European Journal of Archaeology 27 (3) 2024, 372–392
This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (https://creativecommons.org/licenses/by/4.0/), which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.

Organically Grown Archaeological Databases and their 'Messiness': Hobby Metal Detecting in Norway

IRMELIN AXELSEN[1]* AND CAROLINE FREDRIKSEN[2]

[1] *Museum of Cultural History, University of Oslo, Norway*
[2] *Department of Archaeology and Cultural History, NTNU University Museum, Trondheim, Norway*
**Author for correspondence: irmelin.axelsen@khm.uio.no*

Hobby metal detecting in Norway has grown since 2014. In the Norwegian recording system, all finds are catalogued by professionals at five regional museums. The examination of the dataset thus created allows the authors to look at regional and national patterns and discuss the inherently messy and 'human' nature of a seemingly quantitative material. Their study suggests that both archaeologists and detectorists influence the quality of the evidence and how representative the data are. They argue that metal detecting patterns are primarily the result of modern activities, such as management practices and the endeavours of a few very prolific detectorists in certain areas. Understanding these biases and systematically recording the activities of the actors involved is crucial if we are to make full use of the metal-detected material.

Keywords: hobby metal detecting, human big data, trust and reuse of data, digital archives

INTRODUCTION

In this article, we explore some regional and national hobby metal detecting patterns in Norway and outline how these are largely the result of modern activities and management practices. Our main aim is to discuss some of the biases that affect the objects handed in by hobby detectorists and ask whether these artefacts are useful to those who seek to understand the past. Two aspects, namely how the metal-detected finds are recorded and how prolific individuals detectorist are, are particularly relevant. Our premise is that we regard the combined national hobby metal detecting finds record as 'human' big data (Green, 2020), an assumption we return to several times and ultimately challenge. We propose an open and pragmatic way of working with 'messy' and fragmented digital archaeological records—which are becoming increasingly detached from their analogue primary contexts—in a manner that transcends national borders, legislation, and practices.

Little research has been conducted on how recording and collection practices in Norway affect the metal-detected record.

Copyright © The Author(s), 2024. Published by Cambridge University Press on behalf of the European Association of Archaeologists
doi:10.1017/eaa.2024.10
Manuscript received 3 June 2022,
accepted 25 February 2024, revised 15 November 2023
https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

In England and Wales, work on data from the Portable Antiquities Scheme has shed light on how modern factors influence the collection and recording of metal-detected finds, particularly on a spatial-statistical level (e.g. Richards et al., 2009; Bevan, 2012; Robbins, 2013, 2014; Cooper & Green, 2017). Assessing how such factors affect the Norwegian metal-detected record is a step towards understanding its potential and limitations as an archaeological source. Recognizing the specific national features of metal detecting is also useful for international comparisons, for both management and research purposes (Brodie, 2020: 87).

Hobby Metal Detecting and Legislation in Norway

The 16,948 records on which we base our analyses and discussion were gathered from Norway's five archaeological artefact databases (*MUSITark*). These serve as digital catalogues for the country's five regional archaeological museums (Figure 1). They are only accessible to museum employees and researchers granted (temporary) access. The nearly 17,000 finds make up the total number of archaeological objects reported by detectorists in Norway up to 2021.

Data about the objects are published in an open and searchable archive, called *Unimusportalen* (https://www.unimus.no/portal/#/), when fully catalogued. It is, however, not always clear whether an object was found and reported by a metal detectorist, since this information has most often been recorded in diverse ways and in different free-text fields. This can hinder access to data that should, and could, be easily available to the public (see Axelsen, 2022 for further discussion).

Detectorists who are actively looking for archaeological objects or encounter them in their hunt for something else are the primary concern of archaeologists across Europe. The hobby and its practitioners are met by very different regional and national archaeological heritage management systems, including what, legally speaking, defines material remains as archaeological objects (e.g. Deckers et al., 2018: 325; Dobat et al., 2020: 272). At present, it is the Cultural Heritage Act (CHA) of 1978 that defines what forms part of the 'official heritage' (Harrison, 2013: 14) in Norway and hence what is the nation's primary archaeological source material.

In Norway, age is the main criterion used to decide whether something is protected (cf. Deckers et al., 2018: 325). Unlike the automatic and formal protection offered to sites and monuments of a certain age in Norway (Gundersen, 2019; CHA, 1978: § 4), objects, referred to as *løse kulturminner* (moveable heritage objects) in the Act, are given protection because no one is allowed to damage them (Holme & Stang, 2020: 16; CHA, 1978: § 13). When it is deemed reasonable that it is no longer possible to establish the ownership of a moveable artefact (CHA, 1978: § 12), coins pre-dating AD 1650, all Sámi remains dated and pre-dating AD 1917, and all other physical remains dating and pre-dating AD 1537 are the property of the State (CHA, 1978). As a result, the collections that the five archaeological museums are responsible for hold a wide range of artefacts and materials from the prehistoric periods (until AD 1050) and the Middle Ages (*c.* AD 1050–1537).

As in Finland (e.g. Wessman et al., 2016: 86) and Denmark (e.g. Dobat, 2013), it is not illegal to use metal detectors in Norway, and people who want to do so only need permission from the landowner(s) to search almost freely in a given area. It is, however, forbidden to metal detect on and near archaeological sites and monuments (Gundersen, 2019; see also

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

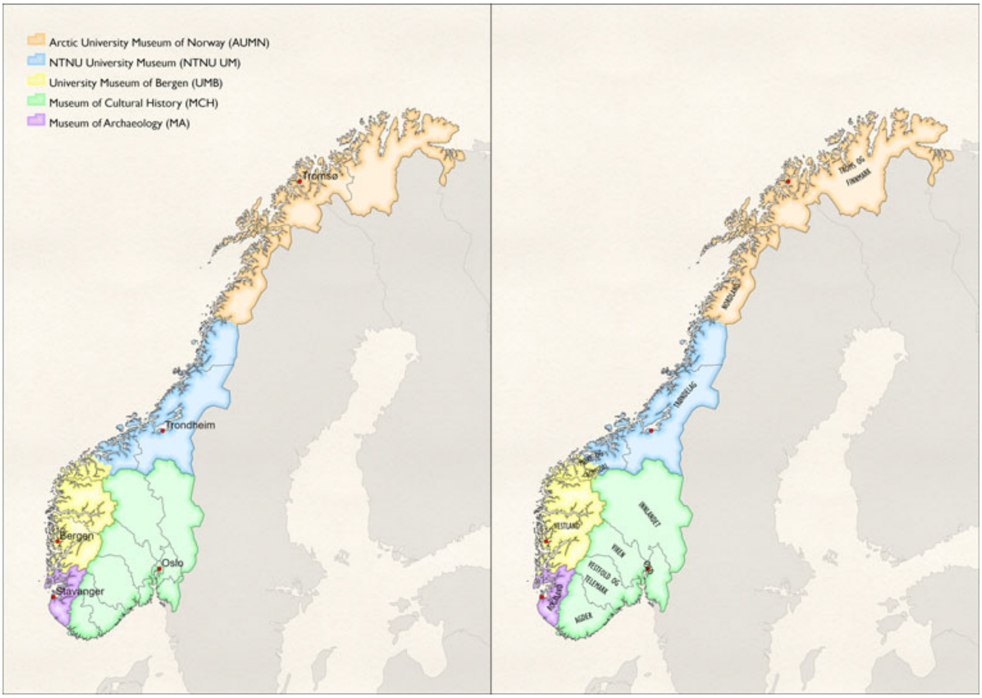

Figure 1. Regions of the five archaeological museums, with the latter's locations (red dots). Left: County borders before 2020, with eighteen counties. A reform that came into effect on 1 January 2020 led to there being eleven counties. After a change of Government in 2021, referenda were held in many of the new counties and several returned to their former geographical and administrative boundaries on 1 January 2024. Right: county borders in 2023 (map: Jan Kristian Hellan).

Axelsen, 2021, 2022 for further details). Metal detectorists are required to hand in objects fitting the age criteria described above. The Norwegian Directorate for Cultural Heritage has also developed national guidelines for the private use of metal detectors, in an attempt to ensure that most metal detecting activity complies with the CHA (Directorate for Cultural Heritage, 2017; see also Axelsen, 2022).

Most of the hobby metal-detected finds are reported and handed in to the country's county municipalities. The findspot, and any other information about the find, is then recorded in *Askeladden*, the Directorate for Cultural Heritage's official database where all known and protected cultural and environmental heritage in Norway and on Svalbard are listed. Most of the information from *Askeladden* is available to the public through the site *Kulturminnesøk* (https://www.kulturminnesok.no/). Objects found on land are handed by the county municipalities on to the archaeological museum responsible for their region because it is the regional archaeological museums that are responsible for managing the country's collections of non-maritime archaeological finds.

Organically grown databases

The creation and continued re-creation of the institutional archaeological databases of the regional archaeological museums in Norway has been described as 'organic' by some (Axelsen, 2021: 57). This, in part,

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

reflects how their development followed the design implemented when the databases were established in 1988 (Matsumoto & Uleberg, 2015: 159). After two digitization projects in the 1990s, the joint university museums' IT organization (MUSIT) was established in 2007, including both natural and cultural-historical museums, and ended in 2021 (Matsumoto & Uleberg, 2021). It was the result of a long-held and shared belief in a common national standard for the storing and sharing of scientific records, making them accessible and usable by researchers and the public alike (Uleberg & Matsumoto, 2009: 1–2; Matsumoto & Uleberg, 2015: 159). Building on this work, the operation and maintenance of the cultural-historical university museums' various collection databases is, for now, ensured through *UniMus:Kultur* (Uleberg et al., 2023: section 1).

Data fields are largely identical in all five databases. Yet, despite a common standard being the goal, normalization and standardization of the individual records across and within museum regions have not been a priority (Uleberg & Matsumoto, 2009: 3; Uleberg et al., 2023: sections 2 and 3). Many fields are free-text entries, with as little or as much text as a data recorder wants to enter and in a manner that suits them best. Consequently, fields that should be standardized, e.g. information such as the year a find was made or its coordinates, is not. Researchers who want to use the data thus have to spend time on extensive data cleaning after exporting what they need from the artefact databases.

Digital data floods of 'human' big data

Archaeological research increasingly relies on digital data and methods (e.g. Huggett et al., 2018; Huggett, 2020: 15). Databases are rapidly growing, and seem even less likely to de-accession potentially useful digital records than their physical counterparts. While most physical and digital archaeological records have so far been collected by professionals, private finders have also contributed to these collections since the creation of the Norwegian archaeological university museums (Shetelig, 1944). The situation is similar in many European countries, and the proportion of finds reported and handed in by non-professionals is increasing as the popularity of hobby metal detecting is growing.

There have been at least two clear and steep increases in the quantity of recorded finds in Norway (Matsumoto & Uleberg, 2021: fig. 3). The first is the result of extensive burial mound excavations from 1870 to 1880. The second is a consequence of an increase in large and mandatory excavations after 2000 and the dramatic influx of reported hobby metal-detected finds after 2014 (see Axelsen, 2021). This 'flood' of digital data is not unique to Norway, and has been referred to as a 'data deluge' in England (e.g. Bevan, 2015; Cooper & Green, 2017) and overlaps with a long-standing concern over a 'curation crisis' within the field (see, e.g. for Sweden, Friberg & Huvila, 2019: 364–66, with references). This is making existing issues concerning archaeology's data management practices even more pressing. Among these are a lack of standardization, both within a country and between them, and a common ontology that would make it easier to aggregate the many datasets that are available through infrastructure systems such as ARIADNEplus (Green, 2020: 433; see also Dobat et al., 2020: 276).

Archaeological collections in general contain a multitude of different materials, such as various forms of grey literature, samples, photographs, field diaries, and

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

physical remains. The same is true for the records from hobby metal detecting. We suggest that the digitized information on these finds constitute what Green (2020: 432–33) has referred to as 'human' big data. In contrast to 'big data', human big data is not defined by its size, but rather by the opportunity it provides to aggregate multiple and varied datasets and search across them (see also Boyd & Crawford, 2012: 663). Referring to Gattiglia (2015: 114), who sees 'big data' as a concept, Green considers that, while 'big data' is high in volume, velocity, and variety, these factors are relative rather than absolute.

Building on this, Green (2020: 433) offers the following useful definition of 'human' big data as 'datasets that are too complex and/or large to process without the use of computer algorithms/scripts'. He adds that these datasets can also be analysed 'in an exploratory manner', with hypotheses deriving from the analyses rather than the other way around. This is similar to McCoy's description of the process of 'knowledge discovery', a term from the field of data science; the aim is to use quantitative and/or computational methods to find, for example, 'new patterns' (McCoy, 2017: 76). Working with this type of data requires embracing a certain level of 'messiness' (Gattiglia, 2015: 114). The degree of 'mess' can, however, be lessened by taking several precautionary steps, as outlined by Green (2020: 433). These are: 1) plan ahead; 2) explore the history of the existing datasets; 3) document the quality of the datasets; 4) establish common ontologies; 5) use big data analytics to identify anomalies.

Although hobby metal-detected finds in Norway are, for now, hardly 'big data', strictly defined by a set quantity of tera- or petabytes (McCoy, 2017: 76), they do fit the definition of 'human' big data. To make it possible to gain quantitative and qualitative information across a growing number (and sizes) of datasets on a national, European, and even global scale, the precautionary measures suggested by Green are, we believe, a necessity (see also McCoy, 2017). Doing this in close cooperation with others—including knowledge exchanges and discussions of the process—is clearly beneficial, allowing data to be 'things made' rather than 'things given' (Huggett, 2020: 9).

Collecting and analysing the national metal detecting record

Our dataset consists of records collected on three separate occasions: 12 August 2019, 27 September 2021, and 14 March 2022. These dates are random, unconnected to the flow of incoming reported metal-detected finds. They are nonetheless given, so that any significant changes in the datasets connected to these dates can be scrutinized. The two first searches were conducted individually and joined in a combined database. The searches undertaken in 2021 and 2022 were more targeted than the first, as the recording of metal-detected finds seems to have become fairly standardized across the museums in the last five years (Table 1). We had both conducted several extensive and separate searches in the five archaeological artefact databases, leading up to the three main searches that form the foundation of our combined Access database and the analyses presented in this article. The search criteria used to identify the metal-detected finds are summarized in Table 1 (for how the search criteria were determined, see Axelsen, 2021: 172–73; Fredriksen, 2023: 61–69).

When working with digitized (or 'born-digital') archaeological data, considering and treating the information as 'human'

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

Table 1. *Combined results of database searches.*

Search field	Query	Museum of Cultural History, Oslo		Arctic University Museum of Norway, Tromsø		NTNU University Museum, Trondheim		Museum of Archaeology, Stavanger		University Museum of Bergen	
		2019									
		Total results	Hobby detecting finds	Total results	Hobby detecting finds	Total results	Hobby detecting finds	Total results	Hobby detecting finds	Total results	Hobby detecting finds
Description	%metal%	2100	14	654	2	2074	0	153	0	1065	0
Description	%detek%	73	0	44	0	11	0	14	0	61	0
Found by	%metal%	7718	5430	1237	1229	879	874	674	645	30	30
Found by	%detek%	276	0	0	0	0	0	0	0	10	0
Circumstances	%metal%	12,504	1821	4389	9	2602	41	400	1	1011	0
Circumstances	%detek%	3826	1	54	0	1017	0	195	0	229	0
Find-context	%metal%	136	0	183	0	212	0	12	0	199	154
Find-context	%detek%	136	0	116	0	169	0	57	0	199	2
Total		26,769	7266	6677	1240	6964	915	1505	646	2804	186
2021											
Found by	%metallsøk%	11,622	11,571	1454	1466	1170	1217	808	781	N/A	N/A
Circumstances	%metall%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	985	239
2022											
Found by	%metallsøk%	13,221	13,117	1452	1459	1299	1338	832	805	N/A	N/A
Circumstances	%metallsøk%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	267	229

big data is potentially fruitful. It can be difficult to find and use different types of archaeological data in rapidly growing databases where the information they contain is not always standardized or normalized (Axelsen, 2021: 54–55, 212). Open and exploratory qualitative and quantitative searches and analyses, we suggest, are a practical method for identifying, gathering, and making use of the material. Additionally, such exploratory searches are especially useful when undertaken by different people, with the aim of later combining the results and achieving 'knowledge discoveries'. It requires time and effort, but, when well documented, the process can help improve both the current and future data quality and the potential of archaeological databases, and thus the potential for aggregating them.

Assumptions from archaeological theory always precede data collection and analysis, and indeed analysis will be constrained by the theoretical constructs applied during the recognition, categorization, and collection of the data (Huggett, 2020: 14). Being open and clear about the many factors that influence the chosen data are vital (e.g. Lock, 2009: 82).

Relating to this, although our searches can be replicated by using the data provided in Table 1, it should be noted that some museums transfer partially catalogued records from their accession database to their artefact databases. Hence, the data in both databases may be deleted later when an artefact is deemed not to qualify as 'official heritage' and consequently is not included in the archaeological collections. Because of this, and the fact that some finds are handed in to the museums several years after they were discovered by hobbyists, the reported and recorded number of metal-detected finds will always be an estimation. Even though the number of finds in some areas means that many of the large-scale trends are unlikely to change significantly, others may look quite different within a relatively short time span.

On 12 August 2019, the database contained 10,277 unique records. On 27 September 2021 it was 15,274, and by 14 March 2022 it had reached 16,948. The increase between September 2021 and March 2022 is primarily owed to finds being discovered in 2020. There are, however, also minor increases in the number of recorded finds in most years between 2002 and 2019. These finds are likely to have been handed in some time after they were discovered by metal detectorists, and/or stored by the county archaeologists for a while before being passed on to the museums. Until 2021, it took all the museums at least two years to fully record the finds, but most of them seemed to have accessioned them as soon as they arrived. By 2023, only the Museum of Cultural History in Oslo spent more than two years on cataloguing a metal-detected find.

Do Messy Inputs Equal Useless Outputs?

The 'organic growth' of the Norwegian artefact databases has, not surprisingly, resulted in some inconsistencies in the recording of archaeological objects, particularly those handed in by metal detectorists and other private finders. Neither the digital recording systems nor the museum's internal infrastructure were equipped to handle the steep increase in the detecting activity from 2014 onwards (Figure 2). Consequently, archaeologists tasked with recording archaeological artefacts had to create makeshift 'categories' within various free-text fields when documenting the circumstances of discovery of a metal-detected find (Table 1). Additionally, there were too few people at

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

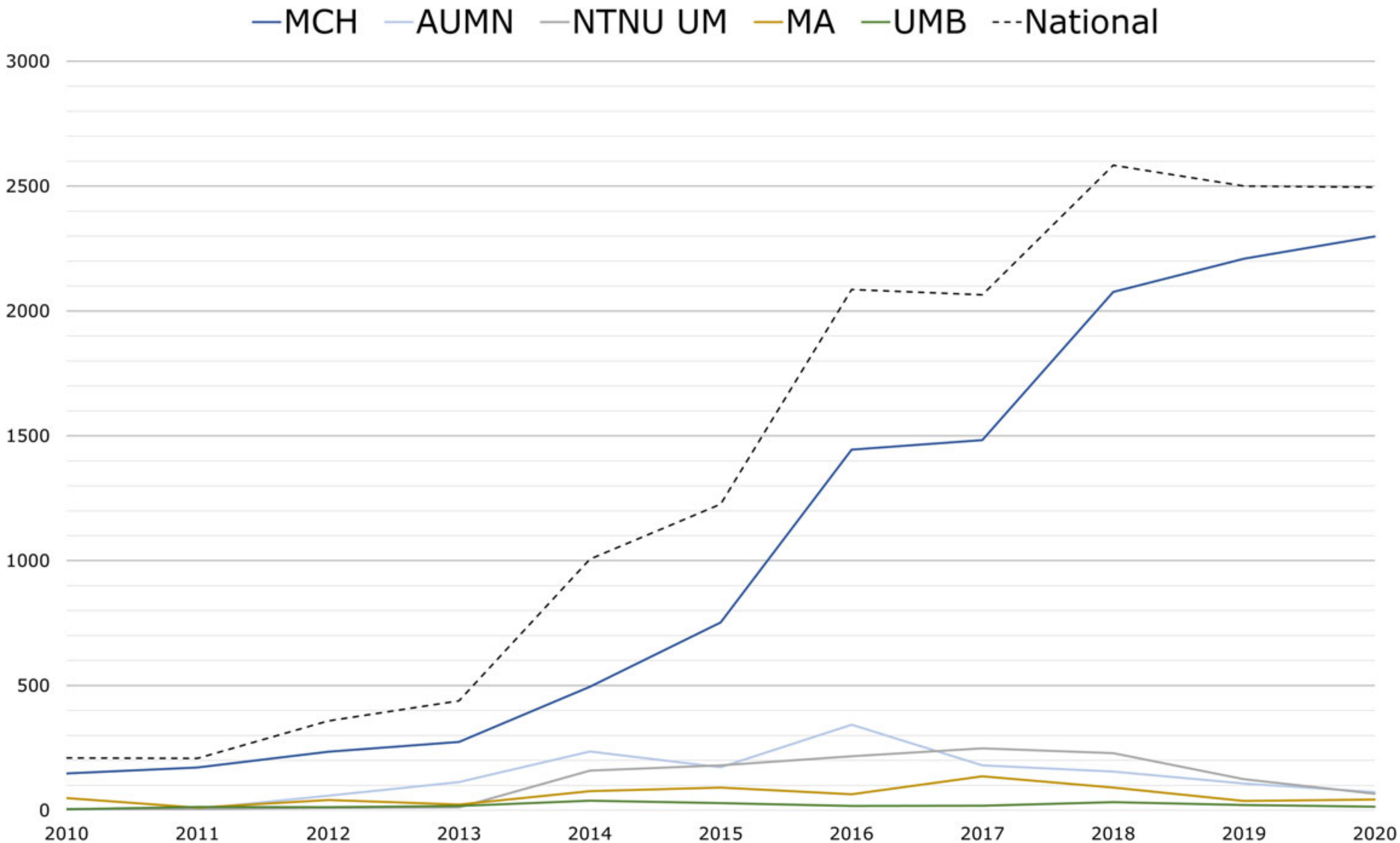

Figure 2. *Yearly increase in the number of reported hobby metal-detected finds between 2000 and 2020, per museum and nationally.*

some museums capable of recording archaeological objects in a timely manner while also ensuring the consistency and integrity of the treatment and documentation of the hobby metal-detected finds.

One example of the lack of standardization within and between the archaeological museums is the field *funnår* ('find year'). Although most records consulted note a year, the majority also include the date an object was found. There are also several cases of a descriptive and longer text in the find year field, such as 'over a period of 34 years', 'probably [year]', '[season] [year]', and the date is given in various ways. For records without a year given in the relevant field, the year the find was accessioned was used.

Another factor to consider is the lack of a standardized way of describing the hobby metal-detected finds. As Table 1 shows, the number of hits using the chosen search terms does not necessarily match the actual number of metal-detected finds in the database. The Museum of Archaeology in Stavanger, for example, included the phrase 'metal detecting' in the description of all the collected material from archaeological excavations, if metal detectors were used on the project. When collecting and combining the datasets from all five archaeological museums, this should be taken into consideration. In the following, we highlight and discuss some of the key factors that are contributing to differences in detecting activity between the regions served by the five museums.

Regional and local differences in recording practices and metal detecting activity

Although the national guidelines for the private use of metal detectors have been in effect for a few years now, the same regional differences that were visible in the metal-detected material before 2017 (Axelsen, 2021: 131–32, 139, 176–96) are still visible. There are, of course, large geographical and historical variations between the management areas of the archaeological museums. They also vary in size, population, population density, and the surface of cultivated land within and between the regions (Table 2). This must be taken into consideration when assessing where metal detectorists are able to operate. The Museum of Archaeology's area is the smallest, consisting of only one county with a land area of 8575 km^2. The Arctic University Museum of Norway's management area, on the other hand, which cover the country's two most northern counties, is twice the size of Denmark (Figure 1, Table 2).

Considering the size of the area it serves, population density, and amount of cultivated land, it is not surprising that the Museum of Cultural History in Oslo has the largest number of detectorists who report their finds and the highest number of recorded metal-detected finds. Some seventy-five per cent of Norway's cultivated land and forty-seven per cent of the population is within the management area of the museum (Table 2). There are, however, also large differences between the counties served by the Oslo-based museum, with almost 'empty' areas such as Agder and very find-rich counties such as Vestfold and Telemark, Viken (predominately within the area of the former county of Østfold), and Innlandet (Figure 3).

One reason for the difference in the number of recorded detectorists and quantity of reported metal-detected finds may be in the way findspots are recorded in *Askeladden*. Four labels are currently used to classify the location of an archaeological object: 1) automatically protected; 2) unresolved; 3) not protected; 4) removed (see Figure 4). Data from *Askeladden* show that

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

Table 2. *Population size and density, area size, and percentage of cultivated land in each museum region. Data and percentages were collected and calculated from data of the Statistics Norway's open access tables '11342: Population and area (M) 2007 – 2020', '06462: Agricultural area for selected crops (decares) (M) 1969 – 2020', and '11506: Agricultural area, by use (decares) (C) 1969 – 2021'. Only 'fulldyrka mark' (arable land) in the category 'cultivated land' is included. Surface-cultivated and infield pastures are excluded.*

Region served by	Population size	Population density (km^2)	Land area (km^2)	%	Cultivated land (km^2)	%
Museum of Cultural History, Oslo	3,002,387	29	103,497	34	4507.0	4.4
Arctic University Museum of Norway, Tromsø	411,572	4.5	90,800	30	498.3	0.5
NTNU University Museum, Trondheim	657,023	10.3	64,011	21	1959.2	3.1
University Museum of Bergen	781,576	21	37,209	12	557.6	1.5
Museum of Archaeology, Stavanger	475,654	55.5	8575	3	529.2	6.2

the country's (per 2023) eleven counties use different classifications. These categories affect whether it is legal for a detectorist to continue detecting on, for example, parts of or an entire field. Detecting on a listed site is not permitted without an exemption from the CHA by the relevant county. Additionally, the guidelines for the private use of metal detectors advises detectorists to avoid detecting within a 25 m radius from sites labelled as automatically protected or unresolved (Directorate for Cultural Heritage, 2017: 3).

For the archaeologists who record and list the sites, it is not necessarily evident whether an area should be recognized as, for example, automatically protected. A letter of 2019 from the Directorate for Cultural Heritage to the country's archaeological museums and counties stated that when an unspecified number of finds indicates the presence of a site, it should be considered as automatically protected (Directorate for Cultural Heritage, 2019). Because perceptions and practices concerning hobby metal detecting vary (Axelsen, 2021: 71–74; Fredriksen, 2021), detectorists can continue detecting on finds-rich fields in counties where find spots are usually classified as not protected or removed.

In counties where findspots are normally categorized as automatically protected or unresolved, detectorists must either apply to the county to continue detecting on the site or move at least 25 m away from its perimeter. This affects the number of objects that can be reported and handed in from fields within a county. When compared to the others, Innlandet stands out as the county with the highest frequency of unprotected find spots. Counties other than Trøndelag, Vestland, Troms, and to some extent Rogaland, prefer to classify finds in the unresolved category (Figure 4).

Prolific detectorists as 'super users'

The most important factor influencing the representativity of the recorded metal-detected material is the activity level of individual detectorists. At one archaeological museum, two detectorists handed in around 44.3 per cent of the hobby metal-detected finds. Nationwide, the thirty most prolific finders, which includes one detecting club, have handed in about 39.7 per cent of the total of 16,948 metal-detected finds. In all, some 1063 different names were recorded as having reported

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

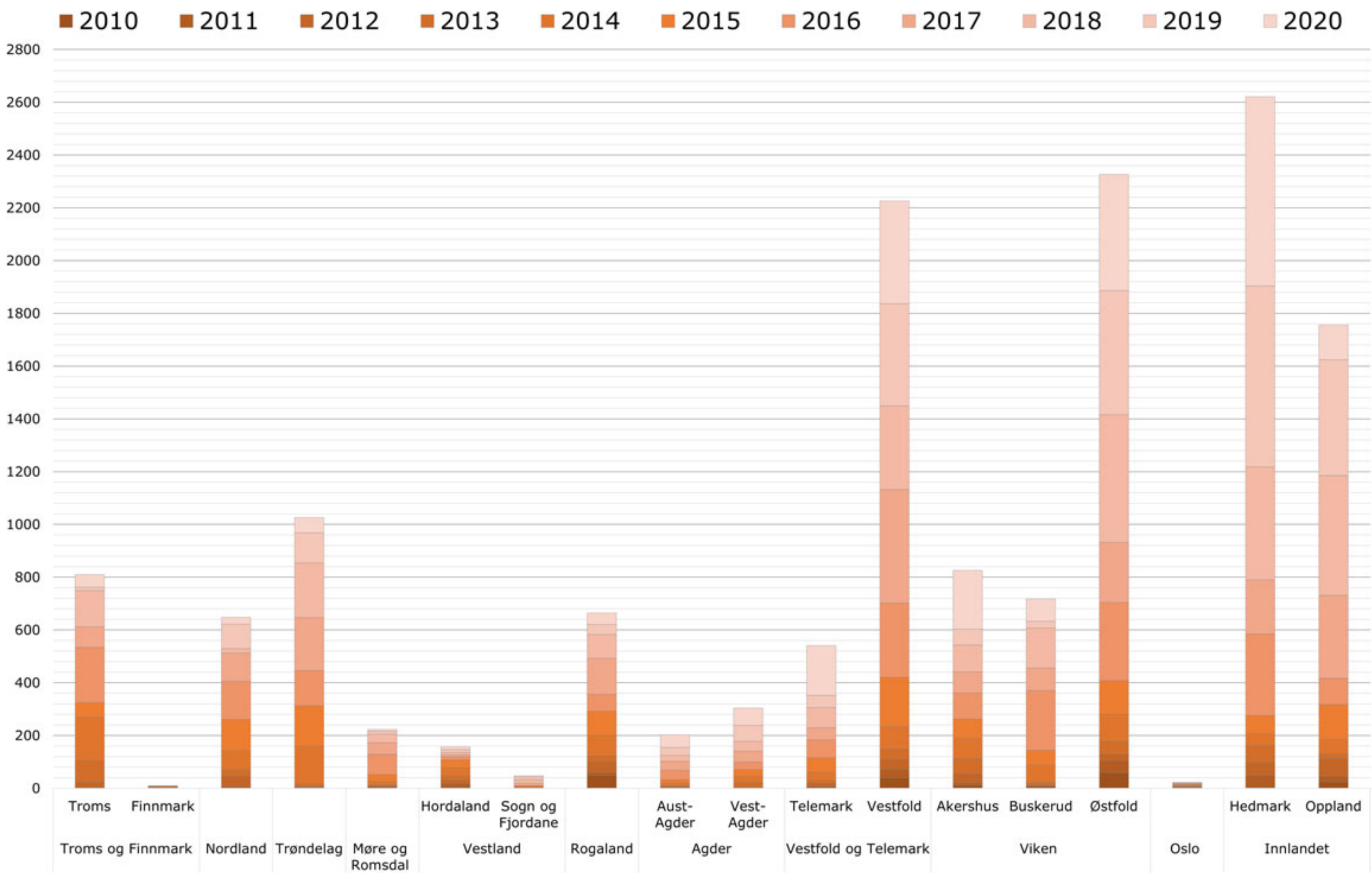

Figure 3. *Number of reported and recorded metal-detected finds per county.*

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

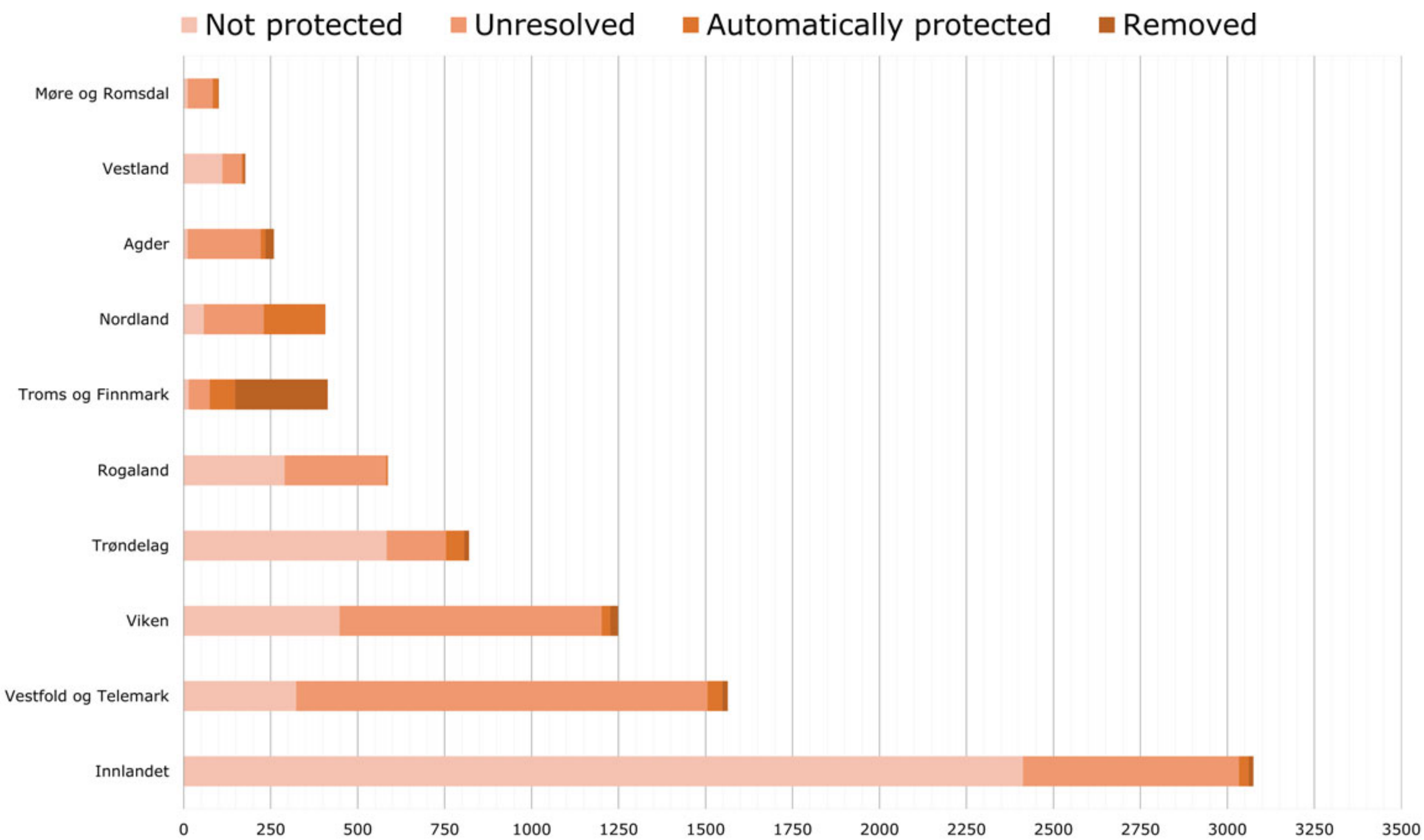

Figure 4. *Distribution of differentially recorded findspots in the* Askeladden *database. The data was downloaded 30.1.2020.*

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

Table 3. *Number of reported and recorded metal-detected finds and hobby metal detectorists, and their percentages per museum.*

Museum	Number of finds	%	Recorded detectorists	%
Museum of Cultural History, Oslo	13,117	77.4	772	72.6
Arctic University Museum of Norway, Tromsø	1459	8.6	64	6
NTNU University Museum, Trondheim	1338	7.9	149	14
Museum of Archaeology, Stavanger	805	4.7	69	6.5
University Museum of Bergen	229	1.4	50	4.7
Total	16,948		*1063	

**Because forty names were recorded as having handed in finds at more than one museum, the total number of detectorists differs from the combined numbers from each museum.*

protected objects before 14 March 2022 (Table 3). Records including a slash, indicating that one or more detectorists have detected together, were excluded. Most recorded detectorists in the artefact databases handed in few finds: about ninety-three per cent had, until 2020, reported fewer than fifty objects, with 837 people (79 per cent of the 1063 recorded finders) reporting ten or fewer finds. On the other hand, eleven different names, i.e. only one per cent of the total number of detectorists, had reported more than 200 protected objects. Those in the middle, who handed in between fifty and 200 artefacts, consist of sixty-one people, making up close to six per cent of the (recorded) hobby detecting group.

These proportions are similar to what has been observed in other citizen science projects, where a so-called 'one per cent' or '90-9-1' rule has been described (e.g. Haklay, 2016: 36). These projects show that it is common for a very small group representing about one per cent of the contributors or participants to be behind most of the activity, while the overwhelming majority only contribute occasionally. In other words, the 'super users'—or 'super detectorists' in our case—are unlikely to be representative of the group in general. Although, being significant contributors and thus receiving much attention, they are, statistically speaking, outliers (Haklay, 2016: 36; see also Dobat et al., 2019: 12–13).

The number of recorded detectorists in Norway may seem low when compared with other countries, such as the estimated 9600 metal detectorists in England and Wales (Robbins, 2014: 14). According to the Portable Antiquities Scheme annual reports (2018, 2019, 2020), individual contributors to the scheme numbered 4028 in 2018, 4143 in 2019, and 2846 in 2020. The 1063 recorded detectorists in Norway, in a population of *c.* 5,400,000, equals approximately twenty detectorists per 100,000 inhabitants. In terms of population size, the number of detectorists in Norway is similar to estimates of *c.* 15–30 detectorists per 100,000 inhabitants in other north-western European countries (Deckers 2019: 111).

It has been suggested that there is a conscious 'selection' of Norwegian medieval coins among metal detectorists in Norway, causing some to question the reliability of the recorded information for all metal-detected finds (Gullbekk et al., 2019). The sale and circulation of Norwegian medieval coins without provenance (Gullbekk et al., 2019: 178) certainly suggests that some people are

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

illegally recovering these coins, with or without the aid of a metal detector (see also Mackenzie et al., 2020: 5). It should, however, be noted that the distribution of the Norwegian coins outlined by Gullbekk et al. (2019) seems to correlate with areas that have particularly prolific detectorists. Other possible explanations, or at least contributing factors, for the potential discrepancy in the coin material handed in by metal detectorists is that the hobbyists operating in these areas are:

1) more skilled, recognizing the coins, which, due to their small size and low levels of silver, are indeed hard to notice in cultivated soil;
2) more thorough than the less prolific finders—i.e. they investigate (more of) the so-called 'poor' signals (Axelsen, 2021: 125).

Given what we know about other citizen science projects, it is plausible that prolific detectorists uncover and report not only more finds than the average detectorist, but also more different types of objects than the less prolific finders.

When looking at the distribution of the metal-detected finds in Norway (Figure 3), 'hotspots' appear in two geographical groupings, in south-eastern Norway and in northern Norway. In the two counties that are split between different museums, there are far more finds within one museum's area than the other. The recorded metal-detected finds in, for example, Nordland are concentrated in the northern municipalities, which lie within the Arctic University Museum of Norway's management area. The southern part of Nordland is at the outer limit of the NTNU University Museum's region.

Norway's concentrations of metal-detected finds are owed to a few individual detectorists and detecting clubs. Consequently, the productivity of a small minority, combined with how a handful of archaeologists choose to record findspots, may continue to influence the representativity of the collected material in the future. This can strengthen already visible patterns. Current trends could also change dramatically with an influx of prolific detectorists in areas which so far had very few mapped finds.

Qualitative-Quantitative Data

If the number of yearly reported finds is steady, or increases, Norway is likely to pass 30,000 hobby metal-detected finds during 2027. As exposed above, the combined national detecting dataset can be described as 'human' big data. Although it does not exceed a large and set number of tera- or petabytes (McCoy, 2017: 76), it still requires exploratory computational and quantitative analyses when examined as a whole. In addition, the many qualitative factors influencing the data must be considered. This is why we choose to describe these data as qualitative quantitative data.

As Lock has argued, scale is an underlying factor for most archaeological work: 'We routinely move from pot sherds to questions of social and economic relationships', albeit without asking whether such work is 'enabled or hindered by computer technology' (Lock, 2009: 76; see also Huggett, 2020). All data can be qualitative and quantitative, it simply depends on the level at which one is working (Lock, 2009: 75). As suggested earlier, this is not unique for the hobbyist material, as the messy 'human' nature of big (or small) archaeological datasets is difficult to avoid. This also means that hobby metal detecting in Norway is rather typical—both for archaeological material in general and for the objects found by detectorists in particular.

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

Our results show that detectorists, but also archaeologists, influence the representativity and general data quality of the recorded material. Even so, the material handed in by the hobbyists can, and already is, leading to new discoveries and insights about the past. Below, we briefly highlight the issue of a lack of trust, which is particularly pressing for the reuse of the metal-detected material. We suggest ways of alleviating this relatively widespread mistrust and coping with the flood of data collected by citizens. A frequent issue for quantitative data, particularly data collected as part of citizen science projects, is that it is 'used for purposes they are not suitable or fit for' (Balázs et al., 2021: 147). This can be counteracted by some of the steps outlined below.

Coping with data floods from citizen scientists

One response to hobby metal detecting in countries lacking a national and common standard for recording finds has been to establish public finds recording schemes. This practical response to the growing popularity of hobby metal detecting is designed to make information about the metal-detected finds available and accessible to both the public and researchers (Dobat et al., 2020).

Compounded with digital records that stem from archaeological projects, the rapidly escalating quantities of digital data from private individuals are causing Danish, English, and Welsh archaeology to experience their versions of big data floods (Bevan, 2012; Dobat et al., 2020). Other countries with similar recording schemes, such as Flanders in Belgium (MEDEA), Finland (FindSampo), and the Netherlands (PAN), may experience the same data growth in years to come (e.g. Deckers et al., 2016; Vos et al., 2018; Wessman et al., 2019). When data from these schemes are made accessible and adhere to a common standard and ontology, their scientific value and thereby the potential for new discoveries will increase as this will enable both qualitative and quantitative aggregation (Gattiglia, 2015: 113).

Compared to other European recording programmes, the Norwegian archaeological heritage system was among the earliest to make their data publicly available and reusable. This includes the metal-detected objects. Parts of the country have been overwhelmed with new finds, creating a backlog in fully recording the reported finds; although they are eventually fully recorded. Most of the stored information is made available to both the general public and researchers. Because of the lack of standardization in input data, it is, however, often not possible to identify finds has having been metal-detected, which is troublesome given the public interest in and origin of this finds group (Axelsen, 2022).

Consequently, Norwegian databases, such as *Kulturminnesøk* and *Unimusportalen*, already meet the aims of the European Finds Recording Network, as summarized by Dobat and colleagues (2020). Work on a national digital finds recording scheme was initiated in summer 2023 by the Directorate for Cultural Heritage and the Museum of Cultural History in Oslo. This can ease the administrative burden for the national heritage management system, as well as the volunteer work of some of the country's most prolific citizen scientists (Axelsen, 2022).

Trust and reuse of data

Many archaeologists do not trust the ability or willingness of some detectorists to offer accurate information about the

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

finds they report (see Gullbekk et al., 2019; Axelsen, 2021: 122–26). Consequently, there is a lack of trust towards the data originators from those who would normally use the recorded data (Huggett, 2015: 18). Despite this, material collected by metal detectorists is frequently used in studies that include archaeological material obtained by conventional means (see Røstad, 2016 or Amundsen, 2021 for recent examples).

Modern factors are clearly influencing the metal-detected material, in Norway and elsewhere. This, we contend, does not mean that the material is useless or 'unfit' for archaeologists who seek to understand the past. The biases affecting the distribution patterns of metal-detected finds, such as the productiveness of individual detectorists and the recording practices of archaeologists, is a growing field of research (e.g. Bevan, 2012; Cool & Baxter, 2016; Cooper & Green, 2017; Oksanen & Lewis, 2020). By conducting exploratory, quantitative, and/or qualitative analyses of the material, we can better understand how we can and cannot use the finds discovered by detectorists.

Because non-professionals often lack the detailed knowledge and standards of the professionals, the data they gather can be met with suspicion and may lead to some researchers refusing to use the information at all. This can, as Balázs et al. (2021: 147) point out, to some extent be remedied by ensuring that the relevant metadata and paradata is acquired and stored (see also Huggett, 2020: 12; Huvila, 2022). In Norway, the information about archaeological objects uncovered and reported by metal detectorists, although meant to follow a certain standard set by the national guidelines, varies in its accuracy. This is, in part, due to factors and practices that create biases in the collections and which are specific to hobby metal detecting (cf. Robbins, 2013, with references; see also Axelsen, 2021: 205–08 for a summary of the situation in Norway). Moreover, the technical skills and digital literacy of the individuals using metal detectors to search for protected objects are, allegedly, affecting the precision of the reported data (Gundersen et al., 2016: 165–68; Axelsen, 2021: 122–26). Worryingly, this information is not stored anywhere. Neither public finds recording schemes nor archaeological systems are, for now, taking this into account.

Although the many free-text fields in the Norwegian artefact databases allow for a substantial amount of contextual information to be recorded, the records are still 'largely de-contextualised' (as Huggett, 2015: 18 has argued; see also Huggett, 2020: 12). The information that has been given is recorded, usually by someone who is not the finder, and documented in a format that suits archaeological catalogues. What we lack is a systematic way of recording how the data was originated, how it has been treated, by whom, and how this and the digital systems themselves affect the material and how it can be used. To increase trust in hobby detecting records and thus the future use of it, that knowledge is vital. In other words, we need to '[find] the people within the systems' (Huggett, 2020: 15, in reference to and paraphrasing Seaver, 2018: 382) to understand their 'actions and decisions'. Hence a robust way of recording such information is necessary to ensure the integrity of the material.

Concluding Remarks

Our examination of some of the regional and national hobby metal detecting patterns in Norway indicates that these are primarily the result of modern activities, such as that of a few very prolific finders in certain areas, and management practices.

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

We urge researchers who wish to use metal-detected material to consider these factors in future research. This study, by employing what we have referred to as 'human' big data (or simply 'large datasets') is a step towards 'address[ing] sampling biases within the data' and achieving a better understanding of 'national monument event databases' (Huggett, 2020: 13).

Key factors were the observations and reflections we both made when working with the databases individually. Working at two different regional archaeological museums, with their own histories and recording practices, meant that our perspectives and experiences differed. When combining our efforts, we had immediate access to a wider network of museum workers and archival information. This led to fruitful exchanges about the nature of the records and the way they should be interpreted and used.

We hope that this study will stimulate further discussion on the human and messy nature of archaeological data, whether generated by the public or professional archaeologists, as well as promote the comparison of data beyond national borders and legislations. The findings presented here are a step towards avoiding assumptions on the extent and characteristics of Norwegian metal detecting—and by extension European hobby detecting—in future discussions.

References

Amundsen, M. 2021. Glimdrende gull. En utforskende studie av gull fra folkevandringstid i Rogaland, Vestfold og Østfold (unpublished PhD dissertation, Department of Archaeology, Conservation and History, University of Oslo).

Axelsen, I. 2021. What's the Deal with Old Things? An Exploratory Study of Attitudes and Practices towards Certain Old Things among Archaeologists and Metal Detectorists in Norway (unpublished PhD dissertation, Department of Archaeology, Conservation and History, University of Oslo).

Axelsen, I. 2022. Collaboration and Communication between Hobby Metal Detectorists and Archaeologists in Norway. *Advances in Archaeological Practice*, 10: 295–310. https://doi.org/10.1017/aap.2022.14

Balázs, B., Mooney, P., Nováková, E., Bastin, L. & Jokar Arsanjani, J. 2021. Data Quality in Citizen Science. In: K. Vohland, A. Land-Zandstra, L. Ceccaroni, R. Lemmens, J. Perelló, M. Ponti, et al., eds. *The Science of Citizen Science*. Cham: Springer, pp. 139–56. https://doi.org/10.1007/978-3-030-58278-4_8

Bevan, A. 2012. Spatial Methods for Analysing Large-Scale Artefact Inventories. *Antiquity*, 86: 492–506. https://doi.org/10.1017/S0003598X0006289X

Bevan, A. 2015. The Data Deluge. *Antiquity*, 89: 1473–84. https://doi.org/10.15184/aqy.2015.102

Boyd, D. & Crawford, K. 2012. Critical Questions for Big Data: Provocations for a Cultural, Technological, and Scholarly Phenomenon. *Information, Communication & Society* 15: 662–79. https://doi.org/10.1080/1369118X.2012.678878

Brodie, N. 2020. What is the Thing Called the PAS? Metal-Detecting Entanglements in England and Wales. *Revista d'Arqueologia de Ponent*, 30: 85–100. https://ora.ox.ac.uk/objects/uuid:0b9e968d-0556-4274-8a32-b6dad6e9eb81

CHA 1978. Lov om kulturminner (kulturminneloven) [Act concerning the cultural heritage (Cultural Heritage Act)] [online] [accessed 2 February 2024]. Available at: https://lovdata.no/dokument/NLE/lov/1978-06-09-50

Cool, H.E.M. & Baxter, M.J. 2016. Exploring Morphological Bias in Metal-detected Finds. *Antiquity*, 90: 1643–53. https://doi.org/10.15184/aqy.2016.207

Cooper, A. & Green, C. 2017. Big Questions for Large, Complex Datasets: Approaching Time and Space Using Composite Object Assemblages. *Internet Archaeology*, 45. https://doi.org/10.11141/ia.45.1

Deckers P. 2019. Archaeological Metal Detecting by Amateurs in Flanders:

Legislation, Policy and Practice of a Hobby. In: S. Campbell, L. White & S. Thomas, eds. *Competing Values in Archaeological Heritage*. Cham: Springer, pp. 103–23. https://doi.org/10.1007/978-3-319-94102-8_8

Deckers, P., Bleumers, L., Ruelens, S., Lemmens, B., Vanderperren, N., Marchal, C., et al. 2016. MEDEA: Crowd-Sourcing the Recording of Metal-Detected Artefacts in Flanders (Belgium). *Open Archaeology*, 2: 264–77. https://doi.org/10.1515/opar-2016-0019

Deckers, P., Dobat Ferguson, N., Heeren, S., Lewis, M. & Thomas, S. 2018. The Complexities of Metal Detecting Policy and Practice: A Response to Samuel Hardy, 'Quantitative Analysis of Open-Source Data on Metal Detecting for Cultural Property' (Cogent Social Sciences 3, 2017). *Open Archaeology*, 4: 322–33. https://doi.org/10.1515/opar-2018-0019

Directorate for Cultural Heritage 2017. Nye retningslinjer for privat metallsøker [online] [accessed 2 February 2024]. Available at: https://www.riksantikvaren.no/siste-nytt/pressemeldinger/nye-retningslinjer-for-privat-metallsoking/

Directorate for Cultural Heritage 2019. Nasjonale retningslinjer for finnerlønn [online] [accessed 2 February 2024]. Available at: https://www.riksantikvaren.no/siste-nytt/pressemeldinger/nasjonale-retningslinjer-for-finnerlonn/

Dobat, A.S. 2013. Between Rescue and Research: An Evaluation after 30 Years of Liberal Metal Detecting in Archaeological Research and Heritage Practice in Denmark. *European Journal of Archaeology*, 16: 704–75. https://doi.org/10.1179/1461957113Y.0000000041

Dobat, A., Christiansen, T.T., Jessen, M.D., Henriksen, M.B., Jensen, P., Laursen, S.V., et al. 2019. The DIME Project: Background, Status and Future Perspectives of a User Driven Recording Scheme for Metal Detector Finds as an Example of Participatory Heritage. *Danish Journal of Archaeology*, 8: 1–15. https://doi.org/10.7146/dja.v8i0.111422

Dobat, A.S., Deckers, P., Heeren, S., Lewis, M., Thomas, S. & Wessman, A. 2020. Towards a Cooperative Approach to Hobby Metal Detecting: The European Public Finds Recording Network (EPFRN) Vision Statement. *European Journal of Archaeology*, 23: 272–92. https://doi.org/10.1017/eaa.2020.1

Fredriksen, C. 2021. Pløyelagsfunn som automatisk fredete kulturminner: Kunnskapsdrevet forvaltning eller forvaltningsdrevet kunnskap? *Heimen*, 58: 136–51. https://doi.org/10.18261/issn.1894-3195-2021-02-03

Fredriksen, C. 2023. "Funnet med metallsøker i dyrket mark". En relasjonell studie av norsk praksis overfor privat metallsøking og pløyelagsfunn som vitenskapelig kildemateriale (unpublished PhD dissertation, Department of Archaeology and Cultural History, NTNU University Museum, Trondheim).

Friberg, Z. & Huvila, I. 2019. Using Object Biographies to Understand the Curation Crisis: Lessons Learned from the Museum Life of an Archaeological Collection. *Museum Management and Curatorship*, 34: 362–82. https://doi.org/10.1080/09647775.2019.1612270

Gattiglia, G. 2015. Think Big About Data: Archaeology and the Big Data Challenge. *Archäologische Informationen*, 38: 113–24. https://doi.org/10.11588/ai.2015.1.26155

Green, C. 2020. Challenges in the Analysis of Geospatial 'Big Data'. In: M. Gillings, P. Hacigüzeller & G. Lock, eds. *Archaeological Spatial Analysis: A Methodological Guide*. London: Routledge, pp. 430–43.

Gullbekk, S.H., Sættem, A., Skogsfjord, A. & Roland, H. 2019. Kildekritiske refleksjoner omkring metallsøking og myntfunn: Må mynthistorien skrives om? *Viking*, 82: 173–82. https://doi.org/10.5617/viking.7121

Gundersen, J. 2019. No Room for Good Intentions? Private Metal Detecting and Archaeological Sites in the Plow Layer in Norway. In: S. Campbell, L. White & S. Thomas, eds. *Competing Values in Archaeological Heritage*. Cham: Springer, pp. 125–38. https://doi.org/10.1007/978-3-319-94102-8_9

Gundersen, J., Rasmussen, J.M. & Lie, R.O. 2016. Private Metal Detecting and Archaeology in Norway. *Open Archaeology*, 2: 160–70. https://doi.org/10.1515/opar-2016-0012

Haklay, M. 2016. Why is Participation Inequality Important? In: C. Capineri, M. Haklay, H. Huang, V. Antoniou, J. Kettunen, F. Ostermann & R. Purves, eds. *European Handbook of Crowdsourced Geographic*

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

Information. London: Ubiquity Press, pp. 35–44. https://doi.org/10.5334/bax.c
Harrison, R. 2013. *Heritage: Critical Approaches*. London: Routledge.
Holme, J. & Stang, K. 2020. Generelt om kulturminneloven. In: J. Holme, ed. *Kulturminnevern. Kulturminneloven med kommentarer*e (3rd ed.). Oslo: Riksantikvaren/Økokrim, pp. 14–29.
Huggett, J. 2015. Digital Haystacks: Open Data and the Transformation of Archaeological Knowledge. In: A.T. Wilson & B. Edwards, eds. *Open Source Archaeology: Ethics and Practice*. Warsaw: De Gruyter Open, pp. 6–29. http://www.degruyter.com/view/product/460080
Huggett, J. 2020. Is Big Digital Data Different? Towards a New Archaeological Paradigm. *Journal of Field Archaeology*, 45 sup1: S8–S17. https://doi.org/10.1080/00934690.2020.1713281
Huggett, J., Reilly, P. & Lock, G. 2018. Whither Digital Archaeological Knowledge? The Challenge of Unstable Futures. *Journal of Computer Applications in Archaeology*, 1: 42–54. https://doi.org/10.5334/jcaa.7
Huvila, I. 2022. Improving the Usefulness of Research Data with Better Paradata. *Open Information Science*, 6: 28–48. https://doi.org/10.1515/opis-2022-0129
Lock, G. 2009. Archaeological Computing Then and Now: Theory and Practice, Intentions and Tensions. *Archeologia e Calcolatori*, 20: 75–84.
Mackenzie, S., Brodie, N., Yates, D. & Tsirogiannis, C. 2020. *Trafficking Culture: New Directions in Researching the Global Market in Illicit Antiquities*. London: Routledge.
Matsumoto, M. & Uleberg, E. 2015. Digitizing Archaeology in Norway. In: K. Piotrowska & P. Konieczny, eds. *Condition 2015: Conservation and Digitalization*. Gdansk: National Maritime Museum, pp. 159–64.
Matsumoto, M. & Uleberg, E. 2021. Curation of Digital Archaeological Data in Norway. *Internet Archaeology*, 58. https://doi.org/10.11141/ia.58.29
McCoy, M.D. 2017. Geospatial Big Data and Archaeology: Prospects and Problems Too Great to Ignore. *Journal of Archaeological Science*, 84: 74–94. https://doi.org/10.1016/j.jas.2017.06.003
Oksanen, E. & Lewis, M. 2020. Medieval Commercial Sites: As Seen Through Portable Antiquities Scheme Data. *The Antiquaries Journal*, 100: 109–40. https://doi.org/10.1017/S0003581520000165
Portable Antiquities Scheme 2018. *The Portable Antiquities Scheme Annual Report 2018* [online] [accessed 8 May 2022]. Available at: https://finds.org.uk/publications/reports/2018
Portable Antiquities Scheme 2019. *The Portable Antiquities Scheme Annual Report 2019*. [online] [accessed 8 May 2022]. Available at: https://finds.org.uk/publications/reports/2019
Portable Antiquities Scheme 2020. *The Portable Antiquities Scheme Annual Report 2020*. [online] [accessed 8 May 2022]. Available at: https://finds.org.uk/publications/reports/2020
Richards, J.D., Naylor, J. & Holas-Clark, C. 2009. Anglo-Saxon Landscape and Economy: Using Portable Antiquities to Study Anglo-Saxon and Viking Age England. *Internet Archaeology*, 25. https://doi.org/10.11141/ia.25.2
Robbins, K.J. 2013. Balancing the Scales: Exploring the Variable Effects of Collection Bias on Data Collected by the Portable Antiquities Scheme. *Landscapes*, 14: 54–72. https://doi.org/10.1179/1466203513Z.0000000006
Robbins, K.J. 2014. *Portable Antiquities Scheme: A Guide for Researchers* [online] [accessed 15 November 2023]. Available at: https://finds.org.uk/documents/guideforresearchers.pdf
Røstad, I.M. 2016. Smykkenes språk. Smykker og identitetsforhandlinger i Skandinavia ca. 400-650/700 e.Kr (unpublished PhD dissertation, Department of Archaeology, Conservation and History, University of Oslo).
Seaver, N. 2018. What Should an Anthropology of Algorithms Do? *Cultural Anthropology*, 33: 375–85. https://doi.org/10.14506/ca33.3.04
Shetelig, H. 1944. *Norske museers historie*. Oslo: J.W. Cappelens.
Uleberg, E. & Matsumoto, M. 2009. National Extensive Databases in Norway: Pitfalls in a Bright Future. Paper presented at the Computer Applications to Archaeology conference, Williamsburg, Virginia, 22–26 March 2009. Available at https://archive.

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

caaconference.org/2009/articles/Uleberg_Contribution339_c%20(2).pdf
Uleberg E., Matsumoto M., Pantos G.A. & Bonelli, L. 2023. Toward Standardised Vocabularies for Norwegian Archaeology. *Internet Archaeology*, 64. https://doi.org/10.11141/ia.64.7
Vos, D., Heeren, S., Ruler, N.V., Smallenbroek, K. & Lassche, R. 2018. PAN (Portable Antiquities of the Netherlands): Harnessing Geospatial Technology for the Enrichment of Archaeological Data. *Journal for Geographic Information Science*, 6: 13–20. https://doi.org/10.1553/giscience2018_02_s13
Wessman, A., Koivisto, L. & Thomas, S. 2016. Metal Detecting in Finland: An Ongoing Debate. *Open Archaeology*, 2: 85–96. https://doi.org/10.1515/opar-2016-0006
Wessman, A., Thomas, S., Rohiola, V., Koho, M., Ikkala, E., Tuominen, J., et al. 2019. Citizen Science in Archaeology: Developing a Collaborative Web Service for Archaeological Finds in Finland. In: J.H. Jameson & S. Musteaţă, eds. *Transforming Heritage Practice in the 21st Century: Contributions from Community Archaeology*. Cham: Springer, pp. 337–52. https://doi.org/10.1007/978-3-030-14327-5_23

Biographical Notes

Irmelin Axelsen is a postdoctoral research fellow in the CULTcrime research network at the Museum of Cultural History, University of Oslo, Norway. Her doctoral project used quantitative and qualitative methods to investigate the relationship between archaeologists and hobby metal detectorists in Norway and their perceptions and feelings towards each other and so-called 'old things'.

Address: Museum of Cultural History, University of Oslo, Frederiks gate 2, 0164 Oslo, Norway. [email: irmelin.axelsen@khm.uio.no]. ORCID: 0000-0002-7586-6533.

Caroline Fredriksen has a PhD from the Norwegian University of Science and Technology, Trondheim, Norway. Her doctoral project addressed how Norwegian management practices towards hobby metal detecting affect plough-zone finds as archaeological data.

Address: Department of Archaeology and Cultural History, NTNU University Museum, Erling Skakkes gate 47b, 7491 Trondheim, Norway. [email: caroline.fredriksen@ntnu.no]. ORCID: 0000-0002-0762-6060.

Le développement organique des bases de données archéologiques et leur 'désordre' : la détection de métaux en Norvège

La détection de métaux est une activité de loisir en croissance en Norvège depuis 2014. L'examen des bases de données ainsi créées permet aux auteurs d'étudier les tendances régionales et nationales qu'elles révèlent et de considérer le caractère désordonné et humain d'un matériel apparemment quantifiable. Leur étude démontre que les archéologues ainsi que les utilisateurs de détecteurs de métaux influencent la qualité et la représentativité des données. Les tendances perceptibles dans la détection des métaux seraient essentiellement dues aux pratiques de gestion actuelles et aux actions de quelques utilisateurs de détecteurs de métaux très actifs dans certaines régions. Il est donc essentiel de comprendre ces tendances et d'enregistrer systématiquement les activités de tous les acteurs concernés afin d'exploiter pleinement ce matériel. Translation by Madeleine Hummler

Mots-clés : détection de métaux de loisir, mégadonnées, mégadonnées humaines, confiance dans les données et réutilisation, archives numériques

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press

Organisch gewachsene archäologische Datenbanken und ihre „Unordnung“: die Hobby Metalldetektorsuche in Norwegen

Die Metalldetektorsuche ist ein Hobby, das sich seit 2014 in Norwegen sehr entwickelt hat. Die Auswertung der resultierenden Datensätze beleuchtet regionale und nationale Verbreitungsmuster und macht den unordentlichen ‚menschlichen‘ Charakter von offenbar quantitativ bestimmbaren Daten deutlich. Die Verfasser zeigen, dass die Archäologen ebenso wie die Sondengänger die Qualität und Repräsentativität der Daten beeinflussen. Sie schließen, dass die Verbreitung der metall-detektierten Artefakten aktuelle Verwaltungsverfahren und die Tätigkeit von sehr wenigen, aber sehr aktiven Sondengängern in einigen Bereichen widerspiegeln. Eine Erkenntnis dieser Tendenzen und eine systematische Aufnahme der Tätigkeiten aller Beteiligten ist von zentraler Bedeutung, um das Potenzial dieser Funde voll auszuschöpfen. Translation by Madeleine Hummler

Stichworte: Hobby Metalldetektorsuche, große Datenmengen, menschlicher Datenbestand, Vertrauen und Wiederverwendung von Daten, digitale Archiven

https://doi.org/10.1017/eaa.2024.10 Published online by Cambridge University Press