

Preface

The research presented in this volume was originally conducted and written as a thesis in partial fulfilment of the requirements for the degree of Master of Arts in Maritime Archaeology at the *Syddansk Universitet* (University of Southern Denmark) and was supervised by Prof. Dr. Thijs Maarleveld. The topic for this thesis was proposed to me by Dr. Marnix Pieters (Flanders Heritage Agency). He had been part of the reading committee for my previous dissertations, both at bachelor's and master's level, at the *Vrije Universiteit Brussel* (Free University of Brussels) where I had earlier graduated as Master of Arts in Art History and Archaeology. As he is an authority in the field of Belgian maritime archaeology, I contacted Marnix to ask him for subjects that might mean a useful contribution to the current state of research. It was during a meeting in August 2014 that he first suggested the Zeebrugge shipwreck, a site discovered off the Belgian coast in 1991, as a possible topic. Although this site was unknown to me up to that moment, it soon became clear that both the recovered assemblage as well as the history of the excavation project itself did allow for an interesting paper. As Thijs was familiar with this site –he was contacted for advice several times during the initial excavation- it went without saying that he would be supervisor.

Both Marnix and Thijs emphasized, however, that a thorough study of this topic would not be without obstacles since it was unclear what information would be available 25 years after excavation. Although obstacles did occur, and even caused frustration or despondency from time to time, we were able to track down a large amount of data. The collection of finds recovered from this site, present at the *Museum aan de Stroom* (MAS, Antwerp, Belgium) and made available by Jan Parmentier, as well as archives related to the excavation made available by Bart Schilz in particular were essential to the success of this research. This data triggered the enthusiasm to keep digging into the past of what turned out to be an exceptional site.

After I had completed and submitted my dissertation it was Thijs who encouraged me to publish it. Different possibilities were looked into, and soon it became clear that BAR Publishing would be the perfect partner in this regard. Some minor changes were made to adapt the paper for publication. Useful feedback was incorporated and data that was previously not included due to time restraints could now be added. Unfortunately, not all images from the original paper could be included in this volume because of copyrights. The omitted images, however, are limited to iconographical sources that were added to illustrate parallels for some of the finds. When appropriate, these iconographical sources are still mentioned in the text.

I would like to thank everyone who made this publication possible. For me, this research has been an incredible experience. I hope the Zeebrugge shipwreck will fascinate you too and I hope this publication will finally give this remarkable site, 25 years after its initial discovery and excavation, a place in the (maritime) archaeological discourse.

Rik Lettany

Chapter 1

Introduction

In September 1990, a wreck was discovered off the Belgian coast near the port of Zeebrugge. In the following years, spread over four field seasons, hundreds of mainly metal objects in excellent condition were recovered from this site, which became known as the Zeebrugge shipwreck. Preliminary research did propose a date for the assemblage in the late 15th or early 16th century, and the rich collection of finds clearly demonstrated the archaeological potential of this discovery. However, to start this paper with a perhaps bold confession, I should admit that the first time that I ever heard of this site was when Marnix Pieters proposed it to me as a thesis subject in 2014. This was peculiar for a number of reasons. First of all, the finds from the Zeebrugge wreck provide a unique assemblage of hundreds of well-preserved artefacts from one single, closed archaeological context. Secondly, this site was discovered over 25 years ago, and excavation took place in the early 1990's, so the data has been available for quite some time. Moreover, it was the first Belgian underwater excavation in territorial waters. Yet very little attention has been given to this site over the years and its existence overall appears to be lacking in the international (maritime) archaeological debate. This hiatus, however, strongly contrasts with the apparent importance of the site. Although no wreck remains as such were recorded, a large and well-preserved cargo of metalware was present on site, as well as ordnance and round shot. With this research we hope to give this collection of finds the attention it deserves and to include the available data in the further academic debate.

The main focus of this research will be the presentation, analysis, and assessment of the many finds recovered from the Zeebrugge shipwreck, in order to propose a general yet substantiated interpretation of this site and its context. Such an assessment, however, did prove to be more challenging than expected. Although the main body of (preserved) finds from the Zeebrugge site is currently located in the MAS Museum (Antwerp, Belgium), this collection does not include all recovered finds and it is unclear where some of the other finds are located. Furthermore, this collection does not provide any contextual information, essential for the archaeological study of these objects. Therefore, in the frame of this research, an attempt was made to collect all available finds as well as all available information related to the excavation of the Zeebrugge site. In order to understand the collection of available finds, it was necessary to first understand the excavation process of this site. The excavation of the Zeebrugge wreck can be considered the first official Belgian underwater excavation

in Belgian territorial waters and was executed by amateur-archaeologists in a time before any appropriate legislation for such procedures existed. Therefore, we are only able to understand the excavation process of this site by looking at the history of its discovery and the following legal developments coinciding with the attempts to excavate within a legal and scientific framework. These additional requirements did broaden the scope of this research considerably, yet they are important to appreciate the data available for this research and they are considered essential for the accurate and substantiated discussion of the Zeebrugge site as such.

One main hiatus in this research will be the discussion of construction features of the actual ship. Testimonies about the extent of preservation of any ship remains on site are vague and inconsistent. Based upon the available information, we can assume that, although possibly very limited, structural parts of the ship were still present when the excavation started. However, it appears that the excavation team was less interested in these bits and pieces of timber and focussed mainly on the excavation of cargo. Therefore, through absence of data, we unfortunately were not able to include the important aspect of the ship's construction in our discussion. It is clear, if any data in this regard were still to exist, whether in a private archive or on the site, this would mean a tremendous contribution to the research presented here.

1.1. Sources

It was a challenge to find and collect the necessary data to achieve the above-mentioned goals. Since a legal framework was missing during excavation, and appropriate organised procedures did not exist, the available data related to the excavation is now privately owned by former members of the excavation team, which operated under the name '*vzw Maritieme Archeologie*'. In this regard we were confronted with three main problems. First of all, the available data is not located in one place, and different former members of *vzw Maritieme Archeologie* seem to possess different sorts of data. Secondly, a general overview of which data exists, and who possesses this data, is lacking. Finally, some of these former members are reluctant to share any information in their possession. Therefore, although we were able to locate most data, not all data was available for this research, nor could the actual value of this data be estimated. It was mainly this lack in transparency that caused a challenge for the comprehensive study of the Zeebrugge wreck.



Figure 1. Part of the Zeebrugge collection exhibited in showcases at the MAS Museum, Antwerp.

Nevertheless, a considerable amount of data was collected in the frame of this research. We should mainly thank Bart Schiltz in this regard, discoverer of the Zeebrugge wreck, initiator of the excavation and of *vzw Maritieme Archeologie*. In the frame of this research we were granted access to his private archive related to the excavation of the Zeebrugge wreck. These documents include personal correspondence, meeting reports, and dive reports, all of which provided essential information to understand the context of this project. Another important document is the official excavation report of 1991. This document, provided by the Dutch Cultural Heritage Agency, contains a complete list of finds recovered that year. Furthermore, a considerable amount of information was retrieved by means of interviews and oral history. This approach and the combination of these different sources proved to be essential for understanding the context of this excavation project, and for the further interpretation of the available archaeological data.

The actual assessment of archaeological material focuses mainly on the collection of finds present in the MAS Museum. Part of this collection is exhibited in the museum's permanent exhibition (*fig. 1*), yet most finds are kept in storage. Another number of finds is present at the Flanders Heritage Agency, and a very limited number of objects is in possession of Bart Schiltz. These objects were included in our research as well. Although the existence of a considerable number of other finds was demonstrated, they were not available to us for different reasons. These missing finds will nevertheless be mentioned when appropriate and any available information on these objects will be included.

1.2. Methodology

This research can be divided into three main chapters. First, we will make an assessment of the excavation project as such, in which we will elaborate on the discovery, location and environment of the site, executed fieldwork including surveys and excavation, and previous post-processing of any excavation data. The information in this chapter is mainly based on archival research, oral history, and GIS analysis.

In a second chapter, we will discuss the actual collection of finds recovered from the Zeebrugge site. In the frame of this research we developed a database for all finds registered by the author. This database contains, among others, information about dimensions for each object and allowed us to analyse variables per object category. For each object category, we will discuss the registered and analysed data. For a number of finds, portable xrf-analysis was executed as well. This data is included when appropriate. Visual data is included as well, as representative finds for each object category were photographed by the author. When photographs could not provide sufficient information about the nature of the object, cross-section drawings were made as well. This is mainly the case for objects that are (partly) hollow. For each object category or type of object, parallels are discussed when available. These parallels allow us to determine a preliminary context for each object category.

This inductive approach is continued and elaborated in a following chapter, where we will discuss the Zeebrugge collection in its entirety and propose a date, origin, and possible destination for the wreck, based on archaeological and historical parallels. In addition to the interpretation of the archaeological data, some opportunities for further research will be discussed here as well.

1.2.1. pXRF-analysis of the Zeebrugge finds

Because the majority of finds from the Zeebrugge wreck are made of metal-alloys, it was decided to carry out a limited xrf-analysis (X-ray fluorescence) for some of the objects. The main goal of this analysis was to create qualitative xrf-data for specific object categories. This means we wanted to find out what elements are present in the sampled objects and what alloys were used to create these objects. Generally the results of these analyses will just be referred to as an addition to the description of the object and we will not elaborate on the interpretation of the results. Therefore, we also do not specify these results in specific terminology (e.g. latten, gun metal, muntz metal, leaded bronze, etc.). For reasons of convenience we generally refer to ‘brass’ for alloys containing mainly copper and zinc (and possible other elements). ‘Pewter’ is used for objects with a main tin concentration. Since percentages for the normalized concentration of all elements exceeding 1% will be mentioned, the reader will be informed about the actual composition of the objects despite the rather general terminology.

In some rare cases, the qualitative results are used to execute a semi-quantitative analysis. The qualitative data was normalized, to allow comparing of relative element concentrations of sampled objects within this collection. Such a comparative analysis can possibly lead to the identification of individual groups with different relative proportions, and may indicate different workshops or origins for these objects.

Since xrf-analysis only allows measuring the surface layer, we had to be cautious with objects that had been restored by *vzw Maritieme Archeologie* and were covered in coating, to avoid invalid deviations. In order to receive information on many different object categories, but also to process the data within the limits of this research, it was decided to only take one or two samples per object. This allowed us to obtain a broad range of qualitative data. Only for a limited number of objects a comparative analysis of the used alloys has been executed. For a more exhaustive study of the alloys of these objects, the acquisition of additional data is opportune.

The use of xrf-analysis as the method to obtain this data was the obvious choice. First of all, it is a non-destructive technique, which is a strong advantage for the study of archaeological artefacts. Also, accurate measurements can be made relatively fast, in less than one minute, with immediate results. Finally, a portable version of the xrf instrument exists (pXRF), making it a very convincing method to analyse objects *in situ*. We were able to use the Tracer IV pXRF, an instrument manufactured by Bruker and provided by the Flanders Heritage Agency for one day, which made it possible to make about 80 different measurements.¹ These measurements were made at the MAS’ storage facilities.

¹ In this regard we especially would like to thank Leentje Linders from the Flanders Heritage Agency, who executed the xrf-analysis and

1.3. Status questionis

Since the excavation of the Zeebrugge wreck in the early 1990’s, several contributions about the site and its finds have been published, mainly in the form of congress papers (Vandenberghe 1997; Parmentier 2000; Schiltz 2006; Vandenberghe 2006; Van Dromme 2006) or exhibition catalogues (Vandenberghe 2007, Parmentier 2011). The site has been included in publications discussing wreck-finds or archaeological finds in the North Sea in general (Termote & Termote 2009; Pieters 2010) and other articles refer briefly to the site in this same regard (e.g. Seys 2001; Demerre and Pieters 2008). Some site-specific information is assembled on the website ‘*Maritieme Archeologie*’, an initiative of the Flanders Heritage Agency (Maritieme Archeologie 2015). To a very limited extent, specific finds from the wreck have been included in material studies (Baumgärtel 1997; Holtman 1999; Vangroenweghe 2015). These latter publications do not focus on the Zeebrugge wreck as such, but rather include some of the finds to support the study of a certain type of object.

When we look at the actual analysis of archaeological data, however, most of these articles refer back to Vandenberghe (1997), who appears to be the only person who has studied the assemblage of finds recovered from the Zeebrugge wreck. In his article, Vandenberghe provides a summary of the recovered finds and gives a brief interpretation. Although the provided information certainly may be correct, Vandenberghe unfortunately neglects to substantiate his statements with visual information, parallels or an academic reference system. Obviously, such a more elaborate discussion may have surpassed the actual aim of this specific article, but nevertheless this article appears to provide the most exhaustive information about the Zeebrugge finds available up to now. Vandenberghe’s later articles (2006; 2007) repeat this information concisely, with some adjustments in regards to numismatic data. Parmentier (2000; 2011) mainly elaborates on the history of the project and excavation in two quite similar articles. He provides a limited interpretation of the site based upon historical data rather than a study of the archaeological data as such. When finds are discussed, he refers again to Vandenberghe. Schiltz discusses the excavation of the Zeebrugge wreck as a case study for the development of maritime archaeology legislation, while Van Dromme provides a contribution on the conservation of one of the cannon from the site, but neither author elaborates on the actual archaeological data provided by the excavation. The information provided by Termote & Termote deviates from the other publications and seems to be based upon different sources. All other publications, however, refer specifically to Vandenberghe.

In two of his articles, Vandenberghe (1997, p. 90; 2006, p. 19-20) announces a more profound and detailed scientific publication on the Zeebrugge wreck finds is forthcoming.

normalized the received data.

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But up to now such a contribution has not been published. We contacted Vandenberghe in this regard, yet it is unclear whether this publication is still to be expected.

Based upon this information it was decided, in agreement with dr. prof. Thijs Maarleveld, a new and independent analysis of the finds recovered from the Zeebrugge wreck, elaborating the actual archaeological data provided by this site to academic standards, was opportune.