Making Heritage

A Case Study on the Impact of Contract Archaeology on Museum Collecting in Sweden

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Since taking off as an industry in Sweden in the 1980s, contract archaeology has changed not only the role of field archaeologists but also that of museums and the formation of collections. This paper discusses some of the effects of the commercialization of archaeological services through a case study of past and present collection practices. Data records are compared from three different archaeological investigations at the site Nya Lödöse (1473–1621) in Gothenburg. Each excavation represents a particular era in archaeological practice. The data are used to compare and analyse collecting practices within contemporary contract archaeology. Separately, a survey among contract archaeology units examines the implementation of legislative guidelines and day-to-day practices and suggests several causes for anomalies in the selection and discarding of finds in the case study. Combined, the findings of the case study and the survey results suggest that contract archaeology leaves a specific imprint on collections in archaeological museums, impacting their compilation and therefore influencing future research as well as the experience of the public.

Keywords: development-led archaeology, organization, collecting, commercial archaeology, organization structure, finds processing, tangible heritage

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Introduction

The Swedish system of contract archaeology is organized and controlled by regional authorities under the direction of national guidelines. While contract archaeology in Sweden is thus controlled by state agencies, it relies on a public tender system, and an estimated 90 per cent of all archaeological work in Sweden is undertaken as commercial contract archaeology or developer-led excavations (Riksantikvarieämbetet 2017a). Excavation units are found both in the public and private sectors. Cost liability for archaeological investigations compelled by construction projects has been placed with the developer since 1942. Investigative archaeology in Sweden is required to be research-based, which means it must have the objective of producing new knowledge of relevance to the research community while mediating relevant knowledge to the wider public (prop. 2012/13:96).

Archaeological remains in Sweden are state property by law, and finds from commercial excavations are preserved in the museum archives of the National Historical Museums (NHM, or Statens Historiska Museum, SHM). The release of finds to other museums can be arranged either through case-specific requests, or with a so-called pending request for acquisition of finds: a commitment contract tied to a specific museum that takes on the responsibility for the curation of finds, usually pertaining to finds from a geographically delimited area; there is no financial support connected to such a commitment. Demands for cost-efficacy and profitability within the heritage sector in general, and the system of contract archaeology specifically, have resulted in an organization structure of vertical silos or satellites, consisting of interdependent units with a high degree of specialization. Due to increased competition and low profitability, many museums have ceased to support their archaeological unit and conservation units have experienced similar fates. Although up-to-date numbers are not available, a decline has been noted since 2015 (Högberg & Fahlander 2017). In 2018, roughly 50 archaeological units (including 20 which were tied to a museum) actively competed for tenders (Myndigheten för kulturanalys 2020:57).

Decisions on *what* is investigated, recorded and ultimately collected (or not) as material heritage in Sweden are determined by policy and decided on during the planning stage of the archaeological process. The planning process involves planning archaeologists from the County Administrative Board (CAB, or Länstyrelsen), as well as excavation units. In general, museums are not involved in this process, which means that collection policies and research goals are not taken into account when finds strategies are formulated. As a result, archaeological museums have become restricted when it comes to controlling collection accession. With specialist skills in museums seemingly declining (Högberg & Fahlander 2017), the quality of

subsequent mediation of archaeological knowledge to the public may well be affected. At the same time, the relevance of collections produced in connection with contract archaeology, at least from the perspective of the public mission and strategic management of individual museums, may be reduced.

Each era leaves its unique imprint on heritage collected and preserved in museum collections and in turn influences the vision of the past presented to the public. Despite this, there is very little empirical research on the specific imprint of present museum practices. This paper represents a small step towards filling this gap. Departing from existing legislation and guidelines, the research here includes a review of organizational structures in order to identify system-specific areas which need improvement. The acquisition of finds in museum collections via contract archaeology is investigated through a case study comparing the content and volume of an existing collection at the city museum of Gothenburg (assembled before contract archaeology was prevalent) with a selection from recent excavations. Together with a questionnaire on the execution of fieldwork, some immediate effects of contract archaeology are identified, and it is suggested that this impact is applicable to archaeological museum collections in Sweden in general.

The Swedish system of contract archaeology – a brief description

The Swedish system of contract archaeology developed into its current form with the introduction of New Public Management (see Hood 1991 for a discussion of the term) in public administration during the 1980s and 1990s. Residing on three key elements – economy, effectiveness and efficiency – generally obtained by decentralization, clear market orientation and demands on cost efficacy, New Public Management brought along a profound change in the organization structure of the heritage sector to increase cost-benefit ratios (Hood 1995; Fredengren et al. 2012; Svensson & Tomson 2016; Zan et al. 2016; af Edholm 2017; Cregård et al. 2018). Despite a long tradition of development-led archaeology, before the 1990s archaeology as a matter of public service was mainly a state-governed affair, with fieldwork undertaken either by archaeological units (Undersökningsverksamhet, UV) of the Swedish National Heritage Board (SNHB, or Riksantikvarieämbetet, RAÄ) or by units of county and city museums. A 1992 state investigation brought a change: in order to increase cost-efficiency, a tender-based system for archaeological fieldwork was proposed, and developers assumed responsibility for all costs relating to the conservation of finds selected for preservation in the development process (SOU 1992:137; SOU 2005:80). Additionally, a corporate form for the excavation units of the SNHB was proposed to allow for increased

competition. All of the proposed measures were eventually implemented; the last – the reconstruction of the excavation units – was adopted in 2015.

As a matter of national concern, ancient monuments and remains are legally protected by the Swedish Heritage Conservation Act (Kulturmiljö-lagen, KML, SFS 1988:950). This means cultural heritage is owned and governed by the state. As a destructive line of work, archaeological excavations are not the objective, and construction/development projects that disturb listed or possible heritage sites are always subject to assessment. The same is true of projects which turn up unexpected archaeological remains. Consequently, archaeology has become an integral part of planning processes.

The Swedish system of contract archaeology is regulated by the SNHB and administered by 21 CAB's, each allocated to a specific geographical area. Over the years the SNHB has developed into a primarily advisory organ, supervising the administrative responsibilities of the CAB and interpreting heritage legislation by issuing guidelines for, amongst other things, the archaeological process. As the regional organization responsible for the archaeological system, the CAB's planning archaeologists grant or refuse permission for development-led archaeology, and decide on the ambition level and focus. Depending on the extent, complexity and importance of the site, as well as the current state of knowledge, archaeological projects can consist of desk-based assessments (DBA), general site-surveys and watching briefs (surveying construction activities), as well as preliminary and full investigations. The CAB also decides on extent and cost of the contract archaeology project, as well as bearing responsibility for supervising the execution of fieldwork, the selection and preservation of finds and the quality of the archaeological report.

Although investigative archaeology in Sweden is research-based, which means it is executed and guided by scientific research questions (Kristiansen 2009), it is strongly influenced by commercial powers. The quality of contract archaeology is defined not only by its research outcome and potential, but also on the overall costs. Requirements for archaeological investigations are formulated by the CAB in a Project Brief at which interested or consulted firms reply with a Written Scheme of Investigation (WSI) (Malim 2014). The WSI – containing a method statement, risk assessment and a finds strategy (a strategy for selecting and/or discarding of finds) according to best practice as formulated on ARCHES (https://archaeologydataservice. ac.uk/) – functions as a basis for decision-making for the CAB, controlling the tendering process[1] and the ultimate choice of contract archaeology firms.

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1   A tender procedure is started if the costs of the archaeological survey or investigation is estimated to exceed 20 price base amounts (pbb) or exceeding 5 pbb and requested by the developer. For 2020, 1 ppb equals 43,700 SEK.

AIMS AND GOALS FOR CULTURAL HERITAGE

As a consequence of demands on cost-efficacy, the value of archaeology and archaeological heritage is increasingly defined by utilitarian arguments emphasizing its usefulness to society as a tool for social sustainability, well-being or economic growth. The overall goal set by the Swedish government is for culture to function as a dynamic, challenging and independent driving force, to be used for the improvement and enrichment of society. To obtain and maintain this goal, cultural heritage is to be preserved, used and developed (prop. 2009/10:3). However, the combination of preserving and using heritage is problematic, as preserving and using as a cause of action is contradictory: preservation aims to maintain something in the state it is in, preventing it from decaying, being damaged or destroyed, whereas any use of objects (such as handling, touching and displaying them) inevitably wears them down. While clear guidelines are lacking on how political goals are to be reached, each actor in the archaeological process – such as the SNHB, the CAB, contract archaeology units, conservators and museum antiquarians – acts according to clearly defined tasks with individual objectives.

TASKS AND OBJECTIVES FOR ACTORS IN THE SYSTEM OF CONTRACT ARCHAEOLOGY

The main actors within the contract archaeology system are the SNHB, the CAB's, the contract archaeologists, and conservators and museums, too, to a greater or lesser degree – each of which has different roles and objectives. As the central administrative agency in the area of cultural heritage, the SNHB answers directly to the Ministry of Culture and oversees the correct implementation of cultural heritage legislation as formulated in Swedish legislation (SFS 1979:429; SFS 1988:950; SFS 1998:808; SFS 2010:900). Their objective is to direct and support the preservation, use and development of cultural heritage (SFS 2014:1585). Interpretation and implementation of legislative texts are clarified through the SNHB's 'Regulations on contract archaeology'[2] (KRFS 2007:2; KRFS 2015:1; KRFS 2017:1; KRFS 2018:6), functioning as a guiding principle for the CAB in the issuing of requirements for, and assessment of, the WSI and tenders. The main implication for contract archaeology is the SNHB's supervision and monitoring of community planning and construction through issuing guidelines regarding the contract archaeology processes (Riksantikvarieämbetet 2017b). On a regional level, this process is coordinated and controlled by the 21 County Administrative Boards, which care for ancient sites and historic environments in their counties and see to it that cultural values of interest are integrated into county-specific planning processes. In order to avoid conflicts of interest

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2   All translations author's own.

and to allow for competition, project-briefs for development-led archaeological projects are formulated independently from the archaeological units working the market. The main objective for contract archaeology is to produce and mediate scientifically-based knowledge of relevance to society at a reasonable cost (Riksantikvarieämbetet 2012:121; Riksantikvarieämbetet & Statens Historiska Museer 2015:4; see also SOU 2005:80:14). It documents and preserves the archaeological record, which means excavation is not a primary goal. It is the task of conservators to preserve this heritage, aiming to safeguard its physical integrity and scientific value. As for museums, their mission includes active collection management, the mediation of knowledge to the public, knowledge building and to contribute to research (SFS 2017:563). For museums with archaeological collections, mediation of knowledge is usually achieved with the communicative narratives of conventional media such as exhibitions based on a selection of objects from the collections, preferably in a setting of topical, societal issues.

NEGOTIATING HERITAGE

Due in part to the methodological problem of data preservation, *most* collections in Sweden cannot yet be considered 'archaeological archives' as much of the primary archaeological data is not preserved with the objects in collections: 'The archaeological archive is defined as all parts of the archaeological record, including the finds samples, and digital records as well as the written, drawn and photographic documentation' (IfA 2014:3). 'An archaeological archive consists of two main elements: The documentary archive comprises records and associated documentation created during the course of an archaeological project. The material (finds) archive comprises objects and associated samples' (ARCHES nd). The responsibility for filing and preserving excavation-related data formally lies with the museum receiving the artefacts; however, there is a national system for archiving data, Kulturmiljöregistret (KMR). While the CAB can require documentation to be stored in a 'public archive' (KRFS 2017:1), the national system for archiving supports only a limited variety of media types for primary data produced during fieldwork, resulting in dispersed and inaccessible data due to infrastructure deficiencies. In practice, this means that much find-relevant excavation information is contained and kept by the individual companies which have no formal responsibility to maintain it once the excavation is finished, the finds have been processed and handed over to the museum and the excavation results are published. As a consequence, much of the primary data produced in connection with archaeological fieldwork – that which relates directly to the artefacts selected for preservation – is not distributed and may only be accessed by the producing unit, decreasing the value of artefact collections for ongoing research.

The process by which archaeological finds are incorporated into museum collections relies on several consecutive selection moments involving different actors and networks. Set on by a variety of interests (political, economic, social etc.) archaeological material culture is repeatedly negotiated through processes of valuing and ranking: a first ranking is made by the very definition of heritage in the Heritage Conservation Act. Remains of human activity are protected if they predate 1850 and belong to any of the categories listed. A second ranking is made by the CAB's planning archaeologist, who decides whether to allow an exception to the legislative protection of cultural heritage following the developer's request to exploit a specific location. As the CAB sets the conditions for archaeological investigations, this will be decisive for *what* is eventually excavated, documented and preserved. A third ranking consists of several recurring moments performed by the archaeological unit. Starting with the WSI outlining the finds strategy – defining what material and find categories are to be selected or discarded – as well as applied methods for documentation, ranking and valuing is repeatedly carried out during and after fieldwork as a mix of objective and subjective choices. As it might take years before selected finds are allocated to a museum, preservation conditions might affect the condition of the selected artefacts. In worst-case scenarios the possibility for subsequent analysis or use of artefacts is ruled out because of this. Eventually, selected objects are processed and incorporated into existing collections. Some museums use internal collection policies defining what to collect in connection with, for example, specific research aims.

According to the study presented here, a particular problem arises from the silo structure of the system: collection policies or research aims of local and regional museums are not taken into account by the CAB and have no impact on what is being commissioned or produced in contract archaeology. This means that the products of contract archaeology – the data produced, as well as the artefacts selected – are not necessarily of interest to the institutions that might manage and use this material. Previously, the CAB worked in collaboration with county museums, many of which had their own archaeological unit. Existing silos were therefore not as apparent, and excavation focus, as well as artefact selection, allowed for some flexibility with regard to controlling the content of existing collections.

Contrasting collecting with the collected – the case of Nya Lödöse

Decades of contract archaeology would potentially have had a notable impact on the composition of archaeological collections in Swedish mu-

seums. To study these effects, material from the existing Nya Lödöse collections at the city museum of Gothenburg (Göteborgs stadsmuseum) was compared to finds data of ongoing development-led archaeology from the same archaeological site.

From 2013 onwards extensive development-led excavations were carried out at the site for Nya Lödöse (1473–1621), a predecessor of the modern city of Gothenburg in western Sweden, situated north-east of what is now the city centre (Cornell et al. 2018). The excavations were organized under the name *Projekt Nya Lödöse*, a collaboration of three contract archaeology actors: SHM Arkeologerna (national), Bohusläns museum (regional) and Rio kulturkooperativ (independent). The excavations were completed in 2018 and results are still being processed. The same area, period and phenomena have been investigated in the past during two coherent periods: the first period of investigations (1915–1918), hereafter phase one, was carried out during a period when archaeology was subject to drastic changes due to the professionalization of archaeologists, museum professionals and heritage management (Gillberg & Jensen 2007; Jensen & Jensen 2012). The second period of excavations (1965, 1969), hereafter phase two, can be described as typical rescue archaeology, comparable to much of the archaeology undertaken in post-war Europe. Data and objects from these investigations are archived at the city museum of Gothenburg as 'the Nya Lödöse collections'. As the archaeological investigations in the different periods represent three different eras in archaeology, they provide a suitable foundation for a case study aiming to identify changes in collecting due to system changes.

As the motivation or drivers for any excavation affect what finds are selected for preservation, archive material on the early excavations as well as the WSI were reviewed. Each excavation period was prompted by development (of parts) of the area. Defining the extent of the city, as well as the urban lay-out, were important objectives in each excavation. Collecting in phase one was driven by the upcoming celebration of the 300th anniversary of the city of Gothenburg. Hosting the World Fair Exhibition of 1923 in honour of its anniversary, the excavations were paid for by the city with explicit expectations that it would produce artefacts that could be used in a planned exhibition on the birth and history of Gothenburg and its eminent inhabitants (StArkivet GSM 1915a, 1915b; Strömbom 1924). However, as Nya Lödöse during its short period of existence had been occupied by enemy forces and was burned to the ground a couple of times, the finds made were anything but impressive. As a consequence, extensive dredging works in the contiguous stream *Säveån*, which divides the northern and southern centres of the town, were commenced from the second year onwards (StArkivet GSM 1915a, 1915b; Strömbom 1924). The dredged artefacts were in much better condition than their land-based, traditionally

Table 1. Compilation of analysed data sets.

Phase	Number of registered data records per data set (DS)				
	DS 1	DS 2	DS 3	DS 4	DS 5
	Total number of registered data records, after data processing (complete base)	Estimated number of data records, based on serial numbers in original records.	Total number of data records registered as *dredged finds*.	Total number of data records registered as *discarded finds*.	Total number of data records registered as *selected for preservation* (dredged and/or discarded posts excluded).
Phase 1	**6834**	**8306**	**2950**		**3884**
1915	818	1231	3		815
1916	3712	3737	2100		1612
1917	1342	2263	530		812
1918	962	1075	317		645
Phase 2	**3868**			**7**	**3861**
1965	135			3	132
1969	3733			4	3729
Phase 3	**9567**			**2218**	**7349**
2013	8206			2043	6163
2014	1361			175	1186
Total	**20,269**		**2950**	**2225**	**15,094**

excavated equivalents, and thus produced a far more desirable result, which is why as much as 43 per cent of all registered data records in phase one derive from dredging works. There are no records on why, what or how many posts were discarded during the phase, but the sequencing of posts in the original finds record suggests the total number of uncovered and registered finds was at least 18 per cent higher than the number of finds eventually selected for preservation and now held by the museum. The two excavations undertaken in phase two (1965, 1969) were executed as is typical of rescue archaeology (Andersson 1972): all but seven finds were collected and incorporated into the museum's collections (Andersson & Ockborn 1969; StArkivet GSM 1969). Finds of modern character were not preserved. As expected, neither finds nor excavation data were processed, as constraints on time and money halted data processing. Phase one and two combined contain more than 10,700 data records (Table 1). The structure and make-up of the existing collections were contrasted with 9567 records consisting of data on both selected and discarded finds, produced during two years of excavation (2013–2014), hereafter phase three. The WSI for phase three

provides information on selection motivation and priorities, as it contains a framework for the grading of finds in relation to their importance for the interpretation of city layout and social structure, as well as trade and merchandise on local, regional, national and international levels.

While the historical records do not provide insight on decision making on the operational selection of artefacts in the first two phases, it does contain information on excavation method, extent and motivation. During phase one an area of approximately 7500 square metres was excavated. Much of the excavated area in this phase consisted of trenches and test-pits which were not excavated to bedrock. Phase two comprised 1800 square metres, while in phase three an area of more than 5500 square metres was excavated during 2013 and 2014. Based on data from these first two years of archaeology, the current collection of Nya Lödöse is estimated to triple in size – even though up to 21 per cent of registered finds were discarded after registration. The number of finds is far from unusual for larger investigations in urban areas, and in this respect phase three can be considered as the norm for more extensive urban projects.

To investigate changes over time in the frequency and nature of artefact selection, data from each phase was processed and analysed both quantitatively and qualitatively. The number of data records analysed per phase and year are presented in Table 1, arranged according to different data sets (for example selected finds, discarded finds, dredged finds). Data records were organized into material classes such as ceramics, metals and organics (Table 2, 3 and 4, for more details see Smits 2019). The distribution of material classes for each single phase was compared between phases. Discrepancies between classes were then checked against material categories and artefact categorization (when available).

The volume of artefacts differs greatly between phases. A connection between the volume of processed artefacts and the extent of the individual excavations could not be found, and variations between phases are most likely ascribed to the historical use of the areas investigated, applied methods of excavation and registration routines, technical limitations (for example an inability to deal with groundwater levels), and underdeveloped conservation techniques in phases one and two (Smits 2019). For example, compared to the first two phases, the third phase contains a somewhat larger variety of material and artefact categories, which is especially noticeable amongst organic materials.

The most extensive material classes in all phases are metals and ceramics (Figures 1, 2, 3 and 5). A closer look at class contents and categories (Smits 2019) reveals that the majority of traditionally excavated metals for each phase are iron artefacts – mainly bolts, nails and rivets, but also tools, horse gear and household items such as knives, hinges, hook-arms and so on. Ar-

Table 2. Registered data records per material class for different data sets in phase 1. Number and percentage.

Material class	Number of data records					
Phase 1	(DS 3)		(DS 5)		(DS 1)	
Organics	11	<1%	41	1%	52	1%
Silicates	19	<1%	298	8%	317	5%
Ceramics	1911	65%	3001	77%	4912	72%
Metals	958	33%	475	12%	1433	21%
Stone, clay, plaster	11	<1%	60	2%	71	1%
Composites	35	1%	4	<1%	39	<1%
Other/not defined	5	<1%	5	<1%	10	<1%
Total	**2950**	**100%**	**3884**	**100%**	**6834**	**100%**

Table 3. Registered data records for finds selected for preservation in phase 2, per material class. Number and percentage.

Material class	Number of data records	
Phase 2	(DS 5)	
Organics	31	1%
Silicates	93	2%
Ceramics	2195	57%
Metals	1263	33%
Stone, clay, plaster	76	2%
Composites	18	<1%
Other/not defined	185	5%
Total	**3861**	**100%**

Table 4. Registered data records per material class for different data sets in phase 3. Number and percentage.

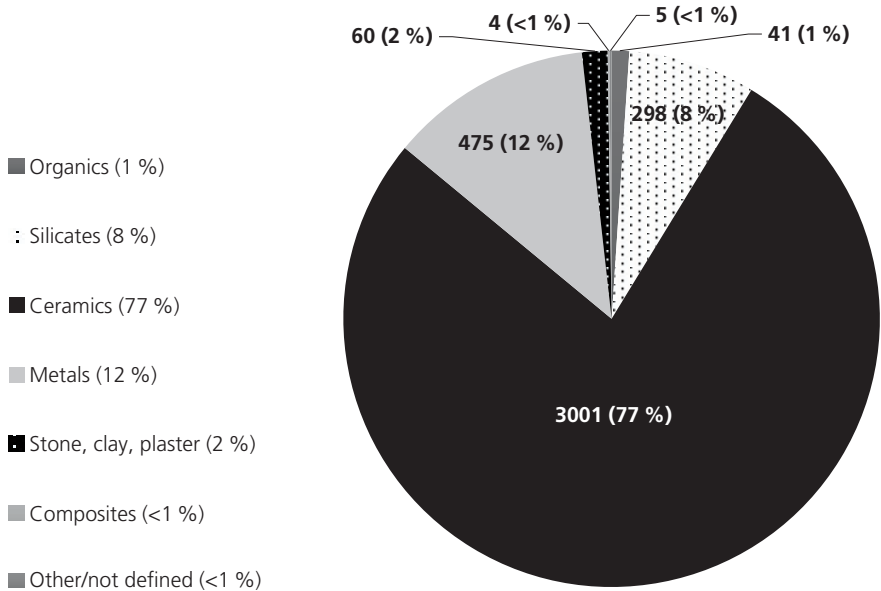| Material class	Number of data records					
Phase 3	(DS 5)		(DS 4)		(DS 1)	
Organics	226	3%	132	6%	356	4%
Silicates	191	3%	650	29%	841	9%
Ceramics	6072	83%	82	4%	6154	64%
Metals	456	6%	1332	60%	1788	19%
Stone, clay, plaster	290	4%	15	1%	305	3%
Composites	13	<1%	0	0%	13	<1%
Other/not defined	101	1%	7	<1%	110	1%
Total	**7349**	**100%**	**2218**	**100%**	**9567**	**100%**

Figure 1. Registered data records of finds selected for preservation per material class in phase 1. Land-based excavations only.
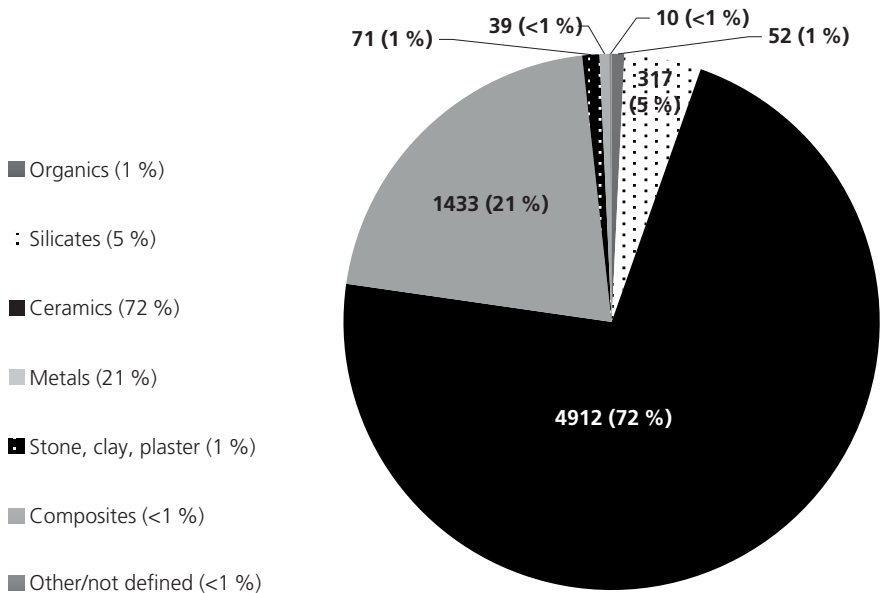

Figure 2. Total number of registered data records of finds per material class in phase 1. Land-based excavations and dredging works combined.
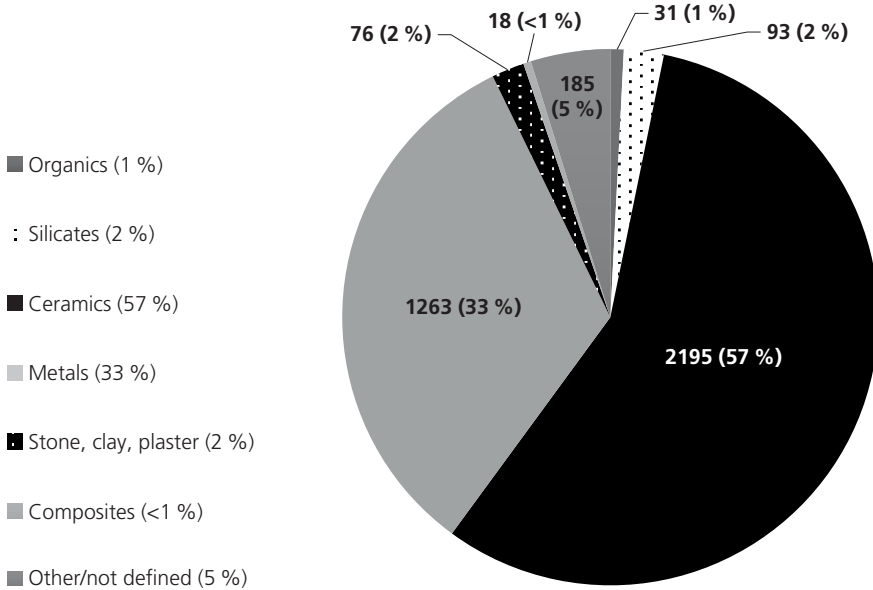
76 (2 %) **18 (<1 %)** **31 (1 %)** **93 (2 %)**
185 (5 %)

1263 (33 %)

2195 (57 %)

■ Organics (1 %)

⋮ Silicates (2 %)

■ Ceramics (57 %)

■ Metals (33 %)

▨ Stone, clay, plaster (2 %)

■ Composites (<1 %)

■ Other/not defined (5 %)

Figure 3. Registered data records of finds selected for preservation per material class in phase 2.

290 (4 %) **13 (<1 %)** **101 (1 %)** **226 (3 %)** **191 (3 %)**
456 (6 %)

6072 (83 %)

■ Organics (3 %)

⋮ Silicates (3 %)

■ Ceramics (83 %)

■ Metals (6 %)

▨ Stone, clay, plaster (4 %)
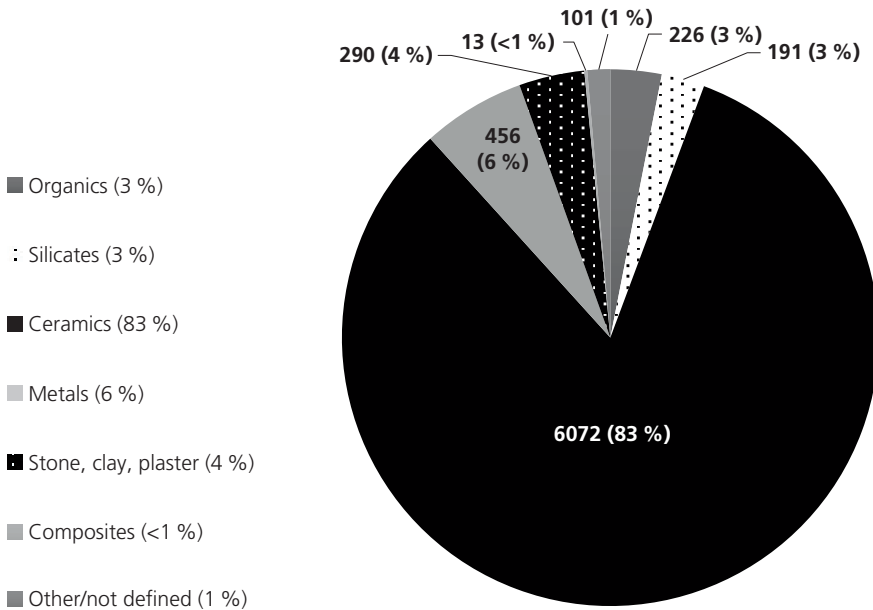
■ Composites (<1 %)

■ Other/not defined (1 %)

Figure 4. Registered data records of finds selected for preservation per material class in phase 3.
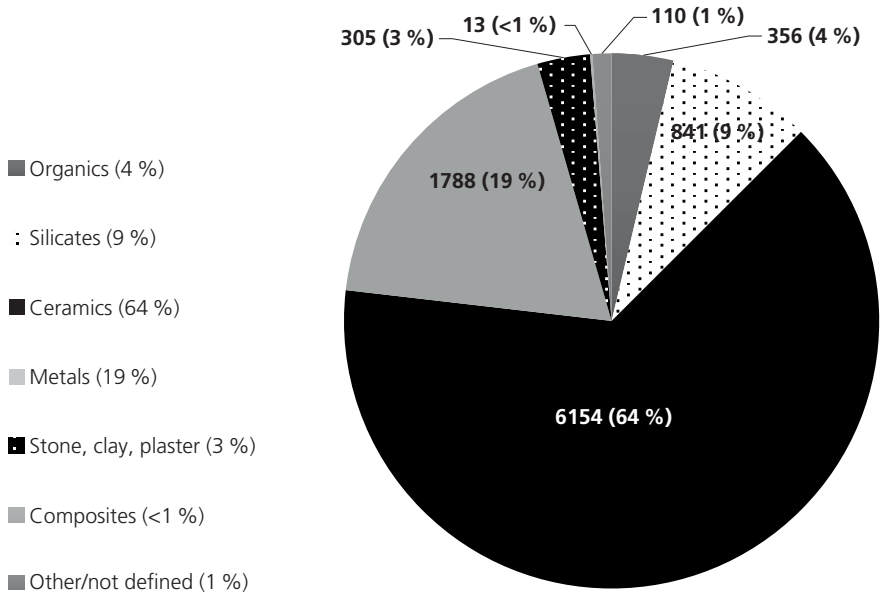
Figure 5. Total number of registered data records of finds/class, phase 3.

tefacts made of copper, silver and gold – mostly coins – are well-represented among the dredged artefacts in phase 1 but are quite rare among excavated metals in any phase. As for ceramics, the records describe mostly sherds of household ware typical for early modern cities of the time. A recent study on find-strategies for metals in 11 development-led excavations in Sweden shows that 40–90 per cent of all metal finds are discarded (Holmquist & Wendt 2019). The same study indicates that there is an increasing number of metal finds in recent years, probably due to the increased use of metal detectors. It also observes how in many cases demands on the selection of finds in the CAB's Project Briefs as well as find-strategies in responding WSIs are poorly substantiated, which provides for unscientific selections in the archaeological process. This could explain how 19 per cent of all processed finds in phase three consist of metals while a total of only 6 per cent is selected for preservation (Table 4, see also Figure 6), whereas iron artefacts such as building materials like nails and bolts, as well as unidentified objects, have been discarded. As for ceramics, the majority of finds in phase three were selected for preservation (Figure 4). While pottery is an indisputable source of knowledge for calibration and outlining social networks and trade, iron-ware can play an equally important role in addressing the questions above. Therefore, the choice of selecting and discarding in phase three of Nya Lödöse cannot be entirely motivated as such and suggests that other factors must be involved in determining selection aside from the WSI.
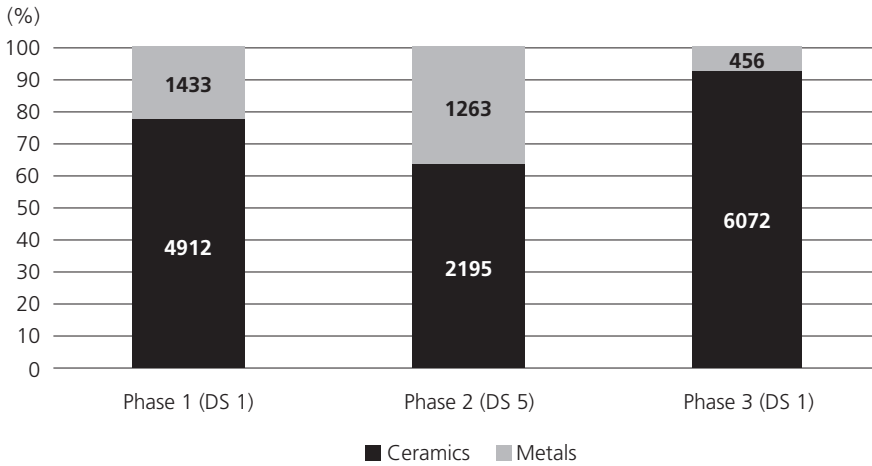
Figure 6. Distribution of ceramics and metals selected for preservation per phase.

Contract archaeologists on find-strategies: a survey

In order to identify deficiencies in the implementation of existing standards, a user-survey among contract archaeology units was carried out with questions on organization structure, practical application of guidelines and finds strategies (Table 5). A request for participation was sent out to 44 randomly selected staff members of units connected to the Swedish member-organization of contract archaeology SUB0 (Sveriges uppdragsarkeologiska branschorganisation). A total of 16 respondents, each of whom had at least 10 years of work experience within contract archaeology, replied within the time-limit of three weeks. The low rate for replies is most likely due to the timing of the mailing (September), a high season for field archaeologists. The request was sent out once. Four respondents replied after the deadline of three weeks. Their answers were not processed or integrated into the analysis. The survey opened with a few questions for market positioning, ensuring the respondents belonged to the correct target group. The main part of the survey consisted of 12 semi-structured questions about personal experiences and reflections on existing guidelines and the tendering process, as well as find-strategies. Responses were analysed and organized into categories (mostly yes/no/don't know or other) (Table 5) (a full account of responses is published in Smits 2019). As the design of the survey did not require respondents to answer all questions, reply rates for questions vary.

The survey aimed to contribute to a broader understanding of find-strategies in contract archaeology and, as such, to provide insights into contemporary collecting and the formation of collections in archaeology museums

Table 5. Overview of survey questions and respondent rates.

	Overview of survey questions	Yes	No	Dont know/ other	Total number of respondents
1	Are other elements – beside the WSI – affecting the selecting and discarding of finds? *What other elements?*	9	3	3	**15**
2	Do you consider existing guidelines for selection of finds as sufficient? *Why/why not?*	3	5	8	**16**
3	Do you consider selecting processes in the field have changed during the last decade(s)	11	5		**16**
4	*In your opinion, what has been the driving force for these changes (see question 3)?*				
5	The mass of bulk material is usually not or only limited preserved. Do you perceive specific material or find categories commonly being prioritised for preservation? *Which?*	9	6	1	**16**
6	Are conservation and management costs used as an argument for selecting and discarding of finds in the field? *If so, in what ways does it affect selection?*	12	3	1	**16**
7	Provided the receiving museum is known, is there a dialogue on selecting and discarding between the museum and the company?	5	6	4	**15**
8	Are existing collections taken into account when formulating and executing find strategies? *If so, how?*	3	10	3	**16**
9	*In order to win a contract – what costs are cut down?*				
10	In order to win a contract – are costs for conservation cut down? *How does this affect the archaeological project in general?*	5	8	1	**14**
11	In general: are the estimated costs for conservation reasonable?	9	2	2	**13**
12	*Any comments or suggestions on selection processes in general?*				

in Sweden. As it emerged, the survey suggests selection processes are often affected by factors other than scientifically validated arguments. This can explain the findings of the Nya Lödöse case study: while just three respondents agreed to the statement that existing guidelines for the selection of finds are sufficient (question 2), nine respondents suggested that other factors were at play, such as individual expertise, costs and excavation size, all of which impact selection and discarding aside from the WSI (question 1). Providing the receiving museum is known beforehand, one-third of the respondents state they had a dialogue about selecting and discarding with the receiver (question 7). However, as it is unknown how many of these respondents are associated with a museum unit, the answers do not reveal anything on the general contact rate between contract archaeologists and museums. Only three out of 16 indicate using existing collections as a point of departure in find-strategies (question 8). Up to two-thirds of the respondents perceive selection processes as having changed during the last decade(s) (question 3), alleging changes in organization structure and legislative frameworks (2 respondents), economic restrictions (3 respondents) or a general decline in the overall volume of selected finds (6 respondents) as the most obvious changes (question 4).

The entire archaeological process is affected by the tender process, as costs are cut in all areas (question 9). Five out of 14 respondents acknowledged costs for conservation are sometimes cut deliberately in order to win bids (question 10), while 12 out of 16 consider costs for conservation and preservation management as being decisive arguments in selection processes (question 6) with nine of the respondents stating this occurs in the material and artefact categories selected for preservation (question 5). Several respondents explicitly mention iron as a category being thinned out significantly because of the associated costs, as there is a requirement for metal objects to be conserved before being consigned to a museum. Nevertheless, nine out of 13 respondents deemed as sufficient the estimated sum for conservation in most archaeological bids (question 11).

Making heritage

The Nya Lödöse case study and the survey combined indicate that contract archaeology is greatly affected by demands on cost-efficacy, and this influences what and how much is collected. For example, expensive material classes and categories are rejected in favour of cheaper ones – namely those not in need of conservation treatment or requiring special storage solutions. Subjective assessments in selection processes are apparent due to insufficient or unclear guidelines on selecting and, as suggested in the

survey, a lack of communication between actors regarding the use – and perhaps the usefulness – of the selected material.

The study also indicates that the division of the process between various organizations has a vast impact on the communication and cooperation between actors, which in turn affects the consecutive use of the archaeological knowledge produced. The silo structure in the archaeological process causes estrangement between supervising organs – the SNHB and the CAB's – heritage producers – the contract archaeologists – and heritage users, the museums. Aims and goals for different actors are not effectively communicated between parties, resulting in a selection of finds disconnected from collections and collection acquisition needs. Furthermore, a lack of monitoring of the complete archaeological process – from tender to the handing-over of finds – threatens the quality of the archaeology performed, as well as the correct handling of finds as stipulated in the guidelines of the SNHB and CAB and formulated in the WSIs.

The amount of material culture and knowledge generated by development-led excavations is often extensive as large, continuous areas are investigated (Rudebeck 2010). The vast number of artefacts from these urban excavations challenge already strained museum budgets, and an increasing number of museums reject newly excavated finds altogether (Riksantikvarieämbetet & Statens Historiska Museer 2015). Many collections are either under-analysed or underreported (not least because they have not been, or are only partly, digitalized), and research on collections is often looked upon as a poor alternative to the in-situ record (Demoule 2011; Voss 2012). A limited archaeological market and tight competition for commissions have, together with increasing demands on cost-efficacy, resulted in a situation where in-depth research on existing collections, at least within contract archaeology, is not used to its full potential, which could have an adverse influence on the quality of archaeological projects (Hamilakis 2015).

While this study has not attempted to investigate how the geographical confinement of contract archaeology to urban areas affects the production of knowledge for different periods and areas in Sweden, it likely does provide some insights into this bias. As material culture in urban areas is cumulative, knowledge about urbanization and related artefacts in collections has increased since the establishment of development-led archaeology. Also, as very little research funding is available (Rudebeck et al. eds. 2001; Rudebeck 2010), investigative archaeology in other areas of Sweden is limited. This is likely to mean that knowledge production regarding the history of minorities, such as the Samí people in Sapmí (northern Sweden), lags behind, as most of their archaeological footprint is confined to the more remote parts of Sweden.

The overall goals for heritage work and aims for heritage are ideologically based. However, they do not coincide with demands on cost-efficacy and profits for individual companies. The limited survey presented here suggests that demands on cost-efficacy, short term financial goals, the lack of guidelines, as well as excavation-specific instructions allow for a pragmatic and ad hoc approach to decision-making, paving the way for the subjective and economically motivated selection of finds. The circumstances have essentially imposed a 'filter' on the material, resulting in a specific signature which reveals the involvement of contract archaeology in the formation of contemporary archaeological collections.

Conclusions: the signature of twenty-first-century contract archaeology

How does contract archaeology in Sweden affect what is collected? With what implications? The physical signature of contract archaeology in twenty-first-century museum collections as investigated here can be summed up as follows:

- Constant accumulation of finds.

- Overrepresentation of large urban areas concentrated in the southern half of the country.

- Selection of finds with little to no support in existing collections and museums acquisition goals.

- Selection of finds based on economic motivations.

Our own time, as previous decades, affects the knowledge produced within archaeology, and this has implications for what is preserved and what can be used for ongoing and future research and knowledge mediation. Due to the structure of the system, it is unlikely that research goals in development-led archaeology, as defined by the CAB and contract archaeology firms, comply with the needs for knowledge production of individual museums. As the primary task of CAB officials is to take care of ancient sites and historic environments, there is little to no contact with local museums and their objectives and aims, and as such, limited insight into what knowledge is of relevance for society. In part, the same applies to contract archaeology, thus creating a conflict with its main objective – to produce knowledge of relevance for society. As a changeable concept, the definition of 'relevance' is a topical and ongoing discussion. However, addressing a multitude of interests demands the inclusion of as many actors

as possible. To do so effectively calls for closer collaboration. Can such a challenge be met?

The valuing and ranking of archaeological heritage varies according to actor, as each profession has its particular aims and goals. Without a coordinating body, communication declines and overall objectives for individual efforts become obscure, affecting the structure, composition and use of museum collections. This creates a situation where the current system of contract archaeology is everything but the 'dynamic, challenging and independent driving force working for improvement and enrichment of society' as delineated in current legislation and guidelines (SFS 1988:950; prop. 2009/10:3). Tight budgets and personal interests are allowed to influence what material culture is selected as cultural heritage for the future, resulting in archaeological collections of dubious value to the public and even the scientific world.

Minor changes in the current organization of heritage-making in Sweden could support best practice for archaeological archives as articulated by ARCHES (nd). One suggestion would be to let museum collection policies coincide with museum research policies if they exist. Museums are already urged to prepare policies for acquisition and accession as a vital part of collection management (Riksantikvarieämbetet 2018; Collections Trust & Riksantikvarieämbetet 2019). Connecting collecting strategies with research goals related to the collections – preferably involving contract archaeology firms, as well as universities with specific know-how on the overall state of knowledge for different areas and subjects – would enhance the relevance of both collections as well as collection-related research. As a management strategy, this complies with Swedish legislation, where it is stated that the purpose of museums is, among other things, to contribute to research and knowledge production (SFS 2017:563). These comprehensive policies could – provided they are constructed as 'living' documents consisting of regularly updated frameworks on research orientation and priorities – function as a starting point for the CAB's coordination, planning and supervision of the archaeological process in individual counties. Although this does not solve the problem of the geographical bias of contract archaeology, it would provide continuity on the state of knowledge of research and collecting needs and aims in individual counties, without prejudicing the neutral position of the CAB. Most likely, this would ease coordination of the contract archaeology process as a whole, as clearer overall goals and aims for selection would counteract 'unscientific selection' and instead create collections of greater relevance for scientists and other actors or stakeholders.

Although not providing an answer to questions regarding *what* is deemed relevant by contract archaeologists, public archaeology, scholars, museum

antiquarians or society, the suggestion made above would allow for closer cooperation between actors and, as such, address a multitude of interests. This suggestion is but one way of addressing the challenges in the current system. Thus, it should be seen as a starting point for a deeper discussion on the urgent issue in contemporary practices involving how and why we create archaeological heritage, aiming to increase the relevance of the *what*: the collections and the collected.

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