

# THE METAL HOARD FROM PILE IN SCANIA, SWEDEN

Place, things, time, metals, and  
worlds around 2000 BCE

By Helle Vandkilde



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with contributions by  
Peter Northover, Katharina Becker and Zofia Stos-Gale

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# PREFACE

Many people have assisted me with this research project, which evolved around the metal objects from Pile in Scania. The objects were discovered in 1864 on the coast south of Malmö city in Sweden. Sixteen years later, in 1880, Oscar Montelius published the objects in *Kongl. Vitterhets Historie och Antiquitets Akademiens Månadsblad* and they have since played a part in academic debates about the earliest metal age in Scandinavia and Europe. Renewed studies of Pile were therefore undertaken from 1989 to 2014, and intensively from 1998 to 2003. The book has now finally appeared, and this is not least due to the assistance and labour input of a number of students, specialists, colleagues and residents at and around the locality of Pile. I would like to express my sincere thanks and gratitude to them all, in the order of appearance:

My former colleague at AU Moesgaard Charlotte Fabech for bringing me – in the 1980s – photos of Pile from the old exhibition at SHM. Curator at *Malmö Kulturmiljö* Nils Björhem for general information about the Malmö region and in particular for making available to me the large archaeological datasets from excavations and surveys related to the construction work of the Öresund Bridge with connected highways and subsequently of the Cityring (subway) in Malmö. Cecilia Bonnevier at the SHM, *Statens Historiska Museum*, now The Swedish History Museum in Stockholm, did all drawings of the metal objects from Pile while Ola Myrin, also at SHM, did all of the photographs of the same objects. Antiquarian at *Regionsmuseet* in Lund, Anders Brundin, who was most helpful during my visit there. Former Head Curator of the Bronze Age Collections at SHM Gunborg Janzon for her encouragement and for raising the necessary funds for a project upstart. Former Head Curator of the Bronze Age Collections at SHM Anita Knape for her enthusiasm, patience, and help with all sorts of antiquarian matters and her advice on the exciting question of silver use in the Early Bronze Age. Conservator at The Swedish National Heritage Board (*Riksantikvarieämbetet* or

*RAÄ*) Åsa Norlander for providing and commenting on a number of X-ray photographs. Archaeological consultant Jonas Paulsson, who surveyed the fields of former Pihle 1 with his metal detector. Archaeologist at *Malmö Museer* Bengt-Åke Samuelsson for explaining the principles behind the national recording of prehistoric finds and monuments in 1968 versus 1985; PhD fellow at the Department of Archaeology, *Freie Universität* Berlin, Stefan Schwenzer who helped with the technical interpretations of metal-hilted daggers on the basis of X-ray photographs. Archaeological consultant Arne Sjöström for having supervised the GIS of Tygelsjö Parish. Marie Göransson and Louise Petersson Modée from the Department of Archaeology in Lund for organising the field survey and for carrying out the GIS-mapping. Conservator at Moesgaard Museum Helle Strehle for assistance in interpreting X-ray photographs. MA students Jessica Kreuzer, Maria Olsson, and Louise Petersson Modée for having contributed to the database of metal finds and burial places in southwestern Scania. Geologist at Lund University, Ronnie Liljegren, for having carried out borings at the site of the find. My colleagues at the Department of Archaeology and the Historical Museum in Lund, who shared with me the excitement of re-discovering Pile and who put their expertise in different fields at my disposal, especially Deborah Olausson, Mats Riddersporre, Hampus Cinthio, Lars Larsson, and Ann Tobin. Mats helped with locating and explaining the old maps of Tygelsjö (most are today available at [Lantmateriet.se](http://lantmateriet.se)). Moreover, I would like to thank the residents of the Pile area for their patience with the ‘fieldwalkers’ and for showing us their heritage of farm collections of stone and flint items. Ingemar Pihlsgård (Tygelsjö) and Jan Hansson (Solhem) were particularly helpful as they conferred valuable knowledge of the area’s recent history and therefore could provide clues as to where the hoard was originally retrieved.

At a later stage, Kristian Kristiansen, Johan Ling and Lene Melheim (all Gothenburg University) generously aided the investigation process by

bringing me into contact with Kjell Bilström and his laboratory for isotope geology in Stockholm and by facilitating contact with the expert of lead isotope signatures Zofia Stos-Gale. In addition they gave me the opportunity to present the metallurgical results from Pile within the auspices of the “Rise Project”. Casper Skaaning Andersen, Peter Jensen and Carsten Meinertz Risager at Unit of Archaeological IT AU Moesgaard kindly assisted with various data-driven maps. They went through the GIS mapping and the ‘Oxie database’ and solved the difficult task of coupling my databases of early finds of metalwork in the entirety of Scandinavia to maps of dispersal and density. Moreover, BA student Clara Fischer Stephansen made a number of maps more precise and readable. Additionally, Hjalte Maak Raun helped to break the code of the out-dated coordinates of the original fieldwork at Pile. Knut Rassmann from the RGK in Frankfurt kindly invested time in advising me on PCA analyses and logarithmic scales, hence adding another layer of knowledge about the site of Pile. Colleagues at RAÄ, Magnus Artursson, Jane Jansen and Per Lagerås, helped with sorting out my trivial questions about how to access old maps of Sweden digitised on various internet portals. Stefan Gottfriedsson at ATA in Stockholm forwarded to me portions of the so-called Rietz Correspondence in the collection of Hildebrand letters. At a final stage of research, Janusz Czebreszuk from the Archaeological Institute at the University of Poznań crucially brought to my attention the silver rings from the Únětice cemetery in Tomice near Wrocław. Martin Hinz, at Kiel University, kindly forwarded to me his mapped subdivisions of the Únětician Circum-Harz group, and Tobias Mörtz, TOPOS Berlin, aided generously with locating good maps of British axes. Ernst Pernicka invited me to a lovely lunch in Heidelberg and the food was spiced with fruitful discussions of my PCA sheets and of metal analyses at large. Jens Damm, Sharon Rhodes, Sanne Lind Hansen, Rogvi Johansen and Louise Hilmar helped immensely with proofreading and the production of the book. Not least, I am grateful to Peter Northover (Oxford), Katharina Becker (Dublin) and Zofia Stos-Gale (Oxford) for their work on the four crucial appendices to this book and for their patience with a number of delays in terms of publication. For the delay there is really no good excuse, except perhaps other commitments.

I was on research leave during the autumn of 2014 and the winter of 2014-2015 and would like to express

my sincere thanks to the *DFG-Deutsche Forschungsgemeinschaft Exzellenzcluster “Asien und Europa”* at the University of Heidelberg for inviting and hosting me. This book has not least benefitted from discussions with Joseph Maran and Philipp Stockhammer in addition to my good colleagues at home at the Department of Archaeology who over the years have heard much about Pile. Together with the generosity of Bjarke Paarup Laursen, head of the Institute of Culture and Society, and Mette Svart Kristiansen, former head of the archaeology department, this ensured that the manuscript about Pile could be prepared for publication. Finally, my husband Flemming Højlund has ceaselessly encouraged me to get ‘Pile’ published, especially when I announced plans for new projects!

The actual publishing of this book has been achieved as a joint venture between The Swedish History Museum in Stockholm and Aarhus University Press. I owe special thanks to Head of Research Fredrik Svanberg, The Swedish History Museum, and Editor in Chief Jesper Laursen from Moesgaard Museum in Aarhus, and MOMU’s Tegnestue who designed the book. Two colleagues reviewed the manuscript for the publishers at Aarhus University Press and The Swedish History Museum respectively. I thank those two anonymous peer reviewers for their useful responses, particularly to the sections on the local production of flint tools at Pile and the presentation of the metallurgical data.

Furthermore, I would like to acknowledge the generous financial support of the following Sweden-based research foundations (*stiftelser*): Ebbe Kock, Berit Wallenberg, Erik Philip-Sørensen, Crafoordska, Knut and Alice Wallenberg, Gyllenstiernska-Krapperup, Uno Otterstedt, Elizabeth Rausing, Syskonen Willers, Letterstedtska, and Anders Althin. Without this early economic input the Pile project would have been considerably constrained. To these funding bodies can be added, last but not least, ‘Forging Identities: The Mobility of Culture in Bronze Age Europe’, a Marie Curie research training network I had the privilege of coordinating between 2009 and 2012: The research leading to these results received funding from the European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement no. PITN-GA-212402. Two grants from Kungl. Vitterhets Historie och Antikvitets Akademin and Riksbankens Jubileumsfond allowed for the book about Pile in Scania to be printed in a high-quality format.

“Der grosse Wert des Pilefundes besteht darin, dass hier in einem gesammelten Komplex Ergebnisse der kontinentaleuropäischen, anglo-irischen und der nordischen Metalindustrie einander gegenübergestellt werden”

*Forssander 1936: 169*

In 1864 an extraordinary hoard of c. 27 objects of copper, bronze and silver (Fig. 1) was recovered during the ploughing of a field at Pile in Tygelsjö Parish, Oxie District, Malmöhus County in the region of Scania (Skåne) in southern Sweden. The site of Pile is situated immediately south of Malmö City in south-western Scania. The etymology of the place name ‘Pile’ refers to a landscape of willow trees, since ‘pil’ in both Swedish and Danish means willow. The place name can be traced to the mid 17<sup>th</sup> century, where the site on a map of Scania initiated 1646 by Ole Worm is called ‘Pyle’ while the parish name is ‘Tigelse’. On parish maps from the 18<sup>th</sup> to the 19<sup>th</sup> century the spelling changed to ‘Pihle’, which is the same as the more recent ‘Pile’. The early research history of the Pile find can be broadly described as follows:

The objects were soon transferred to the Museum of National Antiquities in Stockholm (*Statens Historiska Museum* now *Historiska Museet*) and in 1880 published by Professor Oscar Montelius in the periodical *Månadsblad*. Here the objects were briefly described, selectively illustrated and dated to the beginning of the Nordic Bronze Age (Montelius 1880: 135, 138). Montelius admirably traced the ancestry of the metalwork found at Pile through finds of the early European metal age in great detail – and in terms of knowledge well ahead of his time – but his description of the objects themselves and their find circumstances was rather brief.

Since then, the *Pile* assemblage has become known to all students of European prehistory as an outstanding discovery, and it has played an important part in reconstructing early North European chronology and metalwork in the archaeological works of, notably,

Forssander (1936), Hachmann (1957), Cullberg 1968, Lomborg (1969, 1973), Oldeberg (1974, 1976), and Vandkilde (1996). The particular kind of low-flanged axes so prominent in the hoard was often, in the early research, termed *Pile type*, a category which was only further defined and subdivided with the recent and more extensive study by Vandkilde (1996). However, in spite of its importance as a treasure holding significant information about early metallurgy and socio-economy, the Pile hoard has never been published in full detail and with the quality of illustrations and documentation that it deserves. The main objective of the present work is mostly tied to this issue of republishing the objects in a thorough manner. In addition, the fourfold aim of the publication is to remedy the apparent lack in general knowledge about the hoard from Pile and its surroundings, hence and insofar as possible:

- to document the place and circumstances of discovery and recovery of the assemblage of metal objects based on museum records, archival maps, fieldwork and local interviews (Chapter 2)
- to provide visual, typological, chronological, metal analytical and metallurgical data of the objects themselves through procedures of observation, comparison, drawing, photographing, sampling and chemical-analytical processing of those samples (Chapters 3-4, Appendices 1, 3-4)
- to extract data about use/wear, final deposition and post-depositional processes by inspecting and assessing the outer surfaces of all objects, which relate to their biography from the time of production until, in principle, today (Chapters 3 and 5, Appendix 2)



FIG. 1. *The Pile hoard (SHM 3311), Tygelsjö Parish, Scania, Sweden. Overview photo.* Photo Ola Myrin, The Swedish History Museum.

- to insert the objects from Pile, bottom-up, in their proper local, regional and transregional settings in accordance with, and hopefully pushing, the state of the art pertaining to these three interconnected levels of deep history (Chapters 5-6, Appendix 5)

In short, the Pile hoard will be used as a stepping stone to provide new insights into the connectivity of the near and far in the early metal age. This task will be methodically dealt with as ‘history from below’; that is, gradually enlarging the perspective from place and things to wider Bronze Age worlds around 2000 BCE. The results of the Pile project combine well with those of other projects. In this regard, the development-led or assignment-dictated excavations of the last c. 20 years in southwestern Scania are particularly significant as they grant the Pile hoard a proper local context. Similarly the report has been able to draw on a rich research environment pertaining especially to the study of early metallurgy in Central Europe. The present publication, nonetheless, has a ‘prehistory’ of its own, which adds to the research history of the Pile find. Below follows a concise account of this more recent period.

In 1987 at the 5<sup>th</sup> Nordic Bronze Age Symposium held at Sandbjerg Castle in South Jutland (cf. Poulsen 1989) the status of the Pile find was discussed with Anita Knappe, then Head Curator of the Bronze Age Collections at *Historiska Museet* (SHM) where the objects are kept. At that time I was based at Aarhus University while studying the metalwork of the Late Neolithic and earliest Bronze Age in Denmark with the aim of reconstructing material order in a time-space perspective and analysing the social practices in which the first metalwork was once active. Although my early research focused on metal objects found in Denmark, I also considered finds from surrounding regions, including the rest of Southern Scandinavia, and the largest of the Late Neolithic metal finds in Scandinavia is actually the hoard found at Pile in Scania.

Through discussions with Anita Knappe the idea to re-publish the Pile hoard on the basis of a thorough investigation of the objects themselves, their metal composition and find history was born. From 1991 to 1994 I spent several periods in Stockholm studying the metal objects of the Pile hoard (SHM 3311). During the same time, Dr. Peter Northover (Oxford Department of Science and Materials) carried out a complete series of metal analyses, quantifying the principal trace elements of the copper/bronze substance from

which the objects were manufactured (Appendices 1, 4). Moreover, SHM conservator Margaretha Klockhoff undertook an investigation of the objects from the point of view of preservation, which led to the objects being gently conserved. This was deemed necessary due to the extensive corrosion which was slowly but surely consuming the objects. I examined the objects both before and after the conservation, which typically reduces their weight by  $\leq 1$  gram during each treatment (cf. Fig. 70B). During this same period X-ray photograph recording was conducted on the metal-hilted daggers. Additionally, all objects were photographed by Gabriel Hildebrand and drawn by Cecilia Bonnevier. The negatives of Gabriel Hildebrand’s black and white photographs could not be located in 2016 and all objects were therefore photographed anew by Ola Myrin, this time in colour. It should be noted that the objects recently underwent conservation once more before they went on exhibit. On several occasions, I undertook studies of the archival records of the Pile discovery and the subsequent antiquarian life of the objects in SHM, in addition to inspecting relevant original maps of Tygelsjö Parish and of the estate of Pihle-Gården in the archives of both Stockholm and Lund. Archival studies generally did not provide as much information as could have been hoped.

In 1996 I published my dissertation (habilitation) about the metalwork of the Late Neolithic and earliest Bronze Age in Denmark. Thereby, a factual and interpretive background was provided for understanding the significance of the Pile hoard within a technologically and socially formative period of Scandinavian and European prehistory, indeed, the first onset of the Bronze Age. In 1998 I transferred to Lund University as a postdoctoral fellow (*forskarassistent tjänst*); this gave me the opportunity, with the help of a number of MA students, to initiate a program of research around the nearby findplace at Pile. This included field surveys, metal detecting, systematic data recording (Oxie District), and interviews with farmers.

In 2004 I returned to Aarhus University (AU Moesgaard) to the Department of Prehistoric Archaeology, which, at the time, was housed within the Institute of Anthropology, Archaeology and Linguistics. My own research agenda had, by then, expanded to include issues of globalisation in the past and present from the joint perspective of archaeology and anthropology; in 2007 I even undertook fieldwork in the Islands of Papua New Guinea together with my colleague, Professor Ton Otto, and a young team of archae-

ologists and anthropologists. This 'turn' gave me a chance to rethink the Pile find within the broader setting of the radically changed interconnectivity that ensued c. 2000 BCE (cf. Vandkilde 2010). Very influential in this respect, was the growing body of research data and publications engaging with the initial phases of the Bronze Age in non-Mediterranean Europe.

In 2006 I came into contact with Dr. Katharina Becker (School of Archaeology, University College Dublin) who agreed to study the patina, corrosion and wear on the Pile objects (Appendix 2). In 2012-2013, lead-isotope results were added to the plethora of data from Pile. As part of the metal analysis program of charting the trace elements in the Pile metal, Peter Northover had originally also conducted two isotopies based on three lead isotope variables. From the very sparse remains of the original samples stored by Northover at Oxford University, and through the persistent work of Dr. Kjell Bilström (Swedish Museum of Natural History, Laboratory for Isotope Geology), in total 23 reliable isotope results could be extracted. Dr. Zofia Stos-Gale mapped and interpreted the isotope data from Pile (Appendix 3).

A first version of the manuscript was accomplished in the autumn of 2008. Conclusions had by then started to benefit from a new understanding of how people, culture and raw materials move both short and long distance and across land and sea. The above mentioned fieldwork in Melanesia (Manus Province of PNG) in 2007 was an eye-opener in this respect. Minor changes were added to the manuscript in 2009-2012 when the Forging Identities project (Marie Curie ITN) introduced new insights into the subject of Bronze Age mobility. This manuscript version underwent very extensive changes once again in 2014 when I resided at the University of Heidelberg for a research sabbatical. Finally, the databases of the fieldwork at Pile and the record of Oxie District, on which part of the present work builds, are available on proposal<sup>1</sup>.

## NOTES

1. To request access to this database, email the author with a description of the purpose for which it will be used.

Pile is, archaeologically, known as a hoard of things, not as a place. Current knowledge is weak on Pile as an archaeological site; a geographical space embedded with traces of deep history and its attendant economies and meanings. This chapter seeks to rectify this knowledge lacuna. It will operate mainly on the micro-level of place focused on the geography of Pile, which is, broadly, the coastal southwestern corner of Tygelsjö Parish. The perspective will, however, gradually expand to include the broader arenas of Tygelsjö Parish and Oxie District (Figs. 2, 6).

Firstly, this chapter will endeavour to relocate the original position of the collection of metal objects discovered in 1864 on the cadastral of Pile 1. Secondly, the landscape investigations, and particularly the fieldwork surveys, will be reported in an effort to

describe and interpret settlement and culture at the time that this remarkable collection of objects was deposited at the coastal site of Pile, Tygelsjö Parish, Oxie District, Malmöhus County in southwestern Scania. This work is backed up by archival studies of letters, museum records, historical maps, systematic fieldwalking including interviews with residents, a metal detector survey and a rudimentary geological survey. Finally, a database comprising archaeological finds from Oxie District highlights the period from c. 2800 BCE (Battle Axe-Corded Ware period) to c. 1300 BCE, end of Nordic Bronze Age II. The Late Neolithic period has received particular attention throughout (hereafter BAC, CW, LN I, LN II, NBA I, NBA II, NBA III).



FIG. 2. Location of Pile in southwestern Scania. Graphics by Unit of Archaeological IT AU Moesgaard.

## Locating the Find Spot

Locating the *exact* findplace of the Pile hoard is not at all straightforward, and it is, perhaps, an endeavour with a dubious outcome. This is due to the distance in time between the initial discovery and today's research and to the fact that only very approximate, albeit concordant, place information was recorded in the archives of SHM (no. 3311) and The Swedish National Heritage Board *Riksantikvarieämbetet*, hereafter RAÄ (no. 7.1 RAÄ). In the late 1800s, scholars focused on the discovery and the objects themselves (Trigger 1989) attributing far less importance to precisely recording the location of recovery. Many other early chance discoveries of graves and, especially, hoards suffer from such a lack of accurate records (cf. Oldeberg 1974). Due to the quantity and special character of the objects, the hoard from Pile is somewhat better off in this respect than the majority of early finds. In addition, inspection of old maps from c. 1700-1900, results of the fieldwork and interviews with modern residents of the Pile area