ideas of gender, social status, and the value of specialized technologies, including metallurgy and specialist flint knapping (Frieman 2012a: 455–457). Thus, instead of viewing European flint daggers as having had a singular meaning or significance, close examination of the daggers themselves (even despite nearly two centuries of archaeological analysis) and the variety of their forms and contexts suggests that they were produced and used in ways that reflected temporally specific and locally significant purposes linked to wider ideas about specialization and exchange.

### *An understudied assemblage*

Multi-disciplinary scientific expeditions were a trademark of early 20th century colonialist exploration, but despite their

association with imperialist regimes, they were extremely productive in laying the groundwork for archaeological research beyond the West (Trigger 2006). In the 1920s and 1930s, archaeologists in the Gobi Desert were intent on investigating the “origins of man” and traces of “lost civilizations,” just as biologists, meteorologists, geologists, and paleontologists were employed to discover other aspects of these little-known regions (Andrews 1926; Hedin 1943: xii–xix). Publications resulting from these expeditions (Berkey and Nelson 1926; Nelson 1926a, 1926b; Maringer 1950) were widely read (Okladnikov 1967) and contributed to Mongolian and Russian interest in Gobi Desert archaeology after the end of World War II (Okladnikov 1951, 1962; Gábori 1963; Kozłowski 1972; Gunchinsuren and Bazargur 2009). By the 1970s, Mongolian Stone Age archaeology thrived under the direction of Mongolian and Russian researchers such as Perlee, Ser-Odjav, Dorj, Tseveendorj, Okladnikov, and Derevianko. These scholars worked within a culture-historical framework and created a foundational understanding of chronology and typology for post-glacial land-use and technology prior to the Bronze Age (Derevianko and Dorj 1992; Cybiktarov 2002). Although Soviet-era scholars had made keen observations about geology and stratigraphy and had drawn stylistic comparisons with better-dated sites in neighboring regions, their accomplishments did not include chronometric dates and were insufficient to reliably contextualize changes in land-use and technological developments relative to the larger region. Gobi Desert collections simultaneously languished in western repositories as the Cold War made research in East Asia largely impossible for western scientists.

Over the decades, Gobi Desert collections were sometimes revisited (Morlan 1976) and archival data used to publish comprehensive catalogs of the collections (Maringer 1950; Fairservis 1993). Bettinger and colleagues (1994) even undertook quantitative analysis of one such catalog. Toward the end of the Cold War and after the dissolution of the U.S.S.R. there was renewed interest (Wang and Olsen 1985;



**Figure 3.** Examples of heavily re-sharpened flint daggers (from left to right): Hønnerup, Syddanmark, Denmark (15050); Hasselholt, Midtjylland, Denmark (A29094); and Gammelgab, Syddanmark, Denmark (A23104). Photo by Catherine J. Frieman, courtesy of the Nationalmuseet, Copenhagen.

Fairservis 1993; Madsen et al. 1996; Elston et al. 1997; Derevianko et al. 1996, 1998, 2000, 2003, 2004; Brantingham et al. 2001; Madsen et al. 2001), but this was primarily expressed through survey and excavation projects as western researchers finally gained access to a region that had been mostly off-limits to foreigners for many decades. For the Gobi Desert, this new wave of research produced few advances in our understanding of local prehistory. The old problem persisted: stratified sites were difficult to locate in this arid landscape and the surface assemblages with poor organic preservation proved just as difficult to date as they had been in the earlier 20th century. Of the sites identified during the 20th and early 21st century, only two were dated (Elston et al. 1997; Derevianko et al. 2003).

In 2004, Janz began systematic analysis of the geographically expansive 20th century collections and their rich archives curated at the American Museum of Natural

History, New York and the Museum of Far Eastern Antiquities, Stockholm (Janz 2006, 2012). This specifically included the development of strategies for chronometric dating (Janz et al. 2009, 2015). Radiocarbon and luminescence dating of pottery proved particularly useful in producing direct dates for site assemblages and diagnostic artifacts (Janz et al. 2015). Dating these sites suddenly made it possible to distinguish previously unrecognized temporal markers and to then categorize land-use and technology within a 15,000-year timeframe into 2000–3000 year slices (despite what Bettinger and colleagues [1994] had argued). The most important outcome was the ability to contextualize the Gobi Desert within the broader sphere of cultural and environmental processes in East Asia (Janz et al. 2017) and to demonstrate a major shift towards preferential and intensive use of wetland habitats under conditions of Holocene climatic amelioration (Janz 2016) rather than environmental

degradation as had been argued for arid East Asia (Maringer 1963; Bar-Yosef 2011).

Museum collections have the unique potential to accomplish this type of large-scale synthesis. Decades of systematic excavation and analysis are normally required to develop an understanding at such broad temporal and geographic ranges, and today's researchers are often loath to concentrate their efforts in the way required to develop this kind of comprehensive synthesis. Nevertheless, there are still many world regions where more thorough syntheses are still needed, not only to create complete culture-historical timelines, but also to more accurately identify and address important theoretical issues of regional and global significance. Revisiting understudied collections can offer entirely new examples of and perspectives on issues such as the origins of agriculture, where the increasing focus on previously marginalized world regions such as Japan, New Guinea, and northern Africa are reorienting our understanding of the variability and even certain types of uniformity in human adaptation (Crawford 2011; Denham 2011; Marshall and Weissbrod 2011).

### Challenges to doing Archaeology within Collections

Despite the ongoing importance of material culture studies to archaeological research and the historical centrality of museums to this research, museum-based research has many challenges that are not frequently considered by archaeologists. Detractors focus on problems such as a lack of context, unsystematic collection practices, or poor records; however, such challenges are easily circumvented through careful research design. In contrast, the difficulties that we faced were ones for which our education as archaeologists did not prepare us: the tyranny of typological classification, the trials of storage and access, and the ongoing crisis of underfunding. Some of these challenges are intellectual, reflecting traditional patterns of archaeological and academic reasoning; others are more tangible and historical, resulting from the inevitable changes in technology and priorities that affect the quality of data held in museums as well as access to them (Keene 2005: 52–54).

Collections of ancient materials were visited and studied for centuries before archaeology developed as a discipline (Schnapp 1996). The accumulated knowledge about objects' ages, associations, and functions has been and continues to be vital to our developing understanding of the ancient past. Much of this knowledge is based on typological categorizations; understanding these typologies is of primary importance when working with museum collections as many museum collections continue to be largely ordered and cataloged by typological data recorded by earlier generations of archaeologists, curators, and donors. Objects that are ambiguous in their form, broken, or otherwise difficult to include in a given technological system can be extremely difficult to request access to. For example, Frieman found that a serious problem in studying flint daggers lies in the ambiguities of recording, and subsequently identifying, broken or reworked material. A blade fragment that cannot be fitted into a typological system based primarily on handle shape, such as the Scandinavian system, may not be recorded as a flint dagger at all and, thus, remains invisible to any visiting researcher. Similarly, so-called spearheads found in Scandinavian contexts contemporary with flint daggers seem likely to have

been made from broken or unfinished dagger blades, and some museums record them as such, while others keep them separate (Lindman 1988).

Furthermore, typological schema are not clear cut, being drawn from considerable numbers of sometimes conflicting reports, papers, and monographs, each with their own slightly different understanding of artifact morphology or sequencing based on the varying analytical and theoretical frameworks applied, all of which change over time and reflect various regional research traditions. Moreover, many typological systems were developed within specific national traditions of archaeology and in a variety of different languages, meaning that the same sort of flint object could be given numerous different typological categorizations depending on its country of excavation. While standardization is a necessity for the ongoing maintenance and curation of existing collections and the organization of newly accessioned materials (King 2016: 6), we have found that superficially standardized typological terms within legacy collections have the unfortunate tendency to conceal as much variety as they contribute to delineating, both within and between collections.

Uneven progress in modernizing institutional resources further complicates matters. Some museums continue to use their old hand-written records, updated sporadically as necessary, while others make use of a variety of digital systems, from ad hoc databases to national heritage records. This lack of standardization is as evident between local and national museums as it is between museums in different countries: it is rare to find two museums with similar record keeping systems (Fink 2005). Such a lack of standardization means that different museums have different requirements when contacted by researchers eager to work in their collections: some need accession codes and cannot retrieve artifacts without them, while others are able to search by typological criteria or even by the name of the donor where the information is available.

Digitization has certainly made searching and acquiring museum records easier, particularly in the case of museums whose records have been made fully or partially available online (e.g., the British Museum [[http://www.britishmuseum.org/research/collection\\_online/search.aspx](http://www.britishmuseum.org/research/collection_online/search.aspx)], the American Museum of Natural History [<https://amnh.org/collections>], the Swedish National Museums of World Culture [<http://www.varldskulturmuseerna.se/en/ostasiatiskamuseet/research-collections/search-our-collections/>]), but the quality of the records retrieved in these searches also depends heavily on how well-tailored the system is to archaeological materials and how much knowledge the person inputting data has about the collection. In general, we found that requests based on published accession codes had variable results: in some cases, all published pieces (and several previously unpublished pieces that the curators had spotted while retrieving requests) could be found; in others, fewer than 50% were available. Catalogs or images from older collections may not be digitized, as was the case for Mongolian archaeological collections at the American Museum of Natural History. While a museum might easily justify the digitization of fine art and ethnographic collections, the expense required to produce such images cannot be so easily justified for some types of materials collected by archaeologists. Approaching funding agencies for the digitization of archaeological collections must then be creatively considered.

Perhaps even more troubling is the possibility that digitization will encourage indiscriminate use of these records for collections research or encourage funding agencies to further deprioritize funding for travel to work directly with collections. Aside from the inconsistency of digital records, digitization seldom includes information from or links to associated archival materials. This is particularly true of more discursive hand-written or -drawn notes (FIGURE 4). Since the incorporation of such is rarely anticipated by database architects and, in the case of notes and drawings, requires extra labor to scan and attach, they are frequently left out. Both American and Swedish collections from the Gobi Desert contain squares of paper upon which the original collectors made notes on the context, quantity, or location of an artifact within the original site, data which are otherwise unrecorded. As such, these scraps of paper are an essential component of the collection, but are only useful when stored with the associated artifacts. Likewise, sketches frequently record crucial information not available in the rest of the records. They are essential records of object type and form when pieces go missing, because they help researchers and collections managers identify pieces that have lost their accompanying labels or documentation. As collections grow, are transferred between institutions, are consolidated, are put on display, or are removed from storage for study, it is imperative that this additional data is curated in tandem with associated objects.

It is worth noting that curatorial staff members are fully aware of this problem. MacFarland and Vokes (2016) draw particular attention to the difficulties that curators face in deciphering labels and excavation records, which are painstakingly reconstructed from field notes that were designed for recording excavation rather than simplifying curation. New technologies are also being employed to retain discursive and illustrated notes as well as record text, as can be seen, for example, in the British Museum's MicroPasts project, which is, among other things, crowd-sourcing the digitization of all paper records and illustrations in the previously rarely accessed Bronze Age Card Index in order to make them into a publically accessible, open access resource (Bevan et al. 2014; Bonacchi et al. 2014; Frieman and Wilkin 2016).

Despite these improved standards for curation, it will take many years for all the collections to be digitized. In the meantime, researchers face numerous challenges related to access. Even when artifacts derive from large site assemblages where most of the material is kept together, it is not unusual for more visually striking pieces to be put on display or removed for some special purpose and misplaced or not returned. Orphaned artifacts or boxes of artifacts from one assemblage might be incorporated into another storage area if the original location is not obvious, which then requires a survey of all storage facilities, drawers, and boxes associated with the larger collection.

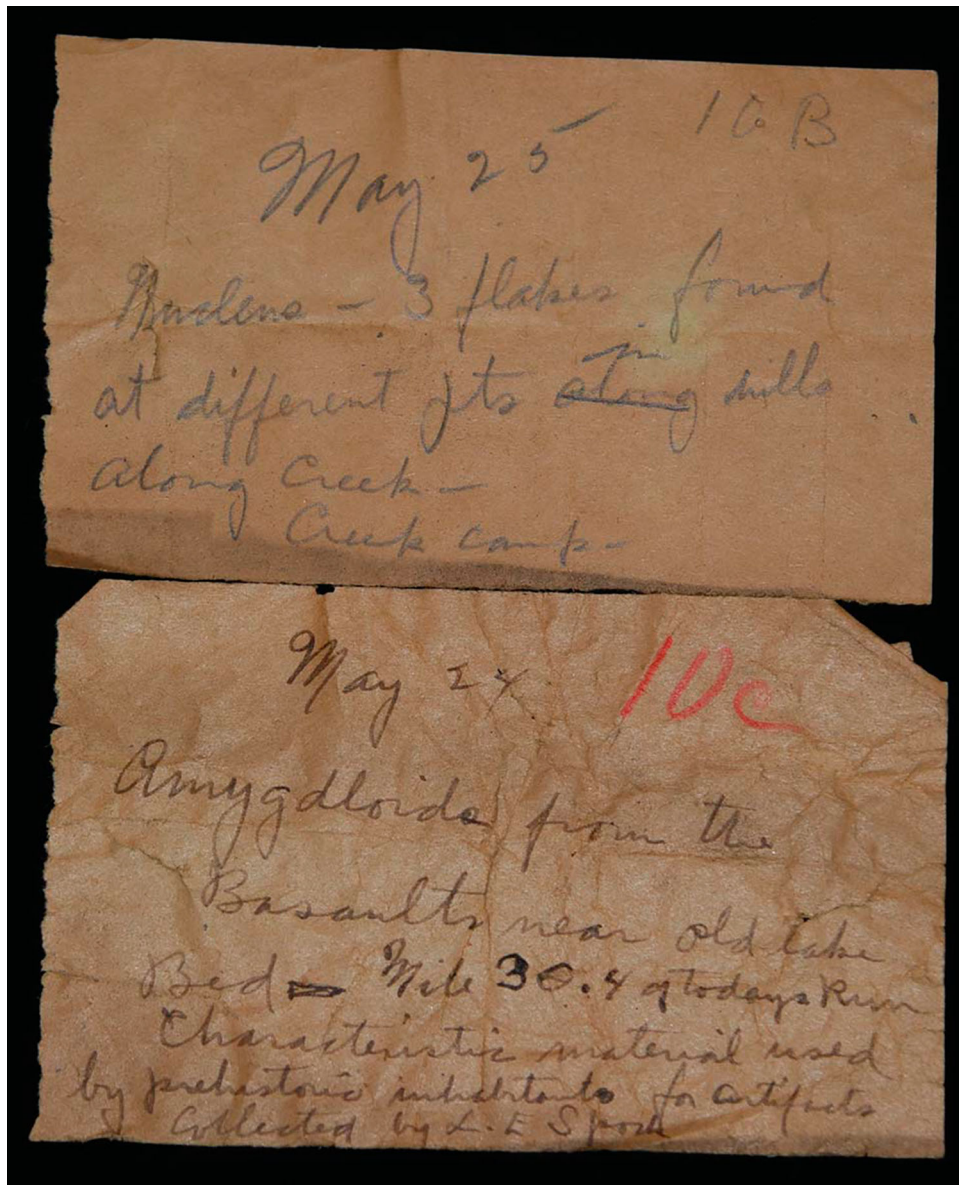
Visiting researchers have also been known to reorganize pieces within the general collection, often in order to keep track of specimens that interested them. This practice is particularly problematic for subsequent researchers attempting to work with a site assemblage as a cohesive whole and for museum staff who are in charge of keeping collections organized. When objects are reorganized without the knowledge of museum staff or without adequate records (a curator once quipped to Janz that he needed to consider his actions in terms of whether objects or data would be lost if he died in his sleep that night), access to the full breadth of data is

compromised and can often only be recovered when a visiting researcher is aided by a curator or curatorial assistant who is particularly knowledgeable or who allows a box by box survey of materials by the researcher. These problems are compounded with age as the effects of archaic curation standards and decades or centuries of visiting researchers accrue. Where time, space, and museum rules permit, many curators will allow visiting researchers access to the collections themselves, in order to locate missing objects or identify mislabeled pieces. Yet, these sorts of exploratory missions into the bowels of museums are necessarily becoming less common as a result of the pressure on staff to do more with fewer resources.

The global financial crisis has clearly impacted the ability of museums to provide researcher support in recent years. In many parts of the world, museums are either fully state run or depend heavily on governmental funding—at a national, regional, or local level—for their major funding streams, such as grant programs to support heritage, culture, and the arts. While some museums, such as the British Museum in London or the Nationalmuseet in Copenhagen are believed to be national treasures and have their funding streams supplemented by popular membership schemes and protected by worried governments (Jenkins 2010), smaller museums are not as lucky (as discussed by Atkinson [2015], for example). These have been heavily affected by austerity measures put in place after the 2007/2008 global financial crisis (Ford 2010; Museums Association n.d., 2014; Brown 2012; Arnold 2015; Steel 2015). Severe government cuts to heritage funding threaten the integrity of the archaeological record (Phillips 2012; Richardson 2015), long-standing public heritage initiatives (Paton 2013; Frieman and Wilkin 2016), and the ability of museums and historic buildings to maintain their facilities and collections and to allow access by researchers who wish to work with them (BBC 2012; Higgins 2012; Frieman and Wilkin 2016).

In some cases, the choice has to be made to disallow access to researchers in order to retain enough money for conservation of the collections. One noteworthy example is that of the Weston Park museum in Sheffield, which retains the most significant Bronze Age and Anglo-Saxon collections in the north of England and was made inaccessible to visiting researchers in 2011 due to staff shortages resulting from city, county, and national budget cuts. One solution to the problem of access costs has been proposed by the Prehistoric Society, which launched a collections study award in 2016 to support both researchers and museums in studying prehistoric material and archives held in museum stores (Prehistoric Society n.d.). In a further sign of the problems faced by UK museums at the moment, the UK government announced in the 2015 autumn statement the decision to sell Blythe House, a historic (and extremely valuable in real estate terms) property in an easily accessible location in central London. Blythe House currently houses large parts of the collections of the British Museum, the Science Museum, and the Victoria and Albert Museum, the last of which has made their Blythe House material open to the public. Although the chancellor pledged to help relocate the affected collections, no plans were advanced and the emphasis was clearly on supporting the display collections rather than the extensive stored materials (Osborne 2015; Bailey 2017).

In contrast, since the majority of museums in the United States are non-profit organizations, they are funded largely through grants and donations, so their ability to maintain



**Figure 4.** Examples of handwritten notes from the 1928 Central Asiatic Expeditions. Notes include the site number, date of collection, specific details about collection contexts, and frequently the name of the collector. Such details are rarely recorded in museum catalogs. Photo by Lisa Janz, courtesy of the American Museum of Natural History.

access to collections is comparably stable. Only about 24% of a typical United States museum's operating budget is derived from federal, state, or local government funding, with additional income derived from admissions; invested endowments; gift shop, bookstore, and restaurant sales; and space rentals for corporate gatherings and ceremonies, such as weddings (Bell 2012). As a result, the economic downturn affected larger museums much less dramatically in the United States than in Europe, although smaller museums with fewer visitors remain underfunded and rely heavily on volunteer labor. Since the 1970s, increasingly strict federal and state regulation related to the curation of archaeological finds have resulted in exponential growth that institutions are not equipped to maintain (Ford 1977; Lindsay et al. 1980; MacFarland and Vokes 2016).

Museum and curatorial staff in North America have been raising alarms about chronic underfunding of storage facilities and the concomitant danger of lost or destroyed collections (Bawaya 2007; Trimble and Marino 2003) and recent years have seen a spate of publications suggesting ways to manage archaeological research and archaeologists' agendas

so that the value of legacy collections is more obvious (King 2008, 2016; Voss 2012) and so that the new material we are amassing can be stored for the future in a more ethical and considered manner (Green 2015; Jamieson 2015; Kersel 2015; Silberman 2015; Flexner 2016). Museums also face danger from current party politics in the United States, where the Trump administration has already suggested targeted funding cuts to the National Endowments for the Arts and Humanities and the Institute of Museum and Library Services, among other agencies (Trump 2017); thankfully, this specific endeavor seems to have been thwarted.

Fundamentally, access to museums and collections depends on available staff to supervise and aid researchers. Without a knowledgeable museum employee who has the time to assist visiting researchers, a collections survey may necessarily be biased towards complete objects and well-known and easily-located assemblages. National institutions like the British Museum or the Smithsonian Institution have procedures in place for researcher visits and funding available to pay collections assistants, interns, and others to supervise and facilitate their work. Since this type of support



depends on funding, it cannot be guaranteed at smaller and less well funded facilities. As the primary group who benefits from the accessibility of museum collections, it is imperative that we use whatever influence we have to push governments to prioritize collections and collections management in their budgeting processes and to remind them that museums are not just places that tourists spend money, but also organizations that safeguard the less appreciated or less well understood materials that give archaeologists invaluable insight into the past.

### Archaeologists in the Museum Ecosystem: More than Just Research Outcomes

Despite ample opportunity for frustration, we have both found it possible to access the collections of many museums, to consult their records, and to record hundreds of rarely seen and never displayed artifacts. Curators and museum assistants under pressure to work two or more people's jobs, to have more public impact with less funding, and to make use of their collections lest they lose all financial support have been incredibly warm and welcoming. They are often pleased to have a researcher working with material that otherwise would languish in dusty drawers and hidden storage boxes (Kletter 2015); and our observations and photographs regularly end up being discussed with staff and incorporated into museum databases. In this way, we have been able to contribute to the museum's records, while also enhancing the long-term integrity and utility of curated collections (Barker 2003: 71), both advancing our research agendas and supporting the museums' own ethical imperatives (International Council of Museums 2006).

Additionally, our presence as researchers can be used by curators to justify continued funding for the museum assistants who have aided our work and research results can be disseminated to private donors as a way to underscore the importance and value of museum holdings and to generate additional or continued support. This is especially important as museums play a key role in engaging the public to support those heritage activities whose existence is currently under threat because of funding cuts and the diminution of state interest in the preservation and conservation of ancient materials and sites. As Arnold (2015) suggests, governments

typically support archaeological endeavors when these are useful to their larger aims; with the shift away from co-opting archaeological research to support the nation-state, funding has concomitantly diminished. As in the United States, the future of museums inevitably appears to lie in the hands of private donors and passionate visitors.

This point highlights the important role that visiting researchers should play in the museum ecosystem. Following Keene (2005) and disagreeing with Curtis (2003: 29), it is through ongoing research both that collections are developed and that the meaning and relevance of collections are elaborated and communicated between scholars, stakeholders, and the general public. When museums and their staff necessarily must focus on the public, researchers are uniquely capable of helping curators and museums maintain accessibility, locate orphaned or uncategorized objects, and make digitized records more useful. Our own experiences locating all the archival materials associated with only one group of artifacts was challenging; however, museum staff handling hundreds of times more material do not have the resources to undertake such comprehensive searches.

Ensuring that museums and repositories are consulted in advance of fieldwork and then recording and reporting our discoveries carefully and with full documentation (or meta-data, for digital collections), including typological criteria, is an ethical requirement. Numerous international archaeological associations recognize the importance of such resources in their society ethics statements: see, for example, Lynott (1997: principle 7), Archaeological Institute of America (2008: I-3); and Society for Historical Archaeology (2015: principles 2 and 4). This acknowledges the importance of museums and repositories in preserving the integrity of the archaeological record, improving accessibility for future researchers and ensuring those individuals will be able to move forward with a more comprehensive dataset (see Fitzpatrick [2016] for one example of a good practice guide for collections management). Likewise, the process of digitization, particularly in light of budgetary cuts, is daunting; but, if photographs and drawings taken by researchers are made available to museum staff, they can often be linked to digital entries, as can relevant archival materials that we discover in the course of our research.

Recognizing the constraints museum staff members are under, some basic steps can be taken to facilitate visits and

**Table 1.** Best practices for research visitors to museum collections

Prior to your visit	During your visit and immediately following	Subsequent to your visit
Plan visits early and be flexible with dates. Be realistic in estimating the time this research will take.	Follow curatorial instructions for careful handling of objects.	Ask for permission to publish photographs of artifacts, even if you have taken them yourself
Clearly describe what objects you wish to handle and, where possible, include accession codes and find locations.	Always sign visitors' books.	Always clearly identify artifacts by museum catalog number in publication
Whenever possible, educate yourself about how collections are organized at the host institution and how this might affect the ability to locate objects and assemblages of interest.	Always keep artifacts in the order maintained by the museum and designated by their catalogs—if specific artifacts are of future interest, leave them in place and ask museum staff for permission to use labeled collection bags to distinguish them within the drawer or storage box.	Acknowledge curators and staff in presentations and papers resulting from research.
Be explicit about the sort of research you will carry out and what sort of additional equipment you might require (e.g., desk lamps, dedicated desk space). Be flexible.	Offer to note corrections to archival or catalog materials where applicable.	Submit copies of reports, papers or books deriving from your research to collections visited.
Distinguish between non-destructive, invasive, and destructive research.	Offer copies of notes, drawings and photographs to the museum.	
For destructive analysis, clearly explain the extent of the damage that will result from your analyses and justification for sample selection. Offer alternative options that are less destructive	Produce a short report identifying the material you handled and summarizing your preliminary results for the collection archive.	
Briefly describe the expected contribution that your research will make and indicate a plan for the dissemination of your results.		

encourage museums to retain researcher access to their collections (TABLE 1). Visits should be planned well in advance and it is often a good idea to consult curatorial staff in advance to determine the best and most effective way to request access to materials, since the organizational principles of museums can vary significantly. Similarly, proposals for destructive analysis ought to be completed professionally and in good time. For example, requests for loans and destructive analysis can take several months to fulfil because committees may only meet once every few months. On top of laboratory processing times, the potential need for proposal revisions, and shipping times, the research timelines need to allow up to a year or more to complete analysis. Moreover, such proposals are often best made after or during the researcher's visit, when they are acquainted with the appropriate staff members, have verified the availability and location of the samples, made the staff aware of their intentions, and, ideally, hand-selected the samples that they will request. Curatorial staff may refuse such requests, especially when destructive analyses are proposed; in this case, discussing alternate research strategies with curators might lead to new avenues of analysis that will not entail damage to museum collections. If the research involves collaboration with technical specialists, it is likewise important for researchers to work with them on a proposal that accurately presents the risks and rewards involved. This is especially true for destructive analysis.

Reports of all analyses—both destructive and non-destructive—and any resulting publications must be submitted to museums to counter data loss from sampling and increase the museum's own knowledge about its collections. Such reports, not to mention any resulting publications, are extremely important. Despite the fact that scholars can now easily search numerous on-line databases for articles and books, relevant publications can be much more reliably located when the institution is able to link them directly to the collection catalogs or store them in the appropriate archival repository. Curatorial staff at one major institution disclosed that, out of the hundreds of researchers granted permission to undertake destructive analysis on specimens, only two of those individuals had submitted the contractually required reports, let alone resulting publications. Brief reports do not take long to write, nor is it difficult to email a copy of the published article to staff. While such problems can be dismissed as accidental omissions by forgetful and overworked academics, such excuses are insufficient if we consider the long-term ramifications. Despite the best intentions of researchers, data is not always published and large amounts of data are likely to be eventually lost if not tied to the collections through such records.

While museum galleries are only rarely changed and often at great expense, meaning that new research outcomes may not be immediately incorporated into publically accessible displays, the results of collections-based research can be useful in that they are used to develop more comprehensive and more accurate collections databases; appropriate storage and curatorial regimes for materials that might suffer degradation or previously unrecognized damage; and ideas for future displays, public outreach, or special exhibits. In the case of the flint daggers, conversations with curators at one British museum led to a damaged and re-sharpened flint dagger that had never previously been displayed being put into a special exhibition on recycling and reuse, while elements of

this research have influenced digital displays (Flynn *n.d.*). Behind the scenes at many other museums and collections, this research also fed into updating museum records, identifying forgeries among the collection and better classifying several boxes of previously undifferentiated, bifacially worked flint tools.

Moreover, these reports are crucial for museums looking to further their educational mission through the inclusion of cutting edge research in displays and public outreach; they serve to link the traditional museum, which stores and curates collections, to the modern museum, which engages with the public (Hooper-Greenhill 1994: 1–2; Hudson 1998; Weil 1999; Black 2012). Thus, one of the key contributions an archaeologist can make in a museum is to discover the story behind even the dustiest box of flint tools and place it within a larger narrative of past people and technologies. These narratives form the core of the stories museums can tell visitors about the material they retain and display. In carrying out research in collections and feeding the results of that research back to curators and staff so that they can use our data in future exhibitions and activities, we justify the expense of maintaining and conserving archaeological materials that have yet to find a place in the glass display cases.

## Concluding Thoughts

The history of museum collections and material culture studies in Europe and the Americas makes assessing collections difficult, and the reaction to the global financial crisis has rendered access to some material nearly or fully impossible. Yet, the wealth of material in these museums—no matter how seemingly heavily studied and well-understood or difficult to access their collections may seem—means that we must continue to explore them. Moreover, researchers can lend invaluable support to the institutions that curate centuries of prehistoric and historic collections, including those upon which many of us have built our careers.

In order to continue to have the opportunity to benefit from the availability of museum collections, we must work with staff in a way that allows them to maintain accurate records, enhance their collections, and ensure access to future researchers. We can do this through sharing the results of our research, engaging with museum-based colleagues as equals, allowing their feedback and priorities to help shape our research agendas and methodologies, and actively involving curatorial staff in research projects. Recent changes to funding rules by the British Arts and Humanities Research Council, for example, have made it possible for university- and museum-based archaeologists to develop stronger collaborative projects. This includes shared supervision of research students and research goals that advance both academic archaeology and the museum's own agenda for its collections, including the redesign of display galleries and public outreach (e.g., as planned in the recently launched "Grave Goods: Objects and Death in Later Prehistoric Britain," which sees a collaboration between researchers at the University of Reading, the University of Manchester, and the British Museum [N. Wilken, personal communication]; see also Voss [2012] for a discussion of curation as research). Furthermore, we must push governments to prioritize museums, repositories, and collections management in their budgeting processes and remind them that the value of museums is not simply

their attraction to paying visitors (Curtis 2003: 45–46; Keene 2005).

Finally, we must also plan for the future, not just of the museums and repositories in which we study but also of our discipline. Although archaeology is necessarily a materialist discipline with a deep foundation in artifact studies, and notwithstanding the recent interdisciplinary “return to things” (Witmore 2007: 559; Hicks 2010), many archaeology students leave university having had few chances to work directly with ancient materials, despite the host of intellectual and physical skills needed to understand and analyze archaeological objects (Curtis 2003: 46). If our museums and their rich and understudied collections are to survive the 21st century, archaeologists must remember that, within the dusty boxes lining dark rows of shelves, lies a precious resource and one that requires time and training to understand and appreciate. The preservation and potential of our museums’ collections cannot be achieved without passionate, knowledgeable specialists, within museums as well as in the wider research ecosystem, who understand both the difficulties of working with fragmented, incomplete, and sometimes poorly documented materials, and the incredible rewards of assembling these puzzle pieces of the past.

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