Retrieving Hidden Wealth

A comparative analysis of Bronze Age dirk and rapier depositions in Scotland & south-east England

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FACULTY OF ARCHAEOLOGY, LEIDEN UNIVERSITY – 2018-2019
Retrieving Hidden Wealth

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Retrieving Hidden Wealth

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PREFACE/ACKNOWLEDGEMENTS

First of all, I would like to thank my Professor, David Fontijn for the patience and motivation that I needed to finally finish the work you see before you (albeit slightly late in coming). I am sure that without the riveting discussions in our meetings about buried swords and the mystery behind them this thesis would not be half as engaging as it is now.

The support I have received over the past year from all my friends and family has helped immensely in pushing through the most challenging aspects of writing such a large piece of work. The difficulties involved in moving overseas was made easy by the constant stream of encouragement from back in Scotland. To my parents, I will be forever grateful for making the possibility of coming to Leiden to finish my education a reality.

Finally, to my partner Linda Bjerketvedt, without whom this research, and my life, would be immeasurably worse. Your constant support along with your invaluable corrections and suggestions throughout my Masters has pushed me to achieve a standard of work I would never have thought possible otherwise. Thank you.
1. INTRODUCTION

The Bronze Age in Europe is a confusing and sometimes contradictory period to study, especially when focusing on the material culture. It is confusing as objects are often deposited within contexts which would have been impossible to retrieve as an intentional act, and contradictory as these objects would have been valuable commodities to the practicing communities (Levy 1982, 21; Fontijn 2002, 15; 2019, 3; Yates & Bradley 2010, 42; Becker 2013, 225; Bradley 2013, 123). More generally, Bronze Age cultures throughout Europe are known to be quite heavily focused on conflict and violence. There is the global development of a warrior class, the introduction and large-scale increase of metallic weaponry in the material record, amongst others (Kristiansen 1999, Thorpe 2013). Modern archaeologists are therefore perplexed when discovering a wide-spread practice which involves the deliberate deposition, and sometimes breaking, of objects relating directly to inter-personal conflict.

Depositional practices of Bronze Age European societies become even more intriguing when considering the inherent value of the objects being deposited. The physical material from which the objects are made was in itself a valuable commodity of the time, being both rare in quantity and difficult to procure because of the distance between sources (Fontijn 2002, 4; Radivojević et al 2019; Vandkilde 2016, 105; fig.1). The skill needed to produce and craft such materials as seen in the research to follow would have contributed heavily to the value of bronze weaponry in the Bronze Age. However, the intrinsic value of these objects is also amplified by the prevalence and importance placed upon conflict and warfare in Bronze Age Europe (see below). The explicit value of these objects makes their deliberate deposition and removal from circulation ever the more puzzling. By trying to understand more about the value as
well as the deposition of the bladed objects from Bronze Age Europe, this research will help in recovering at least partial answers to the questions unearthed along with the objects in their context of deposition.

Patterns have emerged in the material record of weapon deposition in the European Bronze Age. These patterns aid in understanding the practice of deposition and its associated social convention throughout different areas of the European Bronze Age and should be the basis of any study wishing to identify and interpret intentional deposition (Becker 2013, 227). One pattern uncovered during investigations is the inclusion and exclusion of certain objects from specific contexts which cannot otherwise be explained by post-deposition processes or the by-product of varying modern research practices (Fontijn 2019, 3). Its discovery indicates that the deposition of metalwork in this fashion is an attempt by prehistoric communities to return these materials to the earth and keep them there. Patterns connected to contexts, and others similar to it, vary regionally and temporally. This is true of south-east England and Scotland and solidifying the shifting patterns of deposition in these regions shall be the foundation of this research. By comparing the patterns to one another, the degree of relation (or separation) between the regions can be obtained and therefore making it easier to fit both regions within or outside the European practice as a whole.

Here is an in-depth analysis of weaponry deposition in the Early Bronze Age communities of Great Britain. The dagger became a central item in the Bronze Age material record and the sword was first introduced into Europe during the same period (Bridgford 1997; Harding 2007, 71). New innovations, such as the rapier or dirk, are known to lead to social change when they are invented, diffused, and accepted/rejected (Rogers 2003, 6). Uncovering the social change brought on by the introduction of the bladed objects in question here is one central aim of this research, along with attempting to understand how these transformative objects were perceived and adapted by Bronze Age communities. By focusing on regionally shifting patterns of both use and deposition in south-east England & Scotland, the data here will be an addition to a broader attempt to understand metalwork deposition in the north-west of Europe, ultimately helping understand more completely the introduction of the prolific and culturally catalytic material of bronze.

Rapiers and dirks of the Early to Middle Bronze Age are the central material culture explored in the thesis. These weapons were some of the first of their kind to be introduced to the British Isles. The dirks and rapiers are known as such not due to a duelling function, but to emphasise their narrowness in comparison to fencing weapons (Burgess & Gerloff 1981, 1). They are short bronze weapons which are mostly slender and double-edged, with varying forms and styles. Highland dirks are only similar in name and should not be confused with the Bronze Age examples. The terminology used to describe these
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Bronze Age objects is unnecessarily convoluted. A further section below will go into more detail on the terminology to create more transparency in which objects shall be discussed, and what names are utilised to describe them.

The following research will explore issues of weaponry, the social milieu surrounding such issues and the use of dirks and rapiers within the Bronze Age. Little to no work has been carried out on understanding the social impact of these emerging material types on social structures of the Bronze Age, especially within Scotland. There are large amounts of data within the catalogues to be explored, but no in-depth analysis of how this data can help further understanding of weaponry innovations and their assimilation into the societies of the Bronze Age. The following research is, in part, an attempt to rectify this lack of analysis.

1.1. THE PROBLEMS

The main obstacle when dealing with the material in question stems from a lack of understanding as to why these valuable objects were deposited in the way they were. Throughout the British Isles, as well as throughout Europe, Bronze Age communities deposited these highly valuable materials in often-times irretrievable places, sometimes also breaking them beforehand (c.f. York 2002). These objects were deposited in such a way, or destroyed, so as to remove them from circulation. The dirks and rapiers of Great Britain and Ireland are recovered almost completely from wet contexts. The recovery rate in riverways, estuaries, bogs, and other water contexts is over 85% (see chapter 4). Due to this, the weapon type has often been associated with a water-cult or a piece in a complex relationship of social and religious factors (Burgess & Gerloff 1981, 5).

Deposition of objects is known to be of great significance within both past and present societies. Artefacts become precious objects imbued with social significance and the way in which they are deposited after their life cycle ends can hint at which aspects of social life mean most to these societies (York 2002, 79; Appadurai 1986, 3-41).

The deliberate deposition of Bronze Age bladed objects seems to be an extraordinary waste of metal. Considering the rarity of metals, particularly bronze, at the time, the act appears even more peculiar (York 2002, 89). No matter the condition of these objects – broken, bent, or blunted – all of the deposited materials are extremely valuable, even if only potentially recyclable. There are many different theories as to why one might deliberately remove these objects from circulation. Some have theorised it to be a display of wealth and superiority, where someone or a group of people with control remove objects from circulation to maintain the scarcity of said commodities (Bradley 1998, 39 & 138). Other theories have
suggested that they are a ritual claim to territory, making a statement of ownership over an area of region in the vicinity (York 2002, 90). Both could be true, or neither.

The treatment of these bladed objects from the Bronze Age at the end of their life-cycle is still not completely realised in a wider academic context. Many have endeavoured to create reasoning behind these actions, yet none have grasped the entirety of the cultural practice. The lack of data and larger comprehensive studies on these objects have created the main setbacks when individuals attempt such research. The data to be explored and laid down here is an addition to the growing attempt to understand the deposition of metalwork, in turn solving a problem facing Bronze Age scholars in Europe. By looking at why and how these weapons were deposited, the aim is to uncover more of the reasoning behind these acts. Furthermore, the data will help put the data-sets from Scotland and south-east England within a framework of larger conceptualisations of the European Bronze Age.

The collection of data will help in illuminating how a new, sword-like class of weaponry was adopted into Bronze Age societies. As the new innovation was adopted and diffused throughout Central Europe and beyond, so too was a new warfare-based society. The emerging warfare-based culture and its connection to the practice of weaponry deposition has created many further questions. Why, if a new warfare society emerged in the European Bronze, were they depositing what would have been valuable artefacts within such a culture into irretrievable places? By focusing on the connection between the emerging weaponry and the Bronze Age warfare-based society, perhaps more can be learned of the developing social conventions of the prehistoric communities involved.

Through uncovering the actions that led to the deposition of these objects, perhaps one could begin to appreciate more of what warfare and conflict meant within these groupings of individuals. As the paper progresses, interpretations of its significance within their society shall be proposed from the data collected on the objects and their biographies.

1.2. Research Questions

Within this section, an outline of specific questions is laid down. The questions are targeted and precise in order to help the overall aim and tackling the problems listed above. These questions are re-addressed within both the discussion and conclusions and concrete answers will hopefully be provided for them.

How were dirks and rapiers deposited in Scotland and south-east England?

One of the more prominent and defining lines of questioning revolves around understanding why and how these weapons where deposited within the chosen areas. To begin with, the data collected from both Scotland and south-east England is explored, demonstrating how deposition varied between styles.
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of dirks and rapiers. Included shall be insights into the object’s treatment before and during deposition, the context chosen, and the objects included alongside the objects in question. From this it will be described exactly how dirks and rapiers were treated in deposition after their use, or non-use, in Scotland and south-east England in the Bronze Age.

*How did these regions vary from one-another, and why?*
Another important aspect of the research focuses on how these regions varied in their treatment of objects. The data is used to describe varying contexts and preferences for the treatment of bronze bladed objects in the chosen regions. Just as important as asking how they vary, I will also attempt to answer, in part, why these regions vary so much in the archaeological record. Do they vary drastically, and if so, why? Is it due to the discontinuity in cultures between the Bronze Age regions on the British Isles? Or can a modern bias in both the recovery of the material, and the dissemination of the information regarding archaeological material culture be identified?

*How does the life-cycle of an object affect deposition?*
The life-cycle of each object is examined, including before and at the moment of deposition, to determine its importance in deciding the treatment of these objects when determining deposition practice. Life-cycle is a term which encapsulates an object’s use and deposition but leaves out the production cycle of said artefact (York 2002, 79). For the purpose of this paper, it makes most sense to concentrate on deposition and use-life due to the limited scope. Looking at the life-cycle of the objects, can patterns be uncovered which shed light on how these objects were adopted in the Bronze Age? Were used objects treated differently compared to, for example, unused objects?

*How does conflict and violence in the Bronze Age link to deposition?*
Employing the answers to these previous questions, an effort to uncover in-part the meaning of warfare and violence will be attempted for the Bronze Age societies of Scotland and south-east England, as well as Europe as a whole. This meaning will be employed to understand its connection to deposition, looking for any correlation between the two. As will be discussed in the later sections of the current chapter, a more connected Bronze Age society was emerging at the time which placed emphasis on both warfare and violence, as well as a warrior class. The British Bronze Age did not differ from Continental Europe in this matter. Why then, are we seeing a large number of objects designed for inter-personal conflict being deposited in the ground, never intended to be recovered again? By utilising the data presented here, can more be deduced on the structure of warfare within the societies of Bronze Age Europe?
1.3. RELEVANCE OF RESEARCH

In this section, the importance of bladed weapons in the study of emerging warfare-based society of the Bronze Age is emphasised, and therefore why it was chosen for further examination in the thesis. The section is split into two sections, the first explaining why rapiers and dirks were chosen specifically, and the later why the specific regions.

Why dirks and rapiers?

It is important to make it clear that dirks and rapiers were chosen with good reason. Both dirks and rapiers present unique and interesting cases in terms of their cultural significance. They represent one of a few material cultures that can be interpreted as being solely intended for inter-personal conflict (Bridgford 1997). Although some could only have been intended for ceremonial use (see fig. 2), their conception and originally intended use can only be interpreted as weapons of interpersonal combat. They cannot be used as tools additionally, as axes can, and they cannot be used for hunting, as spearheads can (Bridgford 1997). As such, they allow for interpretations focusing solely on the conceptualisation of warfare within these societies. Also, they provide an example of how material culture of interpersonal combat were treated throughout their life-cycle within the societies studied. It is this characteristic which has driven the choice for both dirks and rapiers.

Once dirk and rapier depositional practices are thought to be more fully understood, hopefully further inferences can be made on the social milieu surrounding said deposits. If carried out successfully, it will validate the importance of the central line of enquiry and the material culture in question. As will be demonstrated in this thesis, it is possible to better understand the emergence of the militarised Bronze Age society when the biographies of such important objects are considered.

Why these areas?

The areas chosen to be examined have certain features which make them desirable regions of research. Overall, both regions have enough material to be studied in a larger synthesis. They have pools of data from which information and data can be pulled, allowing for the interpretations and inferences made within
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the body of this research. Consequently, each region by itself is a necessary area of research as the data needs to be interpreted and not merely assigned to a certain typology as catalogues often do. By studying these areas, it could help understand the phenomena of dirk and rapier deposition and use more, and not merely record it.

Each area on their own has specifics which make them interesting and worthwhile areas of study. The region of south-east England was chosen due to the sheer volume of Early to Middle Bronze Age dirk and rapiers found here. As can be seen in the data section (see fig. 11), the area boasts a large concentration of quality material which can be exploited. This is especially true around the heavily populated areas of London and Norfolk. Not only is there a large number of finds from the region, but the quality of recording seems to be of a higher calibre. Whether the perceived quality comes from a more developed framework of recording and dissemination will be discussed in detail in further sections.

Scotland makes an interesting and useful comparison to the almost over-saturated area of south-east England. Whereas the south has many examples to draw from in very concentrated groupings (especially around the River Thames and Norfolk), Scotland instead has a more consistent spread throughout the whole country, and a lot lower number of total finds (see fig. 16). There are many interesting inferences to be made based on these figures, some relate to the variations in Bronze Age cultures, and others relate to modern finds bias. More will be discussed on the variations which have been discovered in these areas, focusing on the impact which both funding and the presence of amateur archaeological finds databases/frameworks have within the final discussion chapter.

The two regions are also great for the creation of a comparative study. Through the study of the material culture coming from Bronze Age Britain, many new opportunities arise for research. The material often leads to unexpected connections being made in the development processes of different regions (Bradley 2007, 6). In England, the development and production of swords such as the dirks and rapiers are comparative to those from continental Europe, and they have already been compared as such (Bridgford 1999, 9). By comparing the examples found in south-east England to Scotland, the aim will be to draw in Scottish examples into large scale research based on metalwork depositions within NW Europe.

When it comes to the study of Bronze Age metalwork in both areas, there has been little in-depth analysis and interpretation on a more theoretical level involving social theory. The lack of analysis is especially true of Scotland where only a small number of scholars have shifted academic focus to gaze upon the Scottish Bronze Age in a larger synthesis of metalworking objects, finding a paucity in the available materials to work with. This thesis aims to contribute to resolutions of the issue by drawing together more workable materials, and by dispelling the notion that the Scottish Bronze Age was lacking in metalwork.
Instead I hope to demonstrate that it is merely underfunded compared to areas such as south-east England.

*Why these time periods?*

Due to the limited scope that a Masters thesis can attempt to cover, the research here will focus on dirks and rapiers dated, roughly, to the Early and Middle Bronze Age. This covers the typo-chronological groups 1 through 3 (from Burgess & Gerloff 1981). Groups 1, 2 and 3 of dirks and rapiers from Great Britain and Ireland were chosen so as to limit the scale at which the research could take place. By removing Group 4, which contained more than these other groups combined, the thesis has kept within a narrower time period, permitting more in-depth interpretations on a smaller amount of archaeological material.

One other aspect of this time period which drew the research in this direction was the introduction of dirks and rapiers in the material culture during the Early Bronze Age. The Early Bronze Age is the period where we see the first introductions of bladed objects such as swords, dirks and rapiers (Burgess & Gerloff 1981). These objects differ from daggers and other smaller knives due to their length. These objects can be interpreted as being some of the first objects whose sole intended purpose was inter-personal combat (Bridgford 1997). By focusing on the time period of their introduction, the hope is to determine the impact and altering affect upon the social milieu of the Bronze Age.

It is impossible to know exact dates of production for these objects and most other metalworking objects. Styles can be reproduced, altered drastically, and kept long within families as heirlooms. Instead of concentrating on the determination of time and typologies, the study has placed more weight on style differentiation and changes in the objects themselves, rather than assigning specific typologies and dates. However, to make this research more applicable in a research setting, the relative dating to be used will be minimised to Early and Middle Bronze Age in Britain.

### 1.4. **Theoretical Framework**

The theoretical framework which forms the basis of interpretations here has been constructed from a larger pool of theoretical understandings in modern academic archaeology. Challenging and exploring the theories utilised is not entirely within the scope of this writing, although it will be touched upon in the discussion chapter. Instead the goal will be to demonstrate the utility of the theoretical explorations of others in furthering our understanding of the social milieu of the Bronze Age in Britain.

Whilst not going into too much detail, there are some key pieces of theoretical considerations incorporated within the discussion at the end of this thesis and interpretations throughout. Kopyttoff's
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(1986) theoretical work on the use of cultural biographies is one example utilised in the forthcoming research to understand more fully the emerging weaponry in the Bronze Age. It is in tracing the object biographies that we can obtain information regarding the backdrop of cultural information.

As will be discussed in the results and data sections, the main biographical focus shall be on the end of the life-cycle of these metallic objects, as well as how they were utilised during said life-cycle. The incredible variety present under the topic of metalwork deposition in the Bronze Age makes it a difficult topic to study. However, by looking for patterns in the material record through the use-life and the act of deposition itself, understanding is created of what deposition meant to past communities (Fontijn 2002, 6). It is under this premise that the research forthcoming was carried-out.

Furthermore, ideas of object agency and adaptation of innovations will be used to explore the effect that the emerging material culture of metalwork had on the structure of Bronze Age society of the British Isles, and vice versa. These theoretical concepts are taken from the work of scholars such as Rogers (2003) Diffusion of innovations, and Boivin's (2008) Agency of Matter.

It is important for the background academic knowledge of any work to be expanded upon. New and emerging theories are always being created on the structure of the Bronze Age. Therefore, to be forthright in the discussion it is pertinent to state which of these archaeological interpretations will be used. Theoretical paradigms shift, so to do these interpretations. As such, the following segment will lay down archaeological literature employed to conceptualise the Bronze Age in Europe and Britain.

1.5. THE BRONZE AGE IN EUROPE

The global emergence of a militarised society began with the emergence of the Bronze Age in Europe. Alongside can be seen the introduction of these new bladed weapon objects, exemplified in the new material culture of the Bronze Age. Defining the new cultural package were new forms of efficient weapons which were to stay in use for millennia to come (Horn & Kristiansen 2018, 1). The emergence of such a culture is seen throughout the material objects of the Bronze Age: weapons within burials and hoards as well as iconography from both rock art and palace frescoes (Osgood et al. 2000).

Swords and other similar bladed objects such as dirks and rapiers are introduced into Europe during the Bronze Age. These dirks and rapiers are the first sword-like objects seen within Britain and much of Europe (Thorpe 2013, 235). For the first time in the archaeological record, chronologically, the opportunity arises in the Bronze Age to interpret and research this catalytic material culture. Consequently, the Bronze Age in Europe is made an important area of research for understanding the impact that the introduction of these weapons had on the societies of humans.
The presence of a Bronze Age warfare-like society becomes visible through the capacity their armies possessed when necessary. The most striking evidence from the British Bronze Age demonstrating this capacity comes from the site of Tomarton, South Gloucestershire, England. The site was discovered in 1968 during construction, and what made this site so important was the presence of weapon injuries found on the skeletal remains recovered here (Osgood 2006, 331). The remains of five individuals who appear to have been killed with spears were found cast into a v-shaped ditch, without any ceremony or grave goods (ibid. 336). It remains to date the best evidence of combat in the British Bronze Age and demonstrates the capacity for violence held within the communities of Bronze Age Britain.

There have been different explanations put forward as to why warfare became institutionalised and professionalised during the course of the Bronze Age, and why a new class of warriors was created for such professionalisation. A large demographic increase happened throughout Europe during this period (Müller 2013, fig. 8 & 10). The gradual formation of new and more complex societies could have been one consequence of large populations, in turn leading to a warrior class needed to both maintain and protect their interests (Horn & Kristiansen 2018, 1).

Change in the economic structure of Bronze Age societies could also have contributed to the formation of this new social structure and the institutionalisation and militarisation of violence. Food sources changed and new foods were introduced (Stika & Heiss 2013). Diversified economic structures also led to the dramatic increase in food production output (Bartleheim & Stäube 2009). Wool production and woollen clothes were adopted (Frei et al. 2017) and new techniques for food preservation were developed (Kern et al. 2009). These newly evolved economic factors intertwined with increased metal production could have led to the development of a new political economy increasing interconnectedness between political and social units (c.f. Earle et al. 2015). This was believed to have accelerated trade throughout Bronze Age communities and helped build a new social order in which warfare was becoming institutionalised (Horn & Kristiansen 2018, 2).

Increasing trade opportunities meant that more stable political alliances between various Bronze Age groups were needed. It would also have been necessary that these alliances were above community level (Kristiansen & Suchowska-Ducke 2015; Vandkilde et al. 2015). Trade dependencies were fashioned between these alliances on the raw materials needed for metal-production as bronze-working was spread and assimilated into varying cultures. As a consequence, tensions and conflicts would arise, and ultimately violence and wars would have become more commonplace as a side-affect (Horn & Kristiansen 2018, 3).
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New cultural practices were introduced alongside the emerging militarised Bronze Age, which is expected in such a situation. One of the cultural practices to be introduced to the material record in the Bronze Age and becoming for the first time visible to the modern archaeologists, and the central focus of this thesis, is the deliberate deposition and destruction of metallic objects. Seen either through single deposits or within hoards, the objects are often found in water contexts or irretrievable places.

<table>
<thead>
<tr>
<th>Date BC</th>
<th>Metalwork</th>
<th>Pottery</th>
<th>Unhewn Stone/Sandstone/Loess/C悭nenite</th>
<th>Hoards/Barrows</th>
<th>Ireland (Early Iron Age)</th>
<th>Date BC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2200</td>
<td>Full-time bronze working</td>
<td>Flaked axes, adzes and scrapers</td>
<td>Carinated bowls; Hill Aterrow; Elongated Lids</td>
<td>EBA 7</td>
<td>MA IV</td>
<td>2200</td>
</tr>
<tr>
<td>1800</td>
<td>Early Food Vessel Chronology</td>
<td>Corded Ware</td>
<td>EBA 2</td>
<td>MA III</td>
<td>MA III</td>
<td>1800</td>
</tr>
<tr>
<td>1600</td>
<td>Close Fitting Beakers</td>
<td>Beaker</td>
<td>EBA 3</td>
<td>MA II</td>
<td>MA II</td>
<td>1600</td>
</tr>
<tr>
<td>1500</td>
<td>E. jars and jars, palstaves;</td>
<td>Beaker</td>
<td>EBA 4</td>
<td>MA I</td>
<td>MA I</td>
<td>1500</td>
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<tr>
<td>1400</td>
<td>half-flanged axes, palstaves;</td>
<td>Beaker</td>
<td>EBA 5</td>
<td>MA</td>
<td>MA</td>
<td>1400</td>
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<tr>
<td>1200</td>
<td>First Exports and shields</td>
<td>Beaker</td>
<td>EBA 6</td>
<td>MA</td>
<td>MA</td>
<td>1200</td>
</tr>
<tr>
<td>1100</td>
<td>Half-flanged, straight-bladed swords</td>
<td>Beaker</td>
<td>EBA 7</td>
<td>MA</td>
<td>MA</td>
<td>1100</td>
</tr>
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<td>Beaker</td>
<td>EBA 8</td>
<td>MA</td>
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<tr>
<td>900</td>
<td>Dwarf Park swords</td>
<td>Beaker</td>
<td>EBA 9</td>
<td>MA</td>
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<td>800</td>
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<td>Beaker</td>
<td>EBA 10</td>
<td>MA</td>
<td>MA</td>
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<td>700</td>
<td>Type Phylactery Longswords</td>
<td>Beaker</td>
<td>EBA 11</td>
<td>MA</td>
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<tr>
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<td>Beaker</td>
<td>EBA 12</td>
<td>MA</td>
<td>MA</td>
<td>600</td>
</tr>
<tr>
<td>500</td>
<td>First Double-Sword</td>
<td>Beaker</td>
<td>EBA 13</td>
<td>MA</td>
<td>MA</td>
<td>500</td>
</tr>
<tr>
<td>400</td>
<td>First Double-Bladed Sword</td>
<td>Beaker</td>
<td>EBA 14</td>
<td>MA</td>
<td>MA</td>
<td>400</td>
</tr>
<tr>
<td>300</td>
<td>First Single-Bladed Sword</td>
<td>Beaker</td>
<td>EBA 15</td>
<td>MA</td>
<td>MA</td>
<td>300</td>
</tr>
<tr>
<td>200</td>
<td>First Single-Bladed Sword</td>
<td>Beaker</td>
<td>EBA 16</td>
<td>MA</td>
<td>MA</td>
<td>200</td>
</tr>
<tr>
<td>100</td>
<td>First Single-Bladed Sword</td>
<td>Beaker</td>
<td>EBA 17</td>
<td>MA</td>
<td>MA</td>
<td>100</td>
</tr>
<tr>
<td>000</td>
<td>First Single-Bladed Sword</td>
<td>Beaker</td>
<td>EBA 18</td>
<td>MA</td>
<td>MA</td>
<td>000</td>
</tr>
</tbody>
</table>

Figure 3 A chronological sequence of the Bronze Age in Britain. Source: Roberts et al 2013, 23.
1.5.1. The Bronze Age in Britain

The Bronze Age in Britain has a span lasting several centuries, even longer if one were to consider the earlier Chalcolithic period (2500-2150 BC) as belonging to this tradition. It is made up of three distinct periods, Early (2500-2150 BC), Middle (1500-1150 BC), and Late (1150-800/600BC) (Roberts et al. 2013, 20, fig. 3). The majority of the material comes from the Middle Bronze Age, yet outliers are included from the later Early Bronze Age and earlier Late Bronze Age have been included due to the nature of the materials.

The British Bronze Age varies slightly to that of the European in terms of chronology. For example, the first copper objects were found in Britain c. 2500-2400 BC. In northern France, the first copper objects are found nearly a millennium before this (Roberts 2013, 535). It was not due to inaccessibility of raw materials nor copper objects, but instead due to a material irrelevance of copper and metallurgy during this period (Roberts 2008; Roberts & Frieman 2012). Even though time periods may vary slightly, and slight variations can be seen in material culture, there are deep connections which would have been felt between the European Bronze Age communities and that of the British (Roberts 2013, 532).

The academic literature on the British Bronze Age is dominated by research focusing on the evidence for and interpretation of burial practices and their associated material cultures (Roberts 2013, 535). Hoards of bronze-work are also explored, to a lesser extent, and single finds even less. Within the burial contexts, it is commonplace to find exotic and wealthy materials such as gold, amber, and faience (ibid). These objects have traditionally dominated the interpretations of the contexts from which they are found, as is common-place in archaeological literature when wealthy materials are involved, leading to prevalence’s in the use of Wessex culture models in regions outside southern England (Needham 2000). However, it is important to note that of all the objects used within this thesis, none were found within burial contexts. The lack of burial contexts makes the deposition of these bronze objects interesting and necessary for further research.

1.6. STRUCTURE

The main body of this thesis will be split into four sections. To begin with, it will be necessary to briefly touch upon the history of research regarding the dirks and rapiers of Great Britain and Ireland. The necessity is born from the ever-changing theoretical paradigm in place within Britain. When first the bronze-work of the Bronze Age was first investigated, culture-historical paradigms reigned within the academic literature. Whilst the information studied and distributed during this period is very useful, the accompanying interpretations has aged badly. Lacking from it is any real attempt to engage in social theory and the societal structures behind the use and deposition of such objects. After going into more
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detail, more up-to-date research regarding this phenomenon shall be explored to understand the currently accepted academic thinking on the subject.

The succeeding methodology section focuses on how the research in this thesis was carried out. Here will be a thorough explanation of what specific characteristics were chosen, from where they were chosen, where and when they were omitted, and why. Overall, it will be a detailed clarification of exactly what data was used and why. Also, important here will be to point out some flaws and issues which became apparent through the course of the data collection phase. Not all issues will be resolved, but it is vital to shed light on such issues and make bias more evident to be as transparent in the interpretations as possible.

The data and results sections will explore all the data recovered during the research and collection phase. The main exploration and description of findings from the research will be contained here. Patterns will be elucidated on and graphs, tables, and illustrations will be created to make extrapolations on the depositions of dirks and rapiers from Scotland and south-east England.

Proceeding the data, a chapter dedicated to discussion will utilise the results from the data collection to create interpretations on the treatment of these objects. The results will also be used to extrapolate existing theories and add to the growing understanding of metalwork deposition and the biographies of such objects during the Bronze Age of north-western Europe.

All will be drawn together in the last section. The conclusion will contain answers and explanations to all the research questions proposed in the introduction. Afterwards, some resolutions will be provided to some of the issues and problems which led to the creation of this thesis topic.
2. HISTORY OF RESEARCH

The European Bronze Age has had a long history regarding the study metal artefacts. The focus, however, has mainly been on creating useable typologies and establishing chronologies (Fokkens & Harding 2013, 10). Recently typological studies have fallen out of favour and they no longer hold precedence as the main research methodology in Bronze Age metal artefact studies. The information in the following chapter will explore the history of research on this subject, describing the changes and attempting to give explanations for the shifts in intellectual thought and its progress within European archaeology.

Within this chapter, the development of Bronze Age studies on warfare and conflict throughout the past century shall be traversed by looking into the treatment of research on the dirks and rapiers of Europe. To begin with, a general overview on the morphing opinion on warfare and conflict within prehistory shall be covered. The overview shall be utilised to go into a more detailed discussion on the progression of research within the realm of dirks and rapiers of the UK and Europe as a whole. Starting with the earlier pieces of work on the bladed weapons, this chapter shall progress into modern research and theoretical considerations on the items in question.

The development of metalwork throughout this period shall also be touched upon. Even though modern understandings of conflict and violence have shifted the earlier research and archaeological work remains important and valuable throughout every period, despite the change in archaeological paradigms. The following chapter shall also explain why and how we look at the objects today, and from where these methods were developed. This involves looking for original terminology and how inferences based on material cultures have evolved.

2.1. GENERAL DEVELOPMENTS ON CONFLICT

The study of warfare and violence in prehistoric research in Europe has been altered and changed time and again. As new theoretical paradigms were developed and became the new dominate discourse within archaeological thinking, prehistoric studies and understandings on violence and warfare can be shown to change dramatically. The change in interpretations of conflict is demonstrated through an overview into Bronze Age studies of the past century.

During early research on Bronze Age cultures in Europe, there was a definite tendency to shy away from warfare and violence heavy interpretations, especially from much work carried out in the late 20th century (Horn & Kristiansen 2018, 6). This removal of interpretations of violence and warfare has been linked by some to a general war weariness present within Europe during this period (Keeley 1996), leading to the
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tamed interpretations seen in the understandings of Bronze Age history. The war weariness previously mentioned can be linked to multiple events, including the end of the Cold War, the collapse of the Soviet Union and most recently the frighteningly bloody Yugoslav wars (1990-1995). Others have seen it as a disassociation with warfare and violence within modern studies (Horn & Kristiansen 2019, 6). The same interpretations state that many attempted to leave these violent aspects within the ‘past’ (i.e. in realm of the two world wars). In other words, individuals and the academic community as a whole wanted to move away from warfare and conflict due to the pressures of the modern world, striving for a more contented and peaceful modern opinion.

However, there are those that have claimed the re-emergence of violent conflict and warfare within Europe has increased the interest of the topic in modern academic research, rather than prevented it. The violent Yugoslav wars in the 1990’s created a general reactionary movement towards re-interpreting violence in the archaeological material of the past, including the Bronze Age (Thorpe 2013, 234). Coupled with a strong focus for academic work to search for the ‘warrior class’ in Bronze Age material culture (ibid. 234), it is not surprising that many have now turned to more interpretations which see the Bronze Age in Europe as having a prevalence for conflict and warfare.

Either way, what is definite is that recent modern research has witnessed a resurgence in the interpretation of conflict and violence, especially true for the Bronze Age. More general works dedicated to violence within the prehistory of Europe have emerged (e.g. Armit et al. 2006; Otta et al. 2006; Parker Pearson & Thorpe 2005). The Bronze Age has also seen quite a lot of more specific works dedicated to the study of conflict and violence in the period (e.g. Harding 2007; Thorpe 2013; Mörtz 2018). Therefore, the importance of studies on conflict and violence in the Bronze Age are aptly shown in modern research. The prevalence is demonstrated in societies with low levels of hierarchical structuring and the near egalitarian communities of the past alike (c.f. Schulting 2013).

The following section will demonstrate the changing of opinions on violence within the academic discourse through the example of Bronze Age dirk and rapier research. What will be demonstrated is the shift from a focus which ignores heavily the social implication of weaponry to a modern approach which focuses on the nature of conflict and violence within the social background of Bronze Age society.

### 2.2. Original Research

The prevalent archaeological thinking which was dominant during the time of early research on dirks and rapiers of the UK was firmly rooted in the cultural-historical paradigm. The main source of data used in this thesis epitomises the culture-historical way of thinking and is a great example of such archaeological
thinking. The Prähistorische Bronzefunde (PBF) written by Burgess & Gerloff (1981) is a German style typological series. It is dedicated solely to the recording and display of augmenting features of metalwork in an attempt to classify and create chronological sequences as useable, relative dating tools. The origins of the PBF date back to the 1960s and were developed from the work of Hermann Müller-Karpe. The first catalogue was published in 1969 (Harbison 1969a; 1969b). These catalogues were valuable pieces of work for many different reasons. Through the use of the catalogue, one could identify which forms appear in certain areas throughout Europe, and the emergence of styles can be traced more accurately allowing for interpretations on their significance at a supra-regional level (Fokkens & Harding 2013, 6).

Typological and chronological works were made fashionable by big names such as Oscar Montelius and Paul Reinecke who studied much of the Bronze Age metalwork throughout Europe during the early 19th century (Fokkens & Harding 2013, 5). These works disregarded any other aspects of a material culture – such as the technological, functional, or interpretative – to focus primarily on identifying chronological and typological characteristics of materials.

The ‘empirical’ nature of such an approach has seen much critique over the years, and this type of sequencing, at least in most archaeological worlds, is becoming out of fashion. However, the utility of such datasets is undeniable, as without it this research could never have been carried out. The typological and chronological nature of the early research methods into Bronze Age metalwork are not conducive of interpretations on social life and therefore have been snubbed in favour of interpretative methods focusing on the relationship of materials and human society (Fokkens & Harding 2013, 5). The utility of these original methods on any other materials not coming from hoard or burial context has been heavily questioned (ibid. 5). Due to this, catalogues such as the PBF have suffered from a decline in interest.

The PBF, however, remains to this date an immensely valuable asset as a source material for the study of Bronze Age metalwork and other objects. The information recorded within these catalogues does not become unusable even though the type of research itself is dated (Fokkens & Harding 2013, 6). The catalogues, therefore, are valuable sources of information and the reason why they were chosen to create the foundation of the database used here.

When we look at all the literature related to Bronze Age metalwork in Scotland, there is significantly less analysis which has been carried out, especially in the early stages of archaeological research. Most research is based off John Coles (Coles 1964; 1969) seminal work on collecting Scottish metalwork from the Bronze Age. This work is one of the only larger attempts at an overview from Bronze Age metalwork in Scotland.
2.3. **Early Developments of New Methodologies**

Typological and chronological sequencing such as the work carried out in early archaeological enquiries into the dirks and rapiers of the Bronze Age is efficacious in relative dating and identifying influences. Lacking from these studies, however, is more nuanced analysis of the social theory surrounding the implementation of the bladed objects of the Early and Middle Bronze Age. Only in relatively recent archaeological effort has there been any real attempt to incorporate any modern social theory and more developed theoretical paradigms to better understand both the effect of the materials and the reasoning behind the treatment of said objects.

For two decades, spanning the period from 1980 and 2000, the archaeological world was changed at a fundamental level because of increases in data and a new interpretative paradigm (Fokkens & Harding 2013, 1). Within Europe, many historical events helped this increase along the way. The fall of the Iron Curtain meant that the amount of accessible useable data in archaeological research within Europe rose markedly. Developer-funded programs introduced in the later 20th century similarly raised the amount of useable data (ibid. 2).

The new data being funnelled into pieces of archaeological work during this period in Europe brought with it changes in the ways we as archaeologists approached the material record, especially in the Bronze Age. Kristiansen (1984; 1998, 40) implemented what he thought of as a modified processualist approach which would now be considered a World Systems model of interpreting the material record. Others attempted to offer alternative standpoints on the new data such as Earle (1987; 1991) and Sherratt (1994), yet still focused heavily on elite power and social hierarchies.

Alongside these developments, there were those who created new approaches to interpreting the material culture of past societies, including that of the Bronze Age. These new approaches began to produce results in terms of understanding the social background of material culture use and agency (Fokkens & Harding 2013, 6). The biography of an object was produced as a concept in relation to these developments. Items were interpreted no longer as merely things, but with their own meanings intrinsically linked to specific culturally values (Kopytoff 1986, 68). Items not only hold their own cultural significance, but they also tie themselves into the very idea of the individual, their own personhood (Hoskins 1998, 9). From the development of these theories, new ideas on identifying characteristics of a society have been created. One valuable concept created as a result and used as the base theoretical consideration of this thesis can be seen in Fontijn’s work (2002), where the context of a deposited item is used to reveal more about the social environment of the participating society.
A new approach was developed during this period which focused more on finding connections and interpreting the link between material culture and the societies from which they are created (Harding 2000). In direct opposition to the World Systems model Kristiansen used (Fokkens & Harding 2013, 2), the focus was shifted onto the relationship between people and things, and the agency of object came slowly into the limelight. The approach developed initially by Harding is the foundation from which pieces of work such as the one here are born from.

During the period of developing interpretative paradigms, Needham’s work was the first to explore the idea of selective depositions on any useful scale (Needham 1988). Selective deposition refers to the rules and conventions of metalwork deposition (Fontijn 2002, 5). The rules and conventions followed by the Bronze Age communities will form now on be referred to as selective deposition. Needham explores the Early Bronze Age (EBA) in his early research into the selective deposition of metalwork in Britain, general considered to be from 2400-1400 BCE (see chronology section chapter 1). Although self-admittedly not a new discovery, Needham explores for the first time in any real detail the non-random patterns of association which are evident between certain metalwork classes and a variety of context categories (Needham 1988, 229). Dealing with two different sets of objects, Needham explores the meaning behind both grave and hoard contexts, explaining the differences in the social meaning behind the choice of each.

The main theme of Needham’s work as in distinguishing the patterns in selective deposition of metalwork in Bronze Age Britain. The aim was to identify the types of objects commonly found in a variety of contexts. The agency of choice in material deposition was first explored by papers such as Needham’s, leading to the development of further research looking at this phenomenon, including this research here.

The discussion of the following thesis comes directly from these early attempts at understanding the material culture and societal relationship as well as the importance of deposition and context. Needham’s early work went on to inspire some of the main sources of theoretical inspiration used here, including Fontijn (2002, 2019), York (2002) amongst others.

2.4. MODERN RESEARCH

From the new interpretations of relationships between human societies and things in the Bronze Age, seminal work such as that of David Fontijn were born (Fontijn 2002). By searching and studying the phenomenon of selective deposition first put forward by Needham, Fontijn’s research successfully initiated an attempt to shed light on the puzzling phenomenon of Bronze Age deposition (ibid., 6). The research carried out in this paper stems from the theories suggested in Fontijn’s work, adding more
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information to a broader attempt to understand the deposition of bronze metalwork in North-Western Europe.
3. METHODOLOGY

The research carried out here was an in-depth look into material discovered and recorded in a variety of sources, but the majority stemming from the PBF catalogues and online, public assisted databases in England and Scotland. The type of research can be described as a quantitative approach, with aims to collect as much data as possible from each region in the hopes of discovering patterns within the material record which could inform us about conventions of metalwork deposition in the Bronze Age. The materials were collected within a database I created, which was based completely in Excel for ease of use. It is also worth noting that all the interpretation of characteristics present on the bladed objects come from literary descriptions from recording processes rather than visual examination. The interpretations of this research could therefore be improved by in person visual examinations. However, the time required to carry out such research is beyond what could be achieved for a Masters thesis.

The data, which is displayed within chapter 4, was exported into QGIS to create the maps shown. GPS coordinates for each of the artefacts were either retrieved through the place names given, as was the situation with most PBF entries, or they were recorded directly in the sources. I was provided with research access to the PAS database, which conveniently allowed access to many restricted GPS coordinates, so I could create the detailed maps shown in the results chapter. The coordinates for the PBF entries were obtained through the use of an Online Geocoder API (www.gpsvisualizer.com 2019). The API in question would find GPS coordinates based on place names, and then output the results in a text-based file I then incorporated into the database. Each place name was checked to make sure the coordinates were correct, and those incorrect were changed individually using coordinates from Google maps.

3.1. SOURCES OF INFORMATION UTILISED

The research undertaken within the following thesis is ultimately based on existing archaeological data, recovered and investigated by a variety of other sources, in diverse ways. The bulk of the data was examined/used in a variety of new ways, culminating in the inferences made by this corpus of writing. To begin the methodology section, each source utilised will be explored in detail, stating the reasoning behind their choice to be used to create the database.

Prähistorische Bronzefunde

The foundation of the information discovered and incorporated into the database comes from the Prähistorische Bronzefunde (PBF) dedicated to the dirks and rapiers of Great Britain and Ireland (Burgess & Gerloff 1981). The evidence present in the PBF is detailed and numerous. Each object has its own
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illustrations, some of which are used throughout this thesis to accentuate arguments, and the structure behind the description is simple and easy to follow. Being in the design of a catalogue of material culture, the body of information is almost solely dedicated to the establishment and validation of a typological assessment of dirks and rapiers in the UK. Therefore, very few interpretations other than dating and area is incorporated in such pieces of work. Nevertheless, the volume of data is invaluable for further studies focusing on more interpretative work surrounding social theory such as the one carried out here.

When using catalogues such as the PBF, one comes across a few reoccurring issues presented by these types of work. The information recorded by the initial researcher often is quite interpretative and subjective. Connotations behind certain words can change and alter between people, and when trying to carry out quantitative analysis these words can affect the end results in multiple ways. The subjectivity becomes most apparent in the descriptive terms incorporated by the author. In the case of the PBF, this included whether or not an object was bent, in the past or present, or when the weapons had torn rivet-holes, which also could have easily been corroded through time. The presence of detailed illustrations within the catalogues offsets these issues, but it is hard to check the descriptions of 232 objects against their illustrations within the time-span of a Masters thesis.

The Portable Antiquities Scheme

Building upon the framework created by the PBF, material from the Portable Antiquities Scheme (PAS) helped in the creation of a more up-to-date database regarding the dirks and rapiers of Great Britain and Ireland. The PAS is a collection of small finds discovered by the public and recorded mostly by Finds Liaison Officers, with additions from the public, which are then submitted into an online, accessible database to be utilised by the public and researchers in archaeology alike. The database was created in conjunction with the Treasure Act (1996), an act of the UK Parliament which states that a person who discovers what is termed ‘treasure’ has a legal obligation to report such a find. The Treasure Act only covers the countries of England and Wales, and therefore only provide further information regarding one region of study in this research, namely south-east England.

As with all sources of information used throughout the collection process of this thesis, some problems are encountered when using the PAS as a source on its own. The objects collected from the PAS database only include stray finds discovered by the public and rarely include archaeological excavation finds. Since the creation of the PBF catalogue in 1981 (Burgess & Gerloff 1981), it would be expected that a lot more finds from excavations would be present, but currently there is no way to access this information. Large and interesting finds such as the Oxbourrough dirk, for example, have been omitted from this database. Another problem is the severely fragmented nature of many of the finds from the
database. Many objects were omitted from the creation of this database, as they included no identifiable features at all, other than a subjective interpretation regarding the possibility that they may, in fact, be either a dirk or rapier from the Bronze Age. Due to this uncertainty, their inclusion within the database could have weakened the arguments present, and therefore did not happen.

Canmore & Recent articles (Scotland)

As mentioned above, the Treasure Act is only affectual in the areas of England and Wales and does not continue into Scotland. The twin to this in Scotland is known as the Treasure Trove Act, which deals with all the objects recovered by the public (treasuretrovescotland.co.uk). An accompanying, searchable database for the archaeological material uncovered by the general population has not yet been created. However, a searchable, online database for all the Scottish material received through the Treasure Trove scheme is in development and will be realised at some point in the not-too-distant future (M. Knight 2019 pers. comm. 3rd July).

The alternative in Scotland would be Canmore – the national record managed by Historic Environment Scotland (canmore.org.uk). This site contains millions of catalogue entries on all archaeological sites throughout Scotland. It has provided quite a large portion of the useable data in Scotland and demonstrates the possibilities of increased academic research opportunities on the material culture in Scotland if only the correct infrastructure was there to back it up.

The same issues which apply to PAS largely are the same when investigating the information from Canmore. With Canmore, however, the problems present are even more severe. There are far less descriptions available for the material, and for the material available, almost no photographs or illustrations are available. Therefore, all the material recovered from this site relies almost entirely on the subjective interpretation by the initial recorder.

The rest of the Scottish material culture used in this essay was provided by other articles published after the release of the 1981 PBF catalogue. These articles have mainly updated the materials already found in Canmore and the PBF, rather than adding new information itself (O’Connor et al. 1995; Cowie et al. 2011; Davies 2012; Knight 2019). Unfortunately, as with the PAS, new items found in modern excavations are still harder to find.

3.2. THE FEATURES RECORDED

The following section will go through each of the chosen features which have been recorded and chosen for further examination in the data & discussions section. What will be explained is why these specific characteristics have been chosen and more in-depth descriptions of what each feature means. The
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forthcoming descriptions are included in the hopes of letting the reader delve straight into the data and results chapter without having to ask themselves why each feature was chosen, allowing for explanations to the significance of each of the chosen facets of these weapons.

Overall, the data collection phase had a specific focus set upon factors relating to and consisting of, deposition, life-cycle, and stylistic design choices. Each one of these factors will be explored within the discussion in an attempt to uncover more understanding relating to the selective deposition of bronze metalwork in the Bronze Age of Britain and, furthermore, the whole of Europe.

3.2.1. Object Terminology

The first feature arising from the data when attempting to study the dirks and rapiers of the Bronze Age is the terminology used to denote the material culture in question. When one begins studying these weapons, the terminology seems confusing and creates segregation within the sources of information. It should be noted that these terms (i.e. ‘dirk’ and ‘rapier’) are modern creations applied to ancient materials which would probably not help such distinctions. The term ‘dirk’ can also rarely be discovered outside of the PBF catalogue. The history as well as the seemingly random application of the terminology has been discussed in the previous chapter.

Including the terms as categories which have been recorded in the data collection phase allow for interpretations on the effect of such modern choices of names. The terminology is so established and prominent in all research surrounding this type of weaponry, as well as multiple other types of metalwork, that discussing the potency of such language is necessary. It would be easy to make inferences based off such terminology in a regional comparison of preferences in the selective deposition of dirks and rapiers. It is for that reason why the terminology feature is explored in the data and discussion. Hopefully it will be explained why the application of such terminology can be reductive when studying large groups of materials.

The arbitrary distinction between dirk and rapier used by most, if not all, of those studying this weapon typology is based on length. Over a seemingly random chosen 30 cm are rapiers, whilst those that lie under this length are dirks. The materials which are too badly corroded to estimate full length are therefore objects which cannot be placed into any specific terminology, creating further issues with the arbitrary distinction. In Scotland, the number of objects whose total length cannot be calculated is limited to only one objects. In England, this number increases to 10 objects, which is in keeping with the varying sample sizes from each region. This does not include the number of objects omitted from the database from each region which were too insignificant or with too few identifiable features to be useful for this study, which will be discussed later on in the chapter.
3.2.2. Using material dimensions instead of terminology
The next feature to be explored in relation to the dirks and rapiers of Great Britain are their material dimensions, namely their length. Chosen due to its connection with the terminology, this feature and understanding will create an example from which the terminology can be compared to. The comparison will hopefully create inferences within the discussion on the utility of applying such modern terminology to these material cultures and trying to discern a way past them in the research of Bronze Age metalwork.

3.2.3. The context of deposition
One of the most defining aspects of this research is in determining the context of deposition. The different types of context, when they are recorded, do not vary too much. There are five different contexts recorded in the sources of information, all of which will be discussed within this chapter. In reality there would have been many more contexts, the variety would have also been large. However, as the sources of information only provide these 5 distinctions, so too shall this research. The fact that there is not too much variety in the deposition is an interesting and useful variable which can be utilised to understand the social milieu of the practice in more detail. The tendency for the deposition to be in these specific contexts was known before the research and was one of the main driving forces behind its creation in the hopes to understand this practice in more detail from the regions being studied here. Deposition as a useful factor has been explored in quite some detail in a variety of other works, culminating in a recent academic movement which has centred around understanding it within the Bronze Age of Europe in more detail (Needham 1989; York 2002; Fontijn 2002; 2019; Mörtz 2018).

Problems arise when dealing with the disparity in the amount and detail of recording between sources of information. A large percentage of the material in the database have never had their initial find context recorded. Many were found in early antiquity, and therefore their context was either never recorded or has been lost over the past century or more. The context of many modern finds has also never had their context recorded in detail. Perhaps the context was thought to be of non-importance, or maybe it was just never known. More will be discussed on this topic below, in the last section of the following chapter.

3.2.4. Associated artefacts
The percentage of dirks and rapiers which have been found in hoards do not make up a majority in the archaeological record, as of yet. However, they are in significant enough number to warrant thorough consideration. Hoards are defined as objects interred together during the same act of deposition, and they can be used to determine which objects were used concurrently (Bradley 2013, 122).
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The associated artefacts consist of multiple categories of material culture. The aim in assessing the difference is to understand the practice of selective deposition and attempt to identify any patterning in the make-up of these weapon and metal hoards. The data from this section will be used to go into hoard theory more, ultimately increasing understanding of this practice and how and why the dirks and rapiers were deposited in such a fashion.

3.2.5. Deliberate Destruction of objects

Bronze Age metalwork deposition in Europe has characteristics connecting together a variety of prehistoric communities. The deliberate destruction of objects prior to their deposition is one of these factors. The act of deliberately destroying an object chosen for deposition is part of the intended life-cycle of said object. Including such a feature for examination in the data creates more in-depth understanding of metalwork deposition in the Bronze Age whilst also indicating the importance of life-cycle in the act of selective deposition. Due to the apparent wide-spread nature of this practice, it has come under quite strong academic scrutiny recently (Bradley 2017, 130-132; Chapman 2012; Fontijn 2002; 2019; Knight 2018; York 2002).

3.2.6. Looking for use and non-use

The final choice for the data collection phase was based around discerning the life-cycle of an object before the instance of deposition. The life-cycle can be interpreted from many different features present on a metal artefact, and the ones which were present on these weapons are explained individually and quantified for further analysis in the discussion. Each feature has their own drawbacks when attempting to quantify use or non-use. The larger issues are explained here in an attempt at transparency in the final analysis.

Torn Rivet-holes

Torn rivet-holes are accorded by some as features which can potentially define an object as being used during its life-cycle as a slashing weapon (York 2002, 85). The strain which is put on the rivets on slashing weapons in action logically would produce tears after some period of use and stress. The material surrounding the rivets is often thin, especially nearer the end of the butt. One could also imagine that taphonomic processes of degradation could also lead to what appears to be a torn rivet-holes, when in fact it is merely the product of corrosion.

There are examples of rivet-holes where tearing through use can be assumed quite comfortably, whilst there are those examples where corrosion seems the most likely culprit. Relying upon a torn rivet-hole to identify a life-cycle involving use becomes quite unsubstantiated when used on its own. Coupled with
this, the apparent bias in the designation of torn or un-turn relies too heavily upon the subjective opinion of the original recorder of the data. Looking at one example (PBF IV, 192, see fig. 4), the difficulty in distinguishing rivet-hole damaged becomes clearer. One is denoted as being torn, and the other as being ‘damaged’. However, the small piece of metal which encloses such rivet-holes could easily be broken through taphonomic processes.

**General difficulties in determining use**

When attempting to identify the use or non-use of a blade one comes across many halting factors relating to the efficaciousness of this feature. Incorporating use or non-use into a study such as the one carried out here comes with its own drawbacks. Experimental archaeological work has been carried out on bronze weapons and how they are affected by use (Bridgford 1997, 7; 1999, 88-91). In these varying studies, Bridgford identified different ways in which bronze objects were affected when hit by other materials, or when hitting other materials. Intriguingly, she discovered that contact from a bronze sword when striking either flesh, bone, wood or hide left little to no macro-visible markings, apart from the slight blunting of the objects in question. These small markings can be easily removed through taphonomic processes, especially in water contexts by what is termed ‘river-rolling’ by some (York 2002, 79). Classifying use and non-use on these bronze objects can therefore be seen as a difficult and delicate task. Macro-analysis alone is never a certain method of determining use and needs to be coupled with more in-depth micro-analysis and other use-wear techniques.

The only way to determine if an object has definitely been used throughout its life-cycle is through the identification of very obvious forms of use. Included in this type of feature is torn rivet-holes (see argumentation above), the reshaping of butt’s for re-hafting, sharpening, and so on (see table 2, page 49). Similarly, more prominent features of non-use need to be identified on the objects to positively recognise the non-use of an object. One has to identify objects which are, for example, unsharpened, without rivet-holes entirely, unfinished, or realistically unusable to be certain objects were not used, or never intended to be used, during their life-cycle. Therefore, in keeping with this information, for the course of the data collection, when attempting to identify patterns of use and non-use only the more certain criteria shall be incorporated.
3.3. Selection Process

If we were to include all dirks and rapiers from the Early and Middle Bronze Age in Britain, there would be too much information to work with in the time-frame provided for a Masters thesis. As such, for the purposes of this research, it made sense to reduce the number of finds due to time and data constraints. To fit within these restraints, only groups I through III of the dirk and rapier types were considered for this database. During the early 20th century, there was considerable confusion regarding the categorisation of the dirk and rapier weapons from the Bronze Age. Many took an evolutionary approach based on features which seemed to change and alter at random (Trump 1962). The catalogue used to create the foundation of this data collection (Burgess & Gerloff 1981) chooses to create a categorisation on more stable features. From these features four groups were created. It is the first three groups from these categories which have been considered in this research. Including group IV could have increased the utility of the results, but as it also contained over half of the examples of dirks and rapiers (mostly rapiers) found in the UK, it would have also increased the data collection phases dramatically.

3.4. Issues with the data

There are many factors contributing to both the lack of evidence and the unreliability of said evidence in both the data presented here and in any study of metalwork from the Bronze Age. To understand the inferences and the difficulties in the progress of making such interpretations, the following few sub-chapters will be dedicated to exploring general and more specific issues which appear in the archaeological data. In doing so, the culminating interpretations shall become more transparent and the hinderances in this type of research clearer.

3.4.1. General restrictions of the data

A domineering truth of studying metalwork archaeologically stems from knowledge that the known metalwork today makes up only a fraction of what was originally deposited into all contexts (York 2002, 79). Many contributing factors have led to the sharp decrease in useable material to study in modern times. Especially true of water contexts, post-depositional damage also creates large gaps in modern knowledge of the individual finds rather than the archaeological record of metalwork as a whole. Complete loss of objects can occur as well as the loss of certain characteristics (e.g. the evidence for sharpening or use wear on the edges of blades) are some of the most obvious instances of the issue stated. This affects not only the individual interpretations of objects, but also the larger, quantitative understandings of metalwork as a whole in the Bronze Age, such as the work carried out here.
At the moment, there is very restricted information regarding the immediate social environment surrounding the deposition of metallic objects in the Bronze Age. The absent knowledge of the social environment does not allow for in-depth understanding of these depositional practices. General opportunities to create thorough analyses of bronze objects within their various depositional contexts becomes infrequent due to this deficiency in information (Mörtz 2018, 170). The corpus of data making up the bulk of this research will aid in a larger attempt to add to the pool of knowledge already gathered on the social environment of Bronze Age metalwork deposition. Stemming from these attempts shall hopefully be the creation of larger, more thorough analysis.

3.4.2. Finds Bias

One of the more prominent altering factors of the archaeological record of Bronze Age metalwork is arguably the finds bias present in modern documentation and archaeological assessment. What will become clear throughout this research is that modern finds bias influences the material record of the Bronze Age quite heavily, in the author’s own opinion. This segment will explore the bias present due to location and modern settlement nuclei.

Most objects found in river or water contexts have been recovered by processes of dredging. The remaining objects are mainly received by museums from single finds handed in by the public or are uncovered during construction on water locations. This is most definitely the case with the whole of the River Thames and the large number of Bronze Age metal objects obtained from its depths (York 2002, 77).

The early systematic dredging of the River Thames accounts for almost all of the bronze items retrieved from this prolific water source. A paucity of items recovered from other river and water sources can be linked to the decrease in dredging as a common practice in modern river-works, as well as newly developed techniques of dredging being ineffectual at discovering new stray finds (York 2002, 78). The same systematic dredging of rivers which was carried out in the Thames has also seen action in other rivers at later dates, such as those done at River Reading. However, the level of metal objects recovered from this site lie far beneath those of the Thames, and it is believed that the later date of dredging could have contributed quite heavily to the different recovery rates (ibid, 77). Other contributing factors could also have played a large role in this discrepancy. The large populations present on the embankments of the Thames would have led to increased river activity throughout the area, ultimately ending with increased number of discoveries due to the higher levels of ongoing construction and commotion on or near the river. All of these factors contribute to an unfavourable bias towards less populated, and funded, areas throughout the UK creating less observable materials from water contexts to work with.
Retrieving Hidden Wealth

It is possible that levels of finds recovered from river and water contexts could be at a much higher number throughout the whole of the UK if these river and estuaries were as heavily dredged as the Thames was around the early 20th century. Increased activity and higher populations levels throughout specific river and water contexts in the UK could also have led to a different nature of the material record, and therefore this database.

3.4.3. The documentation of finds

The presence of a find location bias is not the only modern factor impeding on the correct recording and analysis of the metal artefacts in the Bronze Age, which ultimately affects the results of this research. The uncertainty and subjectivity of modern discovery and documentation of the finds in question have led to slight ambiguity in the validity of the material culture. The ambiguity arises in the documentation and recording of objects. There are different levels of detail and accuracy when it comes to the recording of artefacts in different regions/databases. For example, the accuracy and detail of finds recorded in Canmore is far outpaced by that of the PAS or PBF. Subjectivity in identifying features also changes between such sources of information. If there is to be more attempts at large scale syntheses of the British Bronze Age and metalwork from this period, perhaps more integration between the sources of recording would be an invaluable tool.

Hoard items and single finds are often poorly documented by non-professionals such as metal-detectorists or members of the public. Therefore, it is never certain whether all items from a hoard or group of associated artefacts of an object were saved and recorded, or ever discovered (Mörtz 2018, 170). Non-metallic objects and organic remains, if they have survived, are objects which are unlikely to be located by a metal detector, for example. Positioning of objects and related objects within a context is another uncertain factor.

The finds coming from databases of public discoveries, such as the PAS and many items from Canmore, have their own issues in regard to the context of deposition. Studies on the effect of sampling bias within frameworks such as the PAS have discovered seven different stages within their processes of information dissemination from which bias can be introduced: burial, prevention, survival, exposure, reporting, and recording (Robbins 2012, 1). The most relevant of these biases whose effects can be arguably noticed in the forthcoming research are limited to reporting and recording. All of the bias discussed in such research prove their effect to be influential over the spread and distribution of finds over sources such as the PAS, and by extension Canmore as well as most probably the PBF. The influence they have over the spread and distribution of objects within the UK will definitely influence the final results of any research carried out using these sources of information.
There are many different factors which can contribute to the bias created in both reporting and recording of artefacts. The fragile relationship between metal detectorists and archaeologists means many finders are unwilling to report finds discovered underneath the metal detector, and many are also unwilling to travel distances to report finds to their closest FLO, or Finds Liaison Officer (Robbins 2012, 46). Objects thought to have less worth are much less likely to be reported than those valued higher (Brindle 2014, 122), meaning fragmented rapiers and dirks are much less likely to be recorded within these databases. Further research has discovered that finders often believe archaeologists are uninterested in multiples of the same object, meaning if one object is found multiple times it is less likely to be reported (Walton 2011, 61).

Finally, we shall discuss the bias introduced by the recording of artefacts for source such as the PAS. The processes chosen by these databases and the decisions made regarding what to, and not to, choose regarding said artefacts are both factors which create bias in the material record. With the PAS and other collective databases, there will always be variability created by the individuals involved (Beck & Jones 1989, 245). Individuals can change descriptions of objects, as what is considered important information can alter drastically from person to person (Meltzer 1986, 29). Level of detail and the depth of description also adjusts based on the expertise and experience of the recorder (Robbins 2012, 48). Therefore, with research based on these sources, it is evident where bias can be introduced and skew the result. At least within sources such as the PBF, there is a certain reliability created in it being the same recorder of all objects. However, this does not eliminate all bias.

3.4.4. The fragmented nature of the objects

Quantitative approaches to understanding Bronze Age metalwork deposition are impeded by the fragmented and broken nature of the materials present (Mörtz 2018, 170). Furthered by the omission of fragmented objects within sources such as the Prähistorische Bronzefunde, it is clear fragmentation can affect research. Fragments are recorded within such sources as the PBF, but only the examples which can be positively identified as belonging to one group or another (i.e. group 1 through 4). The PAS includes fragments of rapiers and dirks within their database, but the information is rendered nearly useless in the current research due to the lacking features available to analyse. However, in the creation of larger, typological and big data approaches such as the PBF and larger syntheses of the Bronze Age, one should attempt to include all information. I believe those which could not be associated to any group were omitted by these researchers for ease, but it removes information that could be valuable to research in other tracts of archaeological literature. That is why it was important to include a variety of sources of information in the process of data collection for this current research. For the purposes of this essay,
many fragmented dirk or rapier pieces have been included so as to be able to perceive the data in as full detail as possible.

Many objects and materials found within Scotland had to be left out of the database for similar reasons. These items are often referred to as ‘maybe’ or ‘possibly’ a dirk or a rapier from the Bronze Age. In reality, they are chunks of bronze which have been worked by human, and the identifiable features are incredibly limited. They are therefore left out of the database, as positively identifying them as Bronze Age weaponry, and then to a specific time period, by visual analysis alone is nearly impossible. The identifiable features present would have made them a hindrance to the overall interpretations of the research, skewing the data into the unknown. Perhaps further research could focus on identifying these odd pieces of material culture and utilising them for further interpretations using other forms of analysis including scientific methodologies.

3.5. RESOLVING THESE ISSUES

It is not possible, especially within the scope of a Masters thesis, to resolve any of the issues laid out in the previous sub-sections. The issues surrounding the sources of information and the documentation would take work larger than this and not necessarily solve all issues relating to them (i.e. corrosion and state of objects still plays a large role). Further research into the area could perhaps focus on creating and implementing a standardised recording system, making use of multiple sources of information and database more cohesive. The issues relating to recording and reporting will always be present with sources based around the involvement of public help and monetary value. However, it is not the aim of the research here to solve issues, and not necessarily needed. By laying down the faults in research utilising these sources even still, it is the hope to create more transparency within the data and interpretations born from such evidence.
4. DATA & RESULTS

Within the following chapter there will be no in-depth analysis or interpretation of the Bronze Age artefacts which are to be studied in further detail. The following chapter contains only the raw data to be interpreted and investigated in the following discussion section. It will be presented in a way to exemplify and highlight interesting characteristics of the deposition and use of Bronze Age dirks and rapiers. To demonstrate the areas which provide the most insight into the background of Bronze Age societies in Scotland and south-east England, graphs, tables, and illustrations created by the author will be interjected. The chapter shall be split by region, first by focusing on the material from south-east England, and proceeding onto the material collected from the region of Scotland. To begin with, however, shall be an examination of the material collected for the database. The regional separation of data is essential for further discussion and utilisation in the next chapter where inferences shall be made in the comparison of varying features and characteristics of the objects themselves and the recording methods of each country.

The database created during the collection phase was brought into existence after extensively sorting through the data sources which have been previously stated. The following chapter will go through all the information collected within the database and explain which patterns have emerged and are worth further exploration. All the information here will be expanded upon within the discussion and utilised to further academic discourse on social theory surrounding the creation and maintenances of the emerging militarised society of Bronze Age Europe.

A simple progression shall be followed during the subsequent section dedicated to the dissemination of the data. The beginning of the progression is dedicated to exploring the sources used and the statistics regarding their levels of use. This section will demonstrate the utility of each pool of data and be used further in the discussion to elaborate on the positives and negatives of all sources used and steps to improve upon for further research. The first section shall focus on all material recovered as a whole. Within the confines of the first part, the reasoning behind each choice of characteristic shall be explained. The following two sections, dedicated to the two regions, shall follow the same pattern in disseminating the results to make the information easier to follow and reference in later discussions. Many of the defining features to be discussed have a very small number of examples to draw from, such as the use and non-use section. Therefore, these will be discussed as a whole, as their comparison between regions does not create too much discussion.

4.1. ALL DATA

At the end of the data collection phase, 232 objects were recorded from the different sources of information (see fig. 5). Overall, the data provides ample information to work through and attempt to
answer the research questions proposed at the beginning of this thesis. The split of objects by region is heavily in favour of the south-eastern English examples. However, those from Scotland still provide a big enough picture to make the regional comparison interesting and worth researching.

4.1.1. Prähistorische Bronzefunde

The main source exploited in the collection phase was the Prähistorische Bronzefunde dedicated to the collection of these objects in Great Britain and Ireland (Burgess & Gerloff 1981). It is from the PBF where all the groups for these objects were created and from where the relative dating came from in the form of typo-chronological sequencing. Groups I, II & III are all used to separate the objects in the data sources and all come from Burgess & Gerloff’s work in the 80’s. Of all the objects recorded for further examination,
62.1% (n=144) come from the catalogue. 75% (n=174) of the total data amassed was identifiable into one of the three groups chosen to be studied further.

Not all objects were able to fit within a certain group, as the identifying features were either lost through taphonomic processes or were not there to begin with. Whereas in the PBF these objects were omitted from recording, I have endeavoured to include all those with some form of useable information. These objects came from the other sources utilised to collect all data to be explored further, such as the ones discussed below.

4.1.2. Portable Antiquities Scheme

Objects which were collected from the Portable Antiquities Scheme often had no group into which they could be placed. Of the 232 records, only 60 were collected from this database. Of these 60, all were unique and not recorded elsewhere in other sources such as in the PBFs. 14 of the total number were assigned to groups, whereas the rest were only assigned by date to the Early or Middle Bronze Age. The data collected from this source was limited to south-east England for reasons mentioned previously.

4.1.3. Canmore

The Scottish Parliament introduced and implemented their own form of the Treasures Act called Treasure Trove. The Treasures Act (1996) which is applied to the regions of England and Wales does not apply to any material culture discovered and recorded in Scotland (treasuretrovescotland.co.uk 2019). Any of the materials found in Scotland by chance through activities such as metal detecting, field walking or even archaeological excavations become property of the crown and can then be claimed as treasure trove. Whereas in England and Wales these objects are recorded in detail and put within a public online database (the Portable Antiquities Scheme), Scotland and the Treasure Trove Unit, who are responsible for collecting and recording every known archaeological material discovered by chance in the Country, have no such online resource to use.

Historic Environment Scotland has a national record database of all the heritage collected and recorded throughout Scotland. Canmore contains mainly catalogue entries for archaeological sites and buildings, but there were some Bronze Age artefactual records which were utilised for the creation and addition to the database here. The catalogue entries from Canmore provide the database with 14.7% (n=34) of the total information entered. Canmore shares its information with the PBF catalogue for a total of 9 artefacts. These all came from John Coles synthesis of Scottish Bronze Age metalwork (Coles 1964; 1969). Some more recent updates from academic literature sources were also included to bolster the meagre additions from Scotland. Exploitation of work by individuals such as O’Connor et al (1995) helped in accomplishing
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this. The work of such scholars aids by creating additions to the small number of objects known from the Bronze Age in Scotland.

4.1.4. Object Terminology

The distinction in terminology shall be explored individually for each of the regions being studied in this thesis. The distinction in terminology used to describe the Bronze Age objects, and therefore the length of the objects, varies in the different areas of study. In the discussion section, the difference in the statistics of the areas will be used to explore the variances most likely present in the Bronze Age societies in Scotland and south-east England.

Figure 6 A map of Great Britain showing the spread of objects with terminology applied to them, to demonstrate preferences of object length. Source: Author 2019.
As is the case with all studies surrounding the research of these object types, the weapons have been split into two different groupings based on size. This is where the terms ‘rapier’ and ‘dirk’ come into use (see fig. 6 for the distribution of these object terms). Rapier refers to the objects which are over 30 cm, and dirk to those that fall under the 30 cm mark. The differentiation between the bronze-work materials based on length is a self-admitted arbitrary distinction (Burgess & Gerloff 1981). The social significance that length had is still as of yet unknown. The weapons identified as rapiers, or these specific weapons over 30 cm, make up 61.2% (142 objects) of the total recorded objects in this database. This is a significant majority of total number and creates the connotation that longer length was the preferred characteristic for this material culture. The dirk object type makes up 34.1% (79 objects) and the rest, 4.7% (11 objects), is made up by fragments whose total length could not be calculated.

The characteristics which were chosen for documentation link directly to identifiable stylistic choices made by the craftsmen of the Bronze Age. Included in the stylistic features of the dirks and rapiers are rivet holes, rivet notches, any form of decoration, the presence of hilt marks and the design of the midrib. As the data collection chapter progresses, these choices in stylistic design will be explored to see if any patterns turn up when they are examined.

4.1.5. Dimensions of Objects

After exploring the terminology applied to the materials, it is worth investigating variations in the average dimensions of the dirks and rapiers of south-east England and Scotland to see how they compare to each other, as the terminology is based off these dimensions. Instead of looking at applied terminology, the following section will instead look for patterning in the mean average of total length of objects (see fig. 7). Information about such averages can be used along with the terminology to make inferences on Bronze Age preferences in design and style.

To create useful data that could be incorporated within the later discussion certain measures were taken to make sure the information was useable. All fragmented objects were omitted from the figures created so as not to bring down the representative average. Similarly, all items without their full length recorded were similarly not incorporated. However, even with these omissions included, there will still be a small number of objects that are included which have lost sections, or the butts have been worn down through various taphonomic processes that could skew the results. This is due to the level and quality of recording in the sources used. The averages for each section will still be useable and not change too drastically, as this margin of error will not be too significant.
4.1.6. Context of all finds

One of the more important aspects of the objects in question and their deposition which can be utilised to infer more about the social milieu is context. Context of the bronze-work depositional practices are known for 56% (n=130) of the database (see fig. 8). The known contexts have been split into five categories for the purposes of this thesis, as those are the only categories recorded within the sources of information. These include water contexts, river contexts, bog contexts, single-finds (those with context recorded, yet unknown of the context type, explained later-on), and hoards. Drawing all of these categories together is a thread of intentionality, to be discussed later.

Water Contexts

The majority of the finds come from water contexts, at 62.3% (81 of 130) of all the material culture with recorded contexts. Of the materials identified from water contexts, 54 of them came from rivers. That means of the total 130 contextualised objects, 41.5% came from rivers. The relationship between the dirks and rapiers of the Early and Middle Bronze age and riverine/water areas is a phenomenon which has been recognised within the literature (e.g. Mullin 2012; Needham & Burgess 1980; York 2002) and is an area which will be expanded upon later in the discussion

Bog and Peat Contexts
These water and river contexts are areas which create difficulty in retrieving any item. This factor has created an interpretation of intentionality within the act of deposition (Bradley 2013, 124). Included in the category of irretrievable places are the bog and peat contexts where these bladed weapons are sometimes located. Included in this are peaty and mossy regions, such as fens in southern England. A fen is a marshy area prone to flooding, which would have formally been marshland before draining for agricultural purposes. However, the bog and peat contexts only account for nine of the total number of objects retrieved so far from the Bronze Age. Being only 6.9% of the contextualised finds, it does not make up a large percentage. The irretrievable nature of bogs and peats could have led to a decrease in finds, as the areas are difficult to access and retrieve objects from.

Figure 8 A map of Great Britain showing the distribution of contextualised dirks and rapiers from the Bronze Age. Source: Author 2019
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**Hoard s**

With the advent of the Bronze Age in Europe, hoards of bronze metalwork begin to appear in much larger numbers. The hoard began to decrease in popularity within the material record of Europe with the replacement of bronze with iron (Bradley 2013, 122; Bradley 1998, 159-160). Within the Bronze Age of Britain, there are also hoards of bronze materials from this period. From the records, 15.4% (20 out of 130) of the contextualised objects appear in bronze hoards. The majority are found with a diverse arrangement of associated artefacts, mainly other bronze objects such as spearheads and axe heads. There are a precious few that contain a pure selection of dirks or rapiers, such as the Drumcoltran rapier hoard in Scotland (O’Connor et al 1995, 354).

**Single Finds**

All the rest of the contextualised finds are single-finds. It is worth explaining what is meant by single-find. The term is utilised to denote an item found on its own, with the context known only either through a place name or specific find-scenario that does not connect to the other categories. For example, the object found at West Row, Suffolk, is known to have been found at Horsedolver, Cooks Drove in 1956. The rapier found at West Row has then been considered just as a single-find, without a specific context. Single-finds consist of objects found on their own, mainly by the public in fields, dredging, on public walkways, etc. They would have been found in places whose contexts are no longer known specifically. This is only true for 15.4% (20 of 130) of the total find contexts. The remaining 102 finds which haven’t been contextualised more than likely fall under this category, but as it has not been stated otherwise, they have been omitted form the data collection and interpretation stage.

4.1.7. **Associated Artefacts**

Relating somewhat to the context of the depositional site is the associated artefacts. These are items found alongside the dirks and rapiers or found amongst one another (see table 1). Often these associated artefacts make up the rest of what has previously been termed a hoard, but this is not always the case. Many dirks and rapiers which have been found with associated artefacts cannot always be called a hoard as they consist of only a small number of objects or are spread out too far to be positively identified as a grouping. Therefore, this section shall consider both hoards and smaller groupings of associated artefacts. By investigating the common associated artefacts found alongside many of the Bronze Age dirks and rapiers within their area of discovery, the forthcoming data will shed light on the practice of selective deposition.
4.1.8. Deliberate destruction

One common feature found when studying metalwork from the Bronze Age throughout Europe is the intentional and deliberate destruction of objects shortly before the deposition is carried out. Other studies have also focused on this feature in the deposition of metalwork within certain contexts (e.g. Fontijn 2019; Knight 2018; York 2002). The deliberate destruction of dirks and rapiers within the Early and Middle Bronze Age of Britain is also present when it is looked for. Due to the large differentiation in numbers of this characteristic in each region, it is not possible to take a general look at deliberately destroyed materials in both regions.

<table>
<thead>
<tr>
<th>Artefact Name</th>
<th>Associated finds</th>
<th>Catalogue Number</th>
<th>Region</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swaffham</td>
<td>A hoard of 4 rapiers/dirks, including PBF IV, 504</td>
<td>PBF IV, 45, 422, 355</td>
<td>Norfolk, England</td>
<td>Hoard</td>
</tr>
<tr>
<td>Kimberly</td>
<td>Coming form the same mould as PBF IV 59, possibly also PBF IV 60</td>
<td>PBF IV, 58.</td>
<td>Norfolk, England</td>
<td>N/A</td>
</tr>
<tr>
<td>Glentrool</td>
<td>At Glentruil: basal-looped spearhead; axe with angled flanges; two tanged razors; tanged knife with rivet-hone in tang; torc fragments; disc-headed pin with loop on stem; four square-sectioned chisels and punches; one glass bead; thirteen amber beads (plate 127, A)</td>
<td>PBF IV, 61</td>
<td>Kirkcudbrightshire, Scotland</td>
<td>Hoard, found in 1915 under rock in peaty soil on Eschoncan Fell in the parish of Minnigaff</td>
</tr>
<tr>
<td>Padnial Fen</td>
<td>Found with a marcasite nodule</td>
<td>PBF IV, 184</td>
<td>Prickwillow, Ely, Cambridgeshire, England</td>
<td>N/A</td>
</tr>
<tr>
<td>Findoowie</td>
<td>A wing-fanaded axe, of Type Findoowie. (c.f. PBF IX, 7 1981, no. 723)</td>
<td>PBF IV, 199A</td>
<td>Angus, Scotland</td>
<td>Hoard</td>
</tr>
<tr>
<td>Orsett</td>
<td>Rapiers of Group 3 (PBF IV 402, 419, 420) and group 4 (PBF IV, 420); spearhead; looped palstave and looped socketed chisel - pl. 128, A</td>
<td>PBF IV, 296, 402, 419, 420</td>
<td>Essex, England</td>
<td>Hoard; found south of Ongar Hall, Orsett, from Bulphen Fen; probably found in clay pit</td>
</tr>
<tr>
<td>Syston</td>
<td>2 group IV weapons (PBF IV 852, 859); sword related to Type Monza; bronze hook, awl, sheet-bronze fragments; pl. 128, B</td>
<td>PBF IV, 310</td>
<td>Suffolk, England</td>
<td>Found whilst ploughing, 50 years from a hoard</td>
</tr>
<tr>
<td>Callander District</td>
<td>12 or 11 rapiers, of which 7 survive (PBF IV, 424-426, 449-451). Plate 130, B.</td>
<td>PBF IV, 365</td>
<td>Perthshire, Scotland</td>
<td>Hoard</td>
</tr>
<tr>
<td>Chatteris area</td>
<td>12 group IV weapons (PBF IV 852, 859); socketed axe of portree type; spearhead; socketed axe of Yorkshire type, short-flanged axe of Callander type</td>
<td>PBF IV, 373</td>
<td>Cambridgeshire, England</td>
<td>Found at the bottom of an old canoe, between peat and clay</td>
</tr>
<tr>
<td>Druncoltran</td>
<td>12 or 11 rapiers, of which 7 survive (PBF IV, 424-426, 449-451). Plate 130, B.</td>
<td>PBF IV, 424, 425, 426, 448, 449, 450, 451</td>
<td>Kirkcunzeon, Kirkcudbrightshire, Scotland</td>
<td>Hoard consisting of twelve fine bronze spears' found in 1857 in the bottom of a trench of the circular earthwork on the north-west slope of Druncoltran Hill; a further blade was found in 1867</td>
</tr>
<tr>
<td>Abernethy Round Tower</td>
<td>May be linked with the finds of two socketed axes (Canmore ID NH991NE 4)</td>
<td>CANMORE ID 15674</td>
<td>Abernethy and Kincardine, Inverness-shire, Scotland</td>
<td>Hoard</td>
</tr>
<tr>
<td>Isleham</td>
<td>Almost certainly part of the same rapiers identified in another fragment (PAS ID SF-306A7). Plate 130, B.</td>
<td>PAS ID SF-615922</td>
<td>Cambridgeshire, England</td>
<td>N/A</td>
</tr>
<tr>
<td>Lockerbie</td>
<td>2 stone hammers, 1 bronze spearhead</td>
<td>Canmore ID 66832</td>
<td>Dryfesdale, Dumfrieshire, Scotland</td>
<td>N/A</td>
</tr>
<tr>
<td>Mains Of Gight</td>
<td>Spur</td>
<td>Canmore ID 19780</td>
<td>Fyvie, Aberdeenshire, Scotland</td>
<td>N/A</td>
</tr>
<tr>
<td>Kelton Parish</td>
<td>Axehead, another dirk (or multiple dirks) and a bronze spearhead</td>
<td>Canmore ID 63830</td>
<td>Kirkcudbrightshire, Scotland</td>
<td>N/A</td>
</tr>
<tr>
<td>Mine Graden</td>
<td>Polished stone axehead from Neolithic</td>
<td>Canmore ID 59551</td>
<td>Coldstream, Berwickshire, Scotland</td>
<td>N/A</td>
</tr>
<tr>
<td>Mildenhall</td>
<td>From same object as PAS ID SMR MNL 446</td>
<td>PAS ID SF-1D7484</td>
<td>Suffolk, England</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Table 1 All objects from the database with associated finds, with location and context of find as additional information. Source: Author 2019
4.1.9. Patterns of use

When research focuses on the deposition of metalwork from the Bronze Age in Britain there is often also an examination of use throughout the life-cycle of the objects also. The main example of this being York’s (2002) study of metalwork deposited within the river Thames throughout the whole of the Bronze Age. Other pieces of literature have also touched upon this feature of the dirks and rapiers of Britain (e.g. Knight 2018, 22). Indications of use which have been chosen for documentation and further examination here do not exclude interpretations of objects from the possibility that they were used. Experimental archaeology has demonstrated that many indicators of use, such as swords being used to strike wood, hide, etc, can be lost to modern researchers due to taphonomic processes whilst in the earth/place of deposition (Bridgford 1997, 7; 1999, 88-91).

Re-hafted objects

One of the more convincing features of re-use is indicated through the presence and identification of re-hafted weaponry or the re-shaping of the dirk or rapier butt. Inserted below is a table containing the identifying markers of use, along with their context and region. There are multiple ways to identify re-hafting of these weapons from the archaeological material culture. One of the most obvious features include the secondary addition of supplementary notches or rivets (see fig. 9). Difficulties arise in the documentation of the additional rivet-holes or notches when considering them as possible stylistic choice – i.e. 4 original rivet-holes rather than 2 original and 2 secondaries. This issue is solved immediately when other identifying features help in the definite attribution to re-hafting, such as asymmetrical secondary rivet-holes.

Recognising weapons which have been altered to then be re-hafted can be achieved through other features also. The main one seen in this database arises from the re-shaping of the butt end of the weapon. Often, when the butt is cut down, hammered out, or generally re-configured from its original shape it can be identified. It is through this identification process that the majority of re-hafted objects have been identified.

Figure 9 An item showing obvious secondary rivets added to a worn-down butt. Source: Burgess and Gerloff 1981, item 255.
A total of 13 weapons have been acknowledged to have traits which allow them to be interpreted as having had this action of re-hafting applied to them in the past (see table 2). Only 3 of these come from Scotland, and the rest are spread out across the rest of south-east England, with the majority being from the two most common find areas – i.e. London and Norfolk. This spread is in keeping with the sample size and the general spread of dirks and rapiers throughout Britain during this time period.

<table>
<thead>
<tr>
<th>Artefact Name</th>
<th>Rehafting</th>
<th>Context</th>
<th>Catalogue Number</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marston Trussel</td>
<td>Butt cut down for rehafting</td>
<td>N/A</td>
<td>PBF IV, 248</td>
<td>Northamptonshire, England</td>
</tr>
<tr>
<td>River Thames</td>
<td>Reshaped butt notched for rehafting</td>
<td>N/A</td>
<td>PBF IV, 264</td>
<td>England</td>
</tr>
<tr>
<td>Bunwell Fen</td>
<td>Secondary central rivet-hole to facilitate rehafting, with large flat-rivet</td>
<td>found in 1872</td>
<td>PBF IV, 192</td>
<td>Cambridgeshire, England</td>
</tr>
<tr>
<td>Minto Gradens</td>
<td>Butt reshaped for rehafting</td>
<td>N/A</td>
<td>Canmore ID 59581</td>
<td>Coldstream, Berwickshire, Scotland</td>
</tr>
<tr>
<td>Brentford</td>
<td>Reshaped for rehafting</td>
<td>River Thames at Sion Reach</td>
<td>PBF IV, 245</td>
<td>London, England</td>
</tr>
<tr>
<td>Kingston-upon-Thames</td>
<td>End expanded and shaped by hammering for rehafting</td>
<td>River Thames</td>
<td>PBF IV, 255</td>
<td>London, England</td>
</tr>
<tr>
<td>Battersea</td>
<td>End reshaped and notched for rehafting</td>
<td>River Thames</td>
<td>PBF IV, 262</td>
<td>London, England</td>
</tr>
<tr>
<td>Battersea</td>
<td>End reshaped and provided with 2 secondary rivet-holes for rehafting</td>
<td>River Thames</td>
<td>PBF IV, 454</td>
<td>London, England</td>
</tr>
<tr>
<td>Methwold Fen</td>
<td>Reshaped, hammered with 2 secondary rivet-holes for rehafting</td>
<td>Catsholm Farm</td>
<td>PBF IV, 456</td>
<td>Norfolk, England</td>
</tr>
<tr>
<td>Merton</td>
<td>Straight sided butt, evidence of rehafting</td>
<td>N/A</td>
<td>PAS ID NMS2258</td>
<td>Norfolk, England</td>
</tr>
<tr>
<td>Aird</td>
<td>Absence of rivet-hole or notches suggest re-working</td>
<td>N/A</td>
<td>Canmore ID 25730; O'Connor et al. 1995, object 9</td>
<td>Weem, Perthshire, Scotland</td>
</tr>
<tr>
<td>River Thames</td>
<td>Originally had two rivet-holes which were re-worked into rivet-notches for rehafting</td>
<td>N/A</td>
<td>PBF IV, 197</td>
<td>London, England</td>
</tr>
<tr>
<td>River Cree</td>
<td>Reshaped butt, having side notches reworked from original rivet-holes</td>
<td>N/A</td>
<td>PBF IV, 405; Canmore ID 69361</td>
<td>Kirkcudbrightshire, Scotland</td>
</tr>
</tbody>
</table>

Table 2 All rehafted objects from the database, in addition to context and region of discovery. Source: Author 2019.

**Torn rivet-holes**

If we are to accept the presence of torn rivet-holes as definite signs of use, then the information below is useful for understanding the importance of use within the life-cycle of dirks and rapiers of the Early and Middle Bronze Age. This characteristic also relates to the re-hafting of the weapons. As rivets are torn in use, they would either be disposed of, or these breaks in the material would have been turned into side notches and re-hafted, a feature seen in some objects listed above (table 2).

If we are to take every instance of torn rivet-holes as definite occurrences of use, they become the most prominent and useable feature which indicates a life-cycle full of use. A total of 38 objects have at least 1 torn rivet hole and as many as 2. As can be seen in the illustration below (see fig. 10), the majority of rivet-hole tears come from weapons with only two rivet-holes, and they both appear to have been torn. Half as many only have 1 of their 2 rivet-holes torn, and the rest are split around single occurrences. It should also be noted that 77 objects were so corroded and disfigured by their taphonomic process that no rivet-holes, including ones torn or not, could be identified. Therefore, this number could easily have increased.
4.1.10. Patterns of non-use

Linked intrinsically to the previous discussion, yet differing enough to merit its own dedicated dialogue, are the features which reveal whether an object was actually used for its intended purpose, i.e. as a sword in interpersonal combat. When one is to examine in detail these bladed weapons, there are many recognisable features which stand-out as being evident of non-use. The features which have been selected are only the most glaringly obvious examples of non-use. What is included in this group are the features which logically make the object not suited for conflict, such as the intentional exclusion of rivet holes for hafting, obviously blunted objects or non-sharpened edges as well as overly heavy or long objects.

The Oxbourough Dirk exemplifies these features and comes from the area of south-east England (see fig. 2). This specific dirk, and many others which are similar, have one or more defining features which make it improbable that it was ever intended to be used for actual combat. It has no rivet holes placed upon the butt and therefore would never have been hafted correctly. The blade of this weapon was intentionally left blunt and un-sharpened, evident from how neatly fashioned the blade section was. On top of this the object itself, being over 70 cm long and nearly 3 kg in weight, was far too unwieldy and large to be used efficiently by any normal human. This example represents the meaning of un-used and allows for easy comprehension of an item which would not have realistically been made for inter-personal
conflict. Unfortunately, this example was not included in the database as it did not appear in any of the sources of information used, demonstrating the need for more crossover between sources.

As with the patterns of use, it is also worth mentioning that the items listed here are not exclusively the only weapons that were not used for their originally intended purpose. Many objects which do not possess the same features could have, and may well have, never been utilised for conflict. In fact, I believe it more than possible that many were never actually intended for inter-personal combat, and instead many were initially created for the ritual of deposition.

4.1.11. Un-sharpened objects
As with other sections low in useable numbers, the following segment of data will be explained in full without the separation into the two regions. Instead distinguishing between the regions shall be done as the objects are listed. Only objects found in south-east England have been recorded as possessing features which can be identified as unsharpened. Of all the objects, only four have unsharpened edges. Of the four, a solitary weapon has an intentionally blunted edge, whilst the rest have been interpreted as blunt or unsharpened edges.

4.1.12. Without Rivet-holes
The case of the Oxbourough dirk demonstrates that blunted edges and blades without rivet-holes can be linked, which increases the probability of an interpretation of non-use being correct. The objects which have been found with blunted and unsharpened edges are almost all found without rivet-holes as well, making up 3 out of the 4 objects. Of the additional weapon only the tip remains, therefore it is not known whether they had rivet-holes or not.

The three objects without sharpened or intentionally blunted edges make-up all of the objects from this database without rivet-holes. This is an interesting link between these features. However, the small sample size of 4 means this link could be weakened once more objects become available, or the edges of more dirks and rapiers are studied further to trace the presence of sharpening.

4.2. DATA FROM SOUTH-EAST ENGLAND
The following section shall be dedicated to exploring the patterning of deposition from the material collected in south-east England. Splitting the data in this fashion will allow for easier comprehension of differentiation in the material collected within the database.
4.2.1. Object terms in south-east England

The English examples in the south-east follow much of the same pattern as the over-all percentages (see fig. 11). The rapiers found in England make up 65.0% (n=117) of the total items found, compared to the 61.2% found overall. The finds percentage of dirks is quite significantly less at 29.4% (53 of 180), whereas the overall statistic is higher at 34.1%. The number of objects which cannot be identified into either category almost exclusively comes from England, however. With a total 5.6% (10 of 180) of the total finds discovered from England, these unknown objects sit at 90.9% of all unknown objects which were recorded for further research in this thesis. Of the total known objects which have been assigned terminology in south-east England, rapiers are 68.8% (117 of 170) of the total figure. Dirks, on the other hand, only reach 31.2% (53 of 170). Compared to the overall figures (64.3/35.7), the English items seem to be more heavily orientated around rapier examples, over 30cm long.

Figure 11 A map of south-east England showing the distribution of object with terminology applied to them. Source: Author 2019.
4.2.2. Dimensions of objects in south-east England

The preferred length of objects in south-east England can be seen through the illustration below (fig. 12). The illustration demonstrates very slight differences in preference from the overall picture of both regions combined. Deposited dirks and rapiers from England show slightly longer designs as the norm in the material record. This preference, however, is minute and not clearly established through the current examples which are available.

![Graph showing the dimensions of objects in south-east England. Source: Author 2019.](image)

4.2.3. Context of finds in south-east England

The following section will expand upon the materials found within south-east England, and the percentages of contexts recorded calculated. Not all objects which have been recorded in the database had their initial find contexts recorded, or were unknown from the beginning. In south-east England, of the total 180 items which are going to be analysed, only 98 have known contexts. All others would seemingly and logically be only single finds. However, seeing as this is not by any means a given, they have been removed from any further analysis.

**Water Contexts**

The number of finds which have been discovered in water-based contexts holds the majority within southeast England. A total of 71.4% (70 of 98) of the total known contextualised objects found in south-
Retrieving Hidden Wealth

east England come from a variety of water contexts. A large majority of these contexts are retrieved from or near rivers in the area, at just over three quarters of the total (75.7%, or 53 of 70).

Peat and Bog Contexts

The number of rapiers and dirks found in peaty and boggy contexts in south-east England holds only a small percentage of the total figure. Only five have so far been reported, making it only 5.1% of the total. This number could be increased when considering ancient landscapes, however, and the shifting pattern of bogs and peaty areas over the millennia. The fens are an example of these shifting landscapes, demonstrating how the Bronze Age environment could have been altogether different in the various places where the dirks and rapiers were deposited.

Hoards

As with peaty and boggy contexts, the number of dirks and rapiers found within hoards in the Early to Middle Bronze Age in south-east England is relatively small. Only nine have so far been recovered, which is 9.2% of the total contextualised finds from England.
Single Finds

The remaining contextualised objects are what is termed here the ‘single finds’. These finds are 14.3% of the total percentage of contextually recorded objects, it is not a small figure. This is seen in comparison to that of the hoards and peat/bog contexts. However, it also is a number dwarfed by the number of weapons deposited in the water-based regions of the Bronze Age environment.

4.2.4. Associated Artefacts in south-east England

Of all the objects recorded from the various sources of data, only 14 have been recorded with associated artefacts. The types of associations which can be inferred from the recorded materials is surprisingly diverse. Only half of the recorded objects found in south-east England (7 of 14) are found in hoards with other dirks and rapiers, and these are split between only two find occurrences. Only one of the hoards contains only dirks and rapiers, whilst the other contains an assortment of different bronze-work objects, as can be seen in the table (table 1). The other associations fluctuate in their material composition and type. The range extends from other bronze metalwork, to gemstones, and even human remains (Bradley and Gordon 1988, 503–9). The diversity in the construction of deposition materials and the apparent complexity in the selection process as well as the ritual behaviour all become apparent when investigating the variety of associated artefacts.

### Table 3

<table>
<thead>
<tr>
<th>Artefact Name</th>
<th>Damage (intentional)</th>
<th>Context</th>
<th>Catalogue Number</th>
<th>Object Term</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambridge</td>
<td>Blade edges hammer-marked</td>
<td>Water context</td>
<td>PBF IV, 360</td>
<td>Rapier</td>
<td>Cambridgeshire, England</td>
</tr>
<tr>
<td>Kew</td>
<td>Blade bent</td>
<td>River Thames foreshore at</td>
<td>PBF IV, 82</td>
<td>Rapier</td>
<td>London, England</td>
</tr>
<tr>
<td>Merton</td>
<td>Fragment is beant diagonally across broadest part of hilt, carried out in Prehistory</td>
<td>N/A</td>
<td>PAS ID NMS2258</td>
<td>Rapier fragment</td>
<td>Norfolk, England</td>
</tr>
<tr>
<td>Gunnithorpe</td>
<td>Marks present from hammering</td>
<td>N/A</td>
<td>PAS ID NMS-81B338</td>
<td>Rapier fragment</td>
<td>Norfolk, England</td>
</tr>
<tr>
<td>Swaffham</td>
<td>Blade bent and twisted</td>
<td>Wood/Water context</td>
<td>PBF IV, 422</td>
<td>Rapier</td>
<td>Norfolk, England</td>
</tr>
<tr>
<td>Caistor St. Edmund</td>
<td>Broken in two, point missing</td>
<td>N/A</td>
<td>PBF IV, 155</td>
<td>Rapier</td>
<td>Norfolk, England</td>
</tr>
<tr>
<td>Swaffham</td>
<td>Blade bent</td>
<td>Hoard</td>
<td>PBF IV, 355</td>
<td>Rapier</td>
<td>Norfolk, England</td>
</tr>
<tr>
<td>East Rudham</td>
<td>Intentionally bent (broken patina could indicate it was in modern times)</td>
<td>N/A</td>
<td>PAS ID NMS-C7EEF3</td>
<td>Rapier</td>
<td>Norfolk, England</td>
</tr>
<tr>
<td>Padnall Fen</td>
<td>Blade bent</td>
<td>N/A</td>
<td>PBF IV, 164</td>
<td>Rapier</td>
<td>Prickwillow, Ely, Cambridgeshire, England</td>
</tr>
<tr>
<td>Little Waldingfield</td>
<td>Multiple hammer marks and bending</td>
<td>N/A</td>
<td>PAS ID SF9838</td>
<td>Rapier fragment</td>
<td>Suffolk, England</td>
</tr>
<tr>
<td>Near Bury St. Edmunds</td>
<td>Bent slightly forward at one end</td>
<td>N/A</td>
<td>PAS ID SF-88C384</td>
<td>Rapier fragment</td>
<td>Suffolk, England</td>
</tr>
<tr>
<td>Icklingham</td>
<td>Appears to have been bent or snapped</td>
<td>N/A</td>
<td>PAS ID SF-E2F2A6</td>
<td>Rapier fragment</td>
<td>Suffolk, England</td>
</tr>
<tr>
<td>Eyke</td>
<td>Visible signs of use-wear or tool marks</td>
<td>N/A</td>
<td>PAS ID SF-D3CE33</td>
<td>Rick/Rapier fragment</td>
<td>Suffolk, England</td>
</tr>
</tbody>
</table>

4.2.5. Destruction of objects in south-east England

There are many factors inhibiting a definite identification of an intentionally destroyed object within the archaeological record. The possible impact which taphonomic processes can have on objects always creates a level of uncertainty when identifying deliberate, intentional destruction by individual or group agency. This is the case with the following objects, especially those with descriptions of ‘blade bent’.

Table 3 All objects within the database with evidence of deliberate destruction, with context and region included. Source: Author 2019.
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Some are very obviously deliberately bent (see fig. 15), whilst other have broken patina around the bend, suggesting a more probable explanation of recent breaking (see fig. 14). However, discerning between the two, as is evident below, can be quite difficult, and takes a trained eye to notice the difference. As such, the uncertainty in identification should always be remembered when reading or creating inferences based around these features.

![Figure 15. A dirk from Oxbourough showing evidence of recent bending. Source: finds.org.uk 2019.](image1)

![Figure 15 A sword which has been bent in antiquity. Source: Burgess & Gerloff 1981, item 81.](image2)

In south-east England, 14 objects were identified by their various instigators as having signs of deliberate destruction (table 3). The signs identified varied in form and level of severity. The main and most obvious identifier happened to be a bent blade. An often-problematic feature, as identifying ancient versus modern destruction can be difficult, but in most cases, it is a very obvious factor when level of severity is a useable factor to involve. Twisted objects are also included within the realm of the deliberately broken, along with snapped and broken (often into two) weapons. Hammer and other tool marks are also sometimes identified upon the materials surface, which can also be seen as the deliberate destruction or intentional reduction in the functionality of these Bronze Age weapons.

4.2.6. Patterns of use in south-east England

There are other characteristics which can be logically linked to more evidence of a use-life with some form of activity or usage. One such characteristic is demonstrated in the re-sharpening of the blade edge. A couple of objects show signs of being used to the point where they need to be sharpened. As of yet, this has only been discovered on two objects. On one object the sharpening was evident even to
macroscopic analysis. The tip of this object had been re-sharpened to the point where the tip now merged with the midrib, a feature previously not seen in these objects. The object in question came from Bottisham, Cambridgeshire, England, and was recovered from the PAS under the ID SF3667. The other object was discovered in Scotland and shall be discussed further in that regional section.

4.3. **DATA FROM SCOTLAND**

To complete the regional comparison of material within the database, a detailed analysis of the objects discovered in Scotland is necessary. The following material will progress through their characteristics in a similar path as the two previous categories of material (all materials and those from south-east England).

![Figure 16 A map of Scotland showing the distribution of items with object terminology applied to it. Source: Author 2019.](image-url)
4.3.1. Object terms in Scotland

The number of materials from Scotland is much lower than those of its counter-part in this research, therefore percentages could alter and change with the advent of more discoveries in forthcoming years (see fig. 16). However, for the moment, within the material record, there is significant differences to be seen in the terminology applied to these objects between the regions studied. For example, the rapiers and dirks are split completely evenly, making 49% (25 out of 51 each) of the total recovered and recorded objects discovered within Scotland. There is only one unassigned object which was still deemed valuable for further research and therefore recorded into the database, accounting for the rest of the 2%. The definite differentiation seen in the preference for shorter objects shall be utilised to examine the variations in Bronze Age cultures within the discussion chapter.

4.3.2. Dimensions of dirks and rapiers in Scotland

Within the Scottish examples, no clear preference can be so easily distinguished as with the other attempts to rationalise average length. The small pool of data from which to draw is probably mostly to blame for this. Yet a slight preference can be distinguished in the record, even so (see fig. 17 for a clear demonstration of preference). As with the English examples, the majority of finds are represented by a length between 11 and 41 cm (with England having more examples which have length recorded over this amount).

![Figure 17: A graph showing the dimensions of objects discovered in Scotland. Source: Author 2019.](image-url)
4.3.2. Context of finds in Scotland

The smaller number of dirks and rapiers found in Scotland during the time period which has been chosen further reduces the pool of objects available when looking for contextualised materials. This material, whilst following overall similar patterns as that of the other region explored, varies from the overall contextualised image when compared in detail to south-east England (as seen in fig. 18).

As with the previous region, not all of the objects which have been utilised for further research had their contexts recorded within the descriptions of objects in the sources of information used. However, in Scotland, well over half had the contexts recorded in some way. Of the 51 objects in the database, 32 had some form of context of deposition recorded, making up 62.7% of the total. As seven objects were discovered together in one hoard, they will be treated as one object, and therefore the percentage to be created will instead focus on 26 find occurrences, rather than 32 individual finds. If they are not done so, they change the results so dramatically as to alter the inferences unrealistically.

**Water Contexts**

Through the examination of Scottish dirks and rapiers, specifically their contexts, one first finds a differentiation in the general practice of metalwork deposition between the two regions. Even after altering the hoards finds from single occurrences to altogether hoard finds there is still significant changes. Only 50% of total finds are found in water contexts in Scotland (13 of 26). Of these 13, only three were from rivers. Another three came from or near to loch’s throughout the area. The other ten where from unspecified ‘water contexts’.

**Peat and Bog Contexts**

The peat and bog contexts also see a sharp increase in percentage. The figure more than doubles to 11.5% of the total Scottish contextualised finds (3 of 26). This number, however, is small. The sample size is more than likely to blame for such variation. However, there is also significantly more peat and bog areas in Scotland than in England, which could also account for the variation in numbers (Evans et al. 2011, 11, fig.1.). This discussion of sample size and the reproducibility of the results will be explored in further detail within the discussion.

**Hoard**

If one were to take each single find from hoards and use instead these figures, a convincing argument could be produced for the dominance of hoards in the Scottish examples, at 34.4% of the total record. However, seven objects which have been recovered come from the same hoard. The Drumcoltran rapier
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hoard poses a fascinating example of the wealth and craftsmanship available in Bronze Age Scotland. It shall be one example used to discuss the theory of metalwork hoards in the Bronze Age of Britain and Europe as a whole.

When considering each hoard as a single occurrence of the context, the number dramatically reduces due to the sample size of Scottish dirks and rapiers from the Bronze Age. Hoard occurrences now only make up 19.2% of the total contextualised objects (5 of 26). This number again is over double the percentage found in England. These differences are interesting and definitely useful. However, whether or not these would alter as the sample size increased in Scotland is a factor not predictable at this current stage of research.

**Single Finds**
The remaining dirks and rapiers were found at several locations by various groups or individuals throughout Scotland. These make up a further 19.2% of the total number recorded. The number of single finds within the contextualised objects has stayed pretty much constant throughout the regions explored.

4.3.3. Associated Artefacts in Scotland

Making this area of study even more compelling is the large volume of finds with associated artefacts in Scotland. A total of 16 objects were found in Scotland with notable associated artefacts, coming from 10 instances of discovery (see table 1). As with the examples in England, the associated artefacts from Scottish dirks and rapiers also boasts a wide diversity in the materials recovered. Those that comes from documented hoards (n=5) have the largest variety as well as number of finds. These consist mainly of other bronze metal artefacts as well as glass and amber beads. One of the more famous examples is the Drumcoltran Rapier hoard, which consists of seven rapiers, all of different styles and types. Its significance will be touched upon in later sections. The rest of the recorded artefacts have only one or two other associated finds, which range from stone objects to other bronze metal-work material culture.

4.3.4. Destruction of objects in Scotland

The attempt to identify any objects with signs of deliberate destruction in Scotland during the Early and Middle Bronze Age has yielded zero results. None of the 52 objects were identified, either by the initial investigator/recorder or by myself, as having any signs of these deliberate breaks. This is not an indication of there being a dearth of this practice in Scotland, but merely a lack of tools and information to identify with confidence. Very few of the objects which were recorded from the source Canmore had any attached photos which could have been examined further. The lack of descriptions and any in-depth database or features listed leads me to believe that some useable data was lost simply through it not being recorded.

The act of deliberate destruction, its meaning within a theoretical discussion of social theory and structure, is something which will be expanded upon in-depth within the discussion. The lack of examples from Scotland will be explained and investigated in more detail. Comparisons of the practices from Europe shall be incorporated to achieve a deeper understanding of the practice.

4.3.5. Patterns of use in Scotland

One of these objects was placed underneath the microscope to carry out some use-wear analysis. Discovered from such observation was microscopic evidence suggesting the blade had been re-worked to become sharper. The scientific analysis of this object was carried out by O’Connor et al (1995), and the object was recovered from the shore of Loch Glashan, Argyll, Scotland. Having the resources to carry out this type of analysis would undoubtedly bring out more workable data. However, the amount of time
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and energy it would take to examine all the dirks and rapiers of the Early and Middle Bronze Age is not within the scope of this current research.
3. **DISCUSSION**

The discussion to follow will answer the questions laid out in the introductory chapter. To achieve the answers necessary, the data which has been recovered during the research section shall be analysed further here. These answers will then be incorporated into a wider discussion on the more general puzzling phenomenon of Bronze Age metal deposition. This academic exploration of metalwork deposition in the Bronze Age will integrate the most recent literature on the topic, adding new information collected into a broader attempt to understand this practice.

Bronze Age metal deposition in Europe has many interesting and often confusing facets in its composition. The main aspect which has been the singular focus of this thesis is the removal of objects in massive quantities from circulation by the society that produced them. To a modern economic-based perspective, the mass deposition of bronze artefacts seems an irrational act. The same artefacts hold significant potential as an incredibly valuable object in terms of the skill required to craft them and the difficulty in acquisition of the raw materials, as well as a raw material resource due to the recyclability of bronze itself (Fontijn 2019, 8). Why did these communities choose to deposit what must have been valuable materials into the ground rather than use them for their material worth or as a recycled raw material?

However, these depositional practices can be shown to follow some sort of Bronze Age convention. The fact that certain items appear only in specific contexts whilst others were excluded makes this point evident (Fontijn 2019, 6). The intentionality which can be inferred from the material record illuminates the rationale behind these practices and by extension the social structures of the Bronze Age. For example, the objects in question, the dirks and rapiers, along with other types of sword-like objects from throughout the Bronze Age were deposited in wet places such as rivers, lakes, bogs and fens (Fontijn 2002; 2019, 6; Needham & Burgess 1980; Verlaeckt 1996; York 2002). The same objects were often omitted from burial and settlement contexts under the same social contracts (Needham 1989). By studying these patterns, more can be understood about the social practices of the past. The following chapter will attempt to elucidate on the social agreements in place within Bronze Age communities in relation to the deposition of dirks and rapiers. The patterns uncovered through the analysis of the data will be the main helping source in uncovering such social conventions.

5.1. **Answering the Research Questions**

Initially this discussion shall focus on understanding how the dirks and rapiers of the Early and Middle Bronze Age were deposited in both Scotland and south-east England. The data & results chapter have laid out the exact processes of deposition. However, a more in-depth discussion on what these practices
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indicate or tell us about the societal role of selective deposition is necessary to understand what the material culture that has been collected can tell us of past structures. Patterns of deposition will become apparent in the archaeological record of both Scotland and south-east England, and the presence of these patterns shall be pointed out within the following section.

The patterns from each region shall then be compared to and from one-another. By drawing a comparison between these two regions, more can be determined about their structure in relation to other known areas of metalwork deposition in the European Bronze Age. There will also be an effort to describe and discuss how the characteristics of deposition in each area both vary from, and conform to, one another. By trying to identify similarities and differences, some inferences can be made on the relation of the two different Bronze Age cultures, drawing in the interpretations of the Scottish Bronze Age into the wider framework of the European whole.

Subsequently, the focus of the discussion shall shift into the life-cycle of an object. More specifically, arguments shall be proposed which focus on the importance of life-cycle in determining the conventions followed during the deposition and end to an objects use-life. In doing so, conclusions can be made on what drives the practice of European Bronze Age metalwork deposition, creating a deeper understanding of the practice.

Can studying the introduction of these objects and their treatment at deposition allow us to learn more about the meaning of conflict within the societies being studied? The last question to be discussed will relate to the evolution of conflict and violence in the Bronze Age and its relation to the dirks and rapiers of the associated cultures. It seems a simple connection to make, that of bladed objects and warfare or violence. However, the connection should not be accepted without further examination. Therefore, I shall be addressing the link between the two to define a connection and then afterwards using this connection to demonstrate how more can be learned about both topics.

5.2. THE STRUCTURE OF DEPOSITION

By using the data and results from chapter 4, data and results, this research can be successfully deployed to create a larger grasp on the structure of deposition in the chosen areas of the European Bronze Age. The following sections will be split into the two regions to discuss the differences in depositional practices seen between the areas. From the information provided, discussion can be made on the general practice of deposition within both of these areas.

Depositional Practices in south-east England
As only roughly half (56%, see chapter 4) of all objects from the database have their context of deposition recorded, what we know of the general picture of deposition is limited. However, from the objects with recorded contexts, some general patterns can be picked up from the material record. Selective deposition is apparent when looking at the context, as a clear pattern emerges, which is indicative of conscious choice when selecting a depositional site.

A majority of the contextualised finds come from water contexts, sitting at 71.4% of all of the contextualised finds in south-east England. This percentage allows us to make the inference that dirks and rapier of the Early and Middle Bronze Age in south-east England where intentionally chosen to be placed within these depositional sites. There is evidently agency within the choice of deposition. A further 5.1% of objects which have context recorded in the database come from either bog or peat areas. Therefore, what does the choice of deposition tell us about what areas where being chosen? The vast majority of the contextualised objects comes from watery, irretrievable places. Their placement and consequent discovery suggest that these objects were intentionally deposited into these contexts. Some have suggested that they were ritual acts where by the objects were returned to the earth, never to be retrieved (Fontijn 2019, 3).

The remaining objects from England are found either as single finds (14.3% of total) or hoards (9.2% of total). However, as for the hoard examples, these find spots are recorded but their contexts are omitted. It is possible that they also come from watery and/or irretrievable locations.

**Depositional Practices in Scotland**

Even with the small sample size, the examples from Scotland follow closely to the patterns observed in the material from its southern neighbour. There are still slight differences in the make-up of these depositional practices, indicating variances either in the importance of one specific context or discrepancies in the importance of various contexts.

Of all of the contextualised finds from Scotland, only half are found in water contexts, which alters from its counter-part at 74.1%. A further 11.5% were discovered either in peat or bog contexts, which increases the number to 61.5% found in irretrievable places. Although this number is less than that of south-east England, it still makes up a significant portion of the material record. Therefore, it would be safe to suggest that many of the processes for selective deposition practiced in England during the Early and Middle Bronze Age were probably also in practice in Scotland during the same period.

One interesting differentiation comes from the amount of hoard objects found in Scotland. A total 34.4% of all contextualised objects were recovered from hoards in Scotland, 19.2% if hoards only count as a
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single occurrence, contrasting the 9.2 % found in south-east England. This significant change (even when considering the hoard count number) indicates variations in the practices of selective deposition between the two regions, an important note to make when attempting to research or interpret the material from either area.

The significance of wet and irretrievable places

From the data recovered, and from other sources of research which have focused on the deposition of metal objects in the Bronze Age, what is apparent is the importance of 'wet' places in the choice of context for the act of deposition. It is quite generally accepted that the bronze objects discovered in these wet and irretrievable places are not stores of raw materials, which was often the case for early interpretations of the groups of finds (e.g. Evans 1881). They are instead thought to be attempts by prehistoric communities to place things into the landscape and leave them there permanently (Fontijn 2019, 3). What then, can be interpreted on the meaning or significance of wet places to the prehistoric communities of Bronze Age Britain, and by extension Europe?

What can definitely be said about wet places as a site of deposition is that they suggest fighting and conflict were intimately linked with the ritual sphere of Bronze Age cultures. Through the deposition into wet places, the dirks and rapiers of the European Bronze Age were removed from the personal spheres of interaction and into more ritual based spheres of being (Harding 2007, 511). The bladed objects had served their initial purpose and were consigned to the ground to fulfil some other, intimately connected purpose. The Drumcoltran hoard from Scotland (see PBF IV 424-426 & 448-451) suggests such a change in purpose for each of the 11 or 12 rapiers found in this hoard, of which 7 have survived. Each of the 7 remaining rapiers are of different styles, lengths, and designs. Their deposition in the same context is confusing, and the differences in each one creates a sense of intentionality in the choice to make each one separate from each other.

The hoard of rapiers from Swaffham in Norfolk also demonstrate the seemingly ritual or transitional connection for these bladed objects and wet places. The hoard consists of 4 rapiers (PBF IV 45, 355, 422 & 504), again consisting of different styles, shapes, and probably origins. Two of the objects have signs of intentional damaged before deposition. Those that deposited these objects in prehistory were intentionally putting an end to their previous chapter in the objects use-life so as the primary function could be removed, and their secondary function within the context could be fulfilled, even after recovery. The example indicate that whatever conventions were followed in the Bronze Age for weapon deposition, they were intimately connected to the ritual world. By extension, the world of conflict and violence can be also connected to this ritual other.
**Associated Artefacts**

The split of bladed objects found with associated artefacts is equal between south-east England and Scotland. Due to the difference in sample size between the regions, the equal numbers alone draw attention to the Scottish examples. The examples seen in table two can be split into two different categories: those consisting of only dirks or rapiers, and those with various other artefacts. From the examples gathered for research, only two come from the former category, whilst 7 are situated within the realms of the latter. None of the weapons found in these examples are of extraordinary quality but are merely examples of the average dirk or rapier from the Early to Middle Bronze Age of Britain. Since all of the items listed have similar functions, as weapons or bronze tools, a similar function and ritual meaning can be assumed for all deposited.

Often the objects in question are found to have been deposited with an assortment of associated artefacts of varying types, ranging from other bronze weapons to simple, seemingly mundane materials such as awls and pins. With some findings, the contrast between the weapon in question and its associated artefacts makes for an interesting discussion, such as what happened with the Ommerschans dirks. The dirk found at Ommerschans, Netherlands, was of such extraordinary quality that the associated artefacts found alongside it are surprising. Found with it were some small woodworking tools, a metal razor, some flint chisels, and an assortment of scrap metal (Fontijn 2019, 1). All of the associated objects can be summarised as ‘mundane’ artefacts, especially in comparison to the craftsmanship of the Ommerschans dirk.

Therefore, how can we interpret this blade and those with similar depositional compositions to it? Due to the proximity of the other artefacts within this wet context, it would seem safe to apply similar interpretations to the group as a whole. Therefore, was the Ommerschans dirk, and many of the hoards with similar associated items in the data collection here (e.g. the Glentrool hoard, Scotland, PBF IV 61), an object as mundane to the Bronze Age communities as would an awl or scrap metal be? The answer to this question is logically obvious. The craftsmanship required to craft such weapons, along with the rarity of the raw materials indicates that these weapons were more than likely not mundane or invaluable. However, the asking of such questions is important as it questions modern truths that we apply to archaeological materials. Do we as modern archaeologists too often dissociated the profane from mundane daily activities?

From the database there are two examples of object groups which can be likened to the Ommerschans hoard, and these can be found in both Scotland and south-east England. The groups of artefacts found at Eriswell (Eng) and Glentrool (Sco) are comparable to the materials found at Ommerschans. Each
example has a collection of more ‘mundane’ and everyday artefacts such as bronze sheet fragments, chisels and punches, amber beads and bronze hooks/awls. The deposition of rapiers and dirks alongside these objects can inform on the nature of selection in the deposition of Bronze metalwork. The presence of such associations in the database, along with other examples such as the Ommerschanss dirk, can help move away from the dichotomic split in understandings between the mundane and profane. These are separations put onto the material culture and social structures of past populations and could impeded full comprehensions of the archaeological material.

5.3. THE TREATMENT OF OBJECTS

All of the dirks and rapiers from this period are not deposited in the same exact fashion for each example recovered, as is to be expected. The structure of deposition is altered in each case, either through their use-life, context, composition and so on. There are some intrinsic factors unknown to the modern interpreter that have altered the way in which the objects themselves were treated before or during deposition. There are some aspects of the objects which intromits the differing treatment of the objects, found through the investigation and description of these metal artefacts. The subsequent sub-sections will describe each of the variations seen in deposition and use current academic literature to explain their utility in providing more understanding of the deliberate deposition of metal objects in the Bronze Age.

5.3.1. Destruction before Deposition

It is already well established that many of the metal artefacts from the Bronze Age were purposefully destroyed before they were interred into the earth. Many of the objects that were deposited into the landscape were rendered unusable either through being bent, broken, warped in some manner, or intentionally damaged in another fashion (Fontijn et al. 2012; 2019, 3; Knight 2019). The intentionality of this destruction can be noticed through the force used in some cases, and the repeated nature of its occurrence in the archaeological record.

There are objects included in the database of this research which can add to the growing discussions surrounding this deliberate act of destruction. All the objects with signs of deliberate attempts to render objects unusable before deposition come from the region of south-east England. There are 14 objects from this region which could be utilised in further studies attempting to categorise and explore this topic further. One example would be the Swaffham hoard, discussed above, which has two deliberately destroyed objects included in the hoard. When looking at the context of each object with deliberate deposition recorded, the examples with context recorded all come from water contexts. Perhaps this pattern could be investigated in further detail for other areas in the European Bronze Age, for example.
The lack of any objects with signs of deliberate destruction in Scotland is also an interesting factor to be considered. The absence of intentionality in prehistoric destruction of the dirks and rapiers form the region suggests that in Scotland during the Bronze Age there were variations in the conventions followed when depositing these bladed objects within the ground. The similarities in many other aspects of the practice suggest connections, but here we see the variations between the communities, and this can help us understand more of the nuances behind the rituality and purpose behind such practices.

5.3.2. Use and non-use pre-dating end of use-life

An object’s life of utility spans far behind the moment of discovery by modern researchers. What is discovered at the trowels edge during excavation is not an object in a state of use. Rather, the materials recovered during an excavation are those at the end of their intended use-life. The dirks and rapiers discussed throughout this thesis have fulfilled their intended functions, whatever that may have been, and have been interred within the ground to continue fulfilling a secondary or connected purpose within the community. The aim of the subsequent section will be to explore the idea that the use-life of an object had any correlation to the variations seen in the culturally expected ends that these weapons went through.

There are different ways in which we can identify different levels of use and non-use in the dirks and rapiers of the European Bronze Age. The main characteristic includes the evident re-hafting of dirks and rapiers and the re-shaping of the butts to accommodate such additions to the weapon. Re-hafted objects do not follow any concrete pattern, although apart from one, all contextualised objects come from wet places, whereas over half of the total are non-contextualised objects. The weapons with torn-rivet holes follow a similar direction, with over half coming from water contexts also, with the remaining 45% being split between uncontextualized finds and hoards/single finds. The sharpened objects only make up 2 of the total number and are not considered further due to this small sample size. From this evidence there appears to be some association between continued use and wet places. Although there is not a large majority in either way, the possible connection is interesting to consider. Where they put out of circulation into the ritual wet places after fulfilling some purpose in their use-life?

5.4. A COMPARATIVE ANALYSIS OF BOTH REGIONS

One of the main goals of this research was to create a comparative analysis of both regions, comparing them to one another to understand each one in more detail. Bringing in more information from Scotland would allow the comparison to shed light on the similarities and differences between the region. The hope in doing so was to make the data from Scotland more applicable in wider studies of European Bronze
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Age metalwork deposition, whilst also drawing attention to the disparity within research between the regions, possibly due to modern differentiation in funding as well as useable data.

Through the varying types of deposition throughout the two areas, the role of the dirk or rapier can be shown to have been not stationary within the communities of the European Bronze Age (Harding 2007, 505). Different contexts of deposition mean these objects can be interpreted as having different biographies (ibid. 509). By comparing the two different regions, the aim is to determine how the function and meaning of these objects changes between the regions, or how similar they are.

5.4.1. Terminology in both regions.
A problem that arises when studying Bronze Age metalwork in general comes from the often-arbitrary terminology applied to the varying forms of objects. It affects those new to the area of study most, as the terminology is often confusing at best but at worst misleading and detrimental to understanding. An example of the detrimental nature of the seemingly innocuous terminology arises when comparing object terminology applied to the artefacts from both regions. The comparison seems to indicate that there was a large difference in the selection criteria of intentionally deposited objects, with the communities coming from what is now Scotland preferring smaller ‘dirks’, and those from south-east England preferring the opposite (see fig. 6). However, when utilising the exact dimensions of the objects in lieu of the terminology applied by modern researchers, the average shift and the patterns seem more similar than before.

Therefore, it can be demonstrated how influential modern research is on the interpretations of the past. The impact of modern political and social bias on the archaeological material and its interpretation is not only found in this one facet of the European Bronze Age. There have been many studies into the effect of modern political and social bias on the archaeological record, and the mis-use of archaeological material for political gain. (Arnold 1990; Diaz-Andreu & Champion 2014; Härke 2014; Popa 2019, 3). It is my belief that similar prejudice in the UK has also affected the results from material gathered in this research.

5.4.2. Differences due to modern influences
The information gathered and discussed above creates opportunities for thought-provoking discussions about both the material and the bias created by modern discovery and recording. Scrutiny of the comparative material from the regions in question creates another such opportunity. The similarities present when comparing the data is similar in both structure and practice, such as the predilection to place these objects into wet places, or the similarities in dimensions or use-life. Therefore, we should expect to find similar distributions of finds for dirks and rapiers in Scotland than what we are presented
with at the moment. Therefore, it is pertinent to ask ourselves; is the lacking nature of the material record created in part by modern political influences?

When creating the database being used in this research, I believe partial answers to this question were uncovered. Looking at the distribution of all objects in Scotland and south-east England (fig. 5), the final distribution seems to be different than one would expect. If the levels of deposition in Scotland were actually much lower during the Bronze Age than in south-east England, one might expect the spread of dirk and rapier finds in Scotland to be similar to England but on a much-reduced scale. However, the spread in Scotland is throughout the whole of the landmass, from the furthest north to south, with no real concentration of objects appearing apart from slightly in the built-up areas surrounding Edinburgh and the rivers near-by. In south-east England the picture is entirely different, with the majority of objects appearing in dense groups around well populated areas (the River Thames in London and Norfolk being the main examples of this seen in fig. 11). If during the Bronze Age in Scotland there was a significant difference in the amount of bronze object depositional practices being undertaken, then we would expect to see a similar spread in object distribution, with large concentrations of objects surrounding these settled places.

When searching for useable materials and databases which provide this material, certain disparities between the regions appears. In south-east England, the implementation of the Treasure Act and the database connected (PAS) has brought in thousands of new Bronze Age objects per year for the areas of England and Wales (Roberts 2013, 532; Yates and Bradley 2010, 44). The number of new objects being recorded from this region due to the recording framework bolstered the material from south-east England. Those areas, such as Scotland, that do not benefit from such a scheme have no comparable increase in the objects found per year (Roberts 2013, 532). Therefore, the increased level of funding available for such schemes in England demonstrates how the material wealth in each region is affected in great numbers not only by the differences in social structures of Bronze Age communities but also by the differences in funding available between the regions.

5.5. CONCLUDING THE DISCUSSION

Concluding this chapter shall be a brief summary of what information has been gleamed from the data collected on the social convention regarding the deposition of dirks and rapiers in European Bronze Age communities in south-east England and Scotland. From the information gathered for this research, some patterns have become evident. The majority of dirks and rapiers form the Early to Middle Bronze Ages in both Scotland and south-east England are deposited in wet or irretrievable places. The remaining objects have little details regarding contexts but could also have been in these similarly ritual contexts. The life
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cycle of these objects appears to have affected the practice of deposition. Deliberately destroyed objects appear more regularly in wet contexts than others, and objects used throughout their life-cycle similarly are found in these contexts.

The objects in question here are intimately linked with warfare and violence within the communities of the Bronze Age, as has been discussed previously. The way the objects are treated can then inform modern researchers on how such topics as warfare or conflict were conceptualised in the prehistoric communities of Bronze Age Europe. It seems evident now from the material culture and its treatment that these sides of life were intimately connected in many ways to the ritualistic spheres of community structures.

The preceding chapter has also demonstrated the amount modern influences have affected both the interpretation and recording of material culture from the European Bronze Age, especially in the two regions used for further study here. A non-standardised methodology surrounding recording has created differences in the way the materials can be analysed, and the varying degrees of detail between sources have created inconsistencies in research such as the one carried out here. Also manipulating final results and levels of detail are the discrepancies create by modern political and social bias. The implementation of schemes in England have shifted results slightly in further research.
6. CONCLUSION

The data which has been laid down and discussed during the course of the preceding research is by no account complete or perfect. There are many impeding factors slowing down progress when trying to create quantitative research such as the one here. Differences in both the recording methods and quality of the sources of information where the most detrimental in creating a functioning, valuable database that can be analysed to answer the research questions proposed in the introductory chapter. However, I believe that the outcome, the database in question, is the best result possible with current materials and frameworks of disseminating information available at the moment.

In the future, further research focusing on weapon deposition can hopefully utilise more developed recording methods from areas with a paucity of Bronze Age material, such as in Scotland. As has been discussed previously, the disparity created by differences in the sources of information affects the results of comparative studies such as the one here. The corpus of data was created, in part, to showcase the effects that differences have on the ability to produce results which reflect a representative image of reality in these prehistoric communities. Many of the issues surrounding the creation of the database could be remedied through the implementation of proper frameworks of artefact recording. A pre-determined list to be included of features describing the artefacts could bolster one such framework, allowing the information to be easily incorporated into these types of studies.

Even when considering all of the issues brought on by the sources of information, the bias involved, and the lack of developing frameworks, the results created by the database here and others like it can still be utilised effectively. The research questions posed at the beginning of the thesis have at least partially been answered by the information available from the two regions. There was enough data to determine how the two regions varied from one another, and why a comparative study such as the one here is useful in understanding further the social conventions surrounding selective deposition. In comparing selective deposition from these two regions in the Bronze Age, a number of conclusions have been made. In terms of the social conventions surrounding deposition some interpretations have been solidified by the results here. As has been previously mentioned, the relation between wet or irretrievable places and metalwork deposition in the Bronze Age in Europe has been thoroughly explored. The evidence collected here further establishes this link in Bronze Age culture and brings in the evidence from the two regions into larger discussions surrounding selective deposition and its link to wet and/or irretrievable places.

Furthermore, the comparison between the regions permits a critical examination regarding the effects of modern policies, politics, and bias into the archaeological record and the associated academic discourse. From the results it is clear that differences in quality of digital frameworks for recording and disseminating
material information has partially altered the interpretations that can be made from archaeological material. Particularly in Scotland, the lacking database framework that is present in England and Wales, the Portable Antiquities Scheme and corresponding online database, has meant that material coming from this region is lacking in terms of detailed descriptions that can be utilised further. Long-held opinions on the paucity of discoverable material in Scotland, such as the lack of Bronze Age weaponry will decrease the probability of individuals choosing to search the countryside for these objects, further leading to a discrepancy in the material record. Conversely, the established presence of material in areas such as south-east England will draw those searching for this material due to similar thought processes. The logical conclusion being that the likelihood of finding more of the same material will happen in the same areas of discovery. The material explored in the database which has been created here will hopefully challenge this long-held opinion on the possibility of more material being discovered in Scotland.

The material within the database has been utilised throughout the discussion phase to make more inferences on the social conventions surrounding the act of selective deposition. In both Scotland and England, whether or not an object was used or un-used during its life-cycle seems to have affected how an object was interred into the earth. Although specific conventions cannot be deduced and correlations not finalised, the use-life does seem to be an important factor with the information available to us at this moment. Further studies focusing on how a life-cycle determines depositional deviations could utilise the information gathered here, hopefully being able to include any further new material which will have since been recovered. Limitations are again incorporated by variations in the quality and detail of informational sources, such as the PAS, PBF, and Canmore sources. Implementations of new recording frameworks in areas which currently lack them will boost the productivity of research attempting to uncover more of the specifics regarding this practice in the Bronze Age.

An interesting question was the foundation and beginning of this Masters thesis: why was a society with a heavy focus on warfare and weaponry depositing what would have been valuable items within such a culture into the ground, never to be retrieved? To answer this question, first the connection between warfare, inter-personal conflict, and this type of weaponry would have to be established. Experimental archaeology has been utilised to determine the main uses of such weaponry and the results indicate their pivotal role as objects in interpersonal conflict. The connection between the two has allowed interpretations to be made regarding the role of conflict and warfare within the social milieu of the Bronze Age communities in question. It is clear from the material, the context and structure of deposition, that the act of deposition and its selection is intimately linked with the ritual sphere of Bronze Age communities. The act seems irrational to the modern viewer due to the western economic perspective. However, when viewing the structure present in the selective deposition of metalwork, such as seen here,
the rationale becomes apparent in the actions. The rationale may not be fully uncovered, but from the evidence it is clear that it is present.

The overarching goal of research regarding selective deposition is to make the seemingly irrational act of weaponry deposition an understandable phenomenon to a modern perspective. Although the preceding research did not completely answer the question regarding the exact social conventions of selective deposition in the European Bronze Age, it has taken a step closer to uncovering more of the answer.
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8. INTERNET PAGES USED


9. LIST OF IMAGES & TABLES

Figure 1 Locations of tin throughout Europe, demonstrating the need for an interconnected Bronze Age trade system making the objects being deposited of value. Source: Vandkilde 2016, 105.

Figure 2 The Oxshott Dirk, oversized and too heavy to have been effectively used. A good example of a ceremonial weapon. Source: Artfund.org.2019.

Figure 3 A chronological sequence of the Bronze Age in Britain. Source: Roberts et al 2013, 23.

Figure 4 An example of extremely damaged rivets, difficult to determine the damages origin. Source: Burgess & Gerloff 1981, item 192.

Figure 5 A map showing the distribution all of the objects collected for further study in the database. Source: Author 2019.

Figure 6 A map of Great Britain showing the spread of objects with terminology applied to them, to demonstrate preferences of object length. Source: Author 2019.

Figure 7 Graph showing the dimensions of all objects in the database. Source: Author 2019.

Figure 8 A map of Great Britain showing the distribution of contextualised dirks and rapiers from the Bronze Age. Source: Author 2019.

Figure 9 An item showing obvious secondary rivets added to a worn-down butt. Source: Burgess and Gerloff 1981, item 255.

Figure 10 Graph showing the number of objects with torn rivet-holes. Source: Author 2019.

Figure 11 A map of south-east England showing the distribution of object with terminology applied to them. Source: Author 2019.

Figure 12 Graph showing the dimensions of objects in south-east England. Source: Author 2019.

Figure 13 Map of south-east England showing distribution of contextualised finds. Source: Author 2019.

Figure 14 A dirk from Oxshott showing evidence of recent bending. Source: finds.org.uk 2019.

Figure 15 A sword which has been bent in antiquity. Source: Burgess & Gerloff 1981, item 81.

Figure 16 A map of Scotland showing the distribution of items with object terminology applied to it. Source: Author 2019.

Figure 17 A graph showing the dimensions of objects discovered in Scotland. Source: Author 2019.

Figure 18 A map of Scotland showing the distribution of contextualised finds. Source: Author 2019.

Table 1 All objects from the database with associated finds, with location and context of find as additional information. Source: Author 2019.

Table 2 All re-hafted objects from the database, in addition to context and region of discovery. Source: Author 2019.
Table 3 All objects within the database with evidence of deliberate destruction, with context and region included. Source: Author 2019.
**APPENDIX 1: RESEARCH DATABASE**

Excel database of all material collected and used in this study:
https://1drv.ms/x/s!AoeIohgrabhmgl0oup5WqjSuo8Yg