

Tywardreath

Artefact & Distribution Analysis

REPORT 2010



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On behalf of

Mr John Andrews
Tywardreath Battlefield Project
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Tywardreath:

A report on the artefact analysis and interpretation recovered from Tywardreath

1.0 Introduction

This report has been composed on behalf of John Andrews and includes an analysis and interpretation of an assemblage of artefacts recovered in fields surrounding the village of Tywardreath, Cornwall by Mr Andrews (Figure 1). The significance of the assemblage quickly became apparent due to the substantial volume of the collection and that the vast majority of the artefacts were clear signatures of mid 17th century warfare including musket balls, cannon balls, bandolier caps and contemporary buckles and buttons. Crucially, Andrews had from an early stage individually recorded and bagged each artefact using a GPS. In addition he inputted the co-ordinates into a Google Earth programme to create a distribution map which shows the wide spread of material across several fields. As each artefact was individually bagged and numbered it is possible to cross reference the location data with the material, a link which unfortunately is rarely made by many metal detectorists. Over the last three years Andrews has continued to investigate the area, recently extending his search to fields surrounding the English Civil War battlefield at Castle Dore (Battle of Lostwithiel, 1644) with the assistance of a carefully selected team of other metal detectorists from Cornwall as part of the Tywardreath Battlefield Project. This report will provide a summary evaluation of the assemblage collected near Tywardreath, as well as some potential interpretations of its origin. There is no doubt however that the discovery of this assemblage has made a major contribution to our knowledge of English Civil War archaeology in Cornwall.



Figure 1: Distribution map of finds from Tywardreath and Castle Dore (courtesy of J. Andrews)

2.0 Historical Background

Cornwall, in the mid-17th century, was considered a foreign land. Bound by its ancient laws and alien tongue, the Cornish were regarded as nothing more than ‘poor, rough and boorish’ by those beyond the River Tamar (Stoyle 2000, 34). The Cornish maintained a distinct cultural identity and fierce independence which was fuelled by a strong desire to preserve what was left of the Celtic tradition. As a predominately Catholic society the Cornish believed the Church of England to represent the last vestiges of the Celtic Christian tradition, something which Charles I heavily exploited in his capacity as Royal protector and defender of the true faith. Thousands flocked to join the Royalist cause, although many Cornishmen were driven by the simple instinct to expel the foreign invaders from their land rather than blind devotion to the Church and King (Stoyle 2000, 50). To the godly Parliamentarians the Cornish represented everything they despised, believing they deserved to be punished for their wicked unchristian ways. As Essex moved through this hostile Cornish landscape, he turned a blind eye to the thievery and rapine unleashed onto the local populace by his soldiers. This brutality, however, was not forgotten as the Cornish townsfolk who were ‘roused to savage anger’, stripping naked and viciously beating hundreds of prisoners as they were led through the streets of Lostwithiel in the aftermath of the campaign (Ede-Borrett 2004, 47).

In the summer of 1644 Essex moved his army southwards in an attempt to gain control of the West and its valuable resources of tin and lead for Parliament. The Lostwithiel Campaign was a disaster for Essex as he continually failed to take the initiative resulting in the loss of many of his key positions, including the high ground surrounding Lostwithiel and access to the port of Fowey (Figure 2). The King continued to pressure Essex, expertly deploying General Lord Goring and Major General Basset with most of the Royalist horse and 1500 foot to “stop provisions at St Blazey”, which ensured Essex had no access to supply by sea or room to scavenge for food on land (Coate 1933, 146). This strategy took advantage of particularly wet and stormy weather of July and August which saw rotting crops and few sources of food to feed the starving populace, never mind the additional hungry mouths of locust like armies. As Essex’s army was pushed further south his ability to gather supplies of food and ammunition were becoming severely limited, with much of his army confined within the town of Lostwithiel. Essex was in desperate shape, writing on the 27 August 1644;

“Our duty here is so great that if the enemy do not draw off or we recur succour speedily, we shall be put to great extremities, spending much ammunition and match, which we cannot afford” (Essex 1644).

By 30th August Essex realised the hopelessness of the situation and the next day withdrew his army from Lostwithiel in an attempt to evacuate by sea, in a similar vein to a 17th century version of Dunkirk, using a flotilla of boats waiting at the small ports of Polkerris, Menelbilly and Golant (Essex). Staying on the high ground, using the ancient road between Lostwithiel and Fowey, the Parliamentarian army move southward in a disorderly retreat, forced by heavy rain and mud soaked roads to leave most of their supplies behind them (Figure 3). As the Royalist officer Richard Symonds accounts in his diary;

“the enemy had left a cartload of muskets, besides many more in the dirt a little higher, 5 pieces of cannon in several places, 2 of them being very long ones” (Symonds 1644, 63).

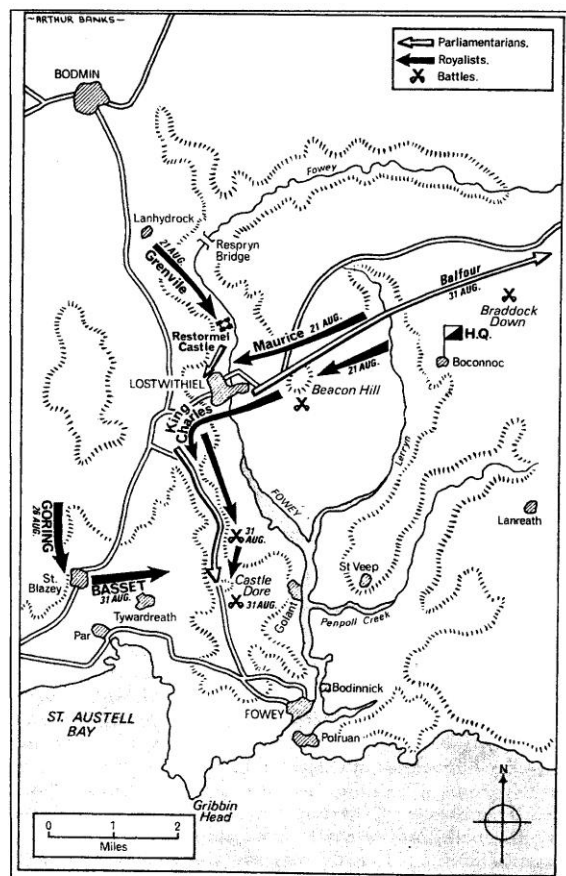


Figure 2: Map of the Loswithiel Campaign. It is likely that Basset used the road running through Tywardreath to make his way to the ridge at Castle Dore. (map after Holmes)

The Royalists were in hot pursuit, fighting a running battle along the ridge way and skirmishing at every opportunity with the rear guard of the Parliamentary army. The Parliamentarians responded by taking advantage of the thick earth and stone hedges which transected the ridge, using them as ready made ramparts with the foot lying “close under the hedges which are all cannon proof” (Symonds 1644, 64), and therefore being able to return fire under a degree of protective cover. Despite the resolve of the Parliamentary rear guard, this could serve only to buy time for the retreating army as the full force of the Royalist Horse and Foot pushed them along the ridge way “beating them from hedge to hedge” and “killing a great many of them” (Symonds 1644, 63). Reaching the end of the ridge, Essex and his army occupied the Iron Age hillfort of Castle Dore, utilising its circular earthworks as redoubts to hold artillery at his centre. In this position Essex defended his only routes of escape, which included the roads leading

eastward to Golant and westward to Tywardreath and the ports of Polkerris and Menabilly (Coate 1933, 149). Essex and the King engaged in a series of attacks and counter attacks, including a charge by Major-General Bassett's cavalry and foot on the Parliamentary left flank, having arrived in the direction of St Blazey. This charge was broken by a Captain Reynolds who pushed the Royalists back over several fields, until they were dispersed by another wave of Royalist horse (Holmes 1989, 61). The fighting continued over many hours, until cracks began to show in the Parliamentary command. In the early hours of the next morning Essex escaped alone by boat to Plymouth leaving his broken army in the field. As word spread of his hasty departure the army eventually began to crumble away. The first to abscond was Colonel Weare's regiment on the right flank, leaving the road to Golant exposed. General Skippon was charged with surrendering to the King and did so in good order, with his officers allowed to retain their weapons as they were escorted from Cornwall. A shrewd rather than merciful move by Charles, as taking prisoners in a land of few resources would not have been an economical approach (Purkiss 2006, 366).

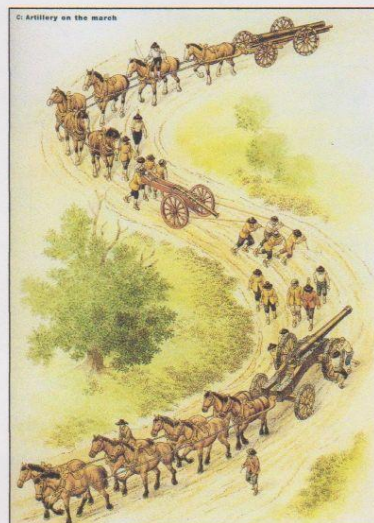


Figure 3: Illustration of an artillery train (after Henry 2005)

3.0 Artefact Analysis and Interpretation

This section will aim to provide a brief analysis and interpretation of a representative sample of the assemblage recovered by Andrews in the fields surrounding Tywardreath. Key to understanding this material is an analysis of the artefact distribution data provided by Andrews. This data will allow for a greater understanding of the material in a wider landscape context and the relationship between artefact scatters at a more intimate level. Another important element is a wealthy source of historical material, both primary and secondary, which has provided a fascinating insight into English Civil War activity, including some interesting references to Tywardreath. As this assemblage is still growing, as Andrews' work continues, this sample now represents a relatively small proportion of the collection. Due to time restraints on research and distances involved, this sample remains an appropriate size to

meet the aims of this particular research agenda, which is to assess the potential significance of Andrew's contribution to battlefield archaeology. However, Andrews has provided regular updates of his recent work, including access to his Google Earth account to view an ever expanding artefact distribution, and images of significant artefacts recently brought to light.

3.1 Analysis of the artefact assemblage

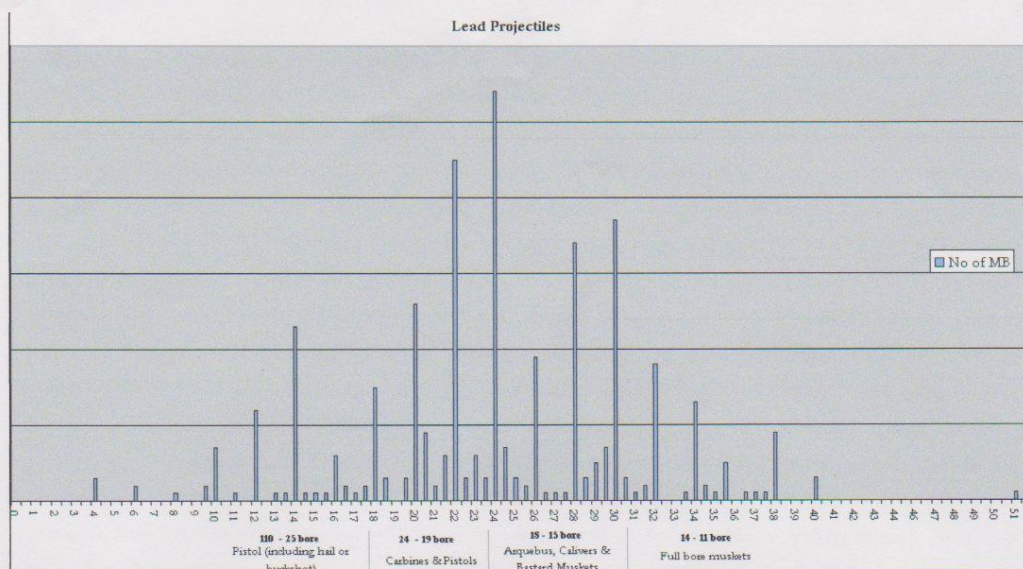
This section will provide a summary analysis of a representative sample of the artefact assemblage recovered from eight fields situated towards the south and south-west fringes of Tywardreath village, recovered in the period of 2007 – 2009 by Andrews. This will include an interpretation of the artefact distribution, as well as a summary analysis of diagnostic material identified within the assemblage.

3.1.1 Overall summary of lead projectile assemblage

Within the assemblage 485 lead projectiles were identified, with 392 musket balls (81%); 46 pistol balls (9%); 36 projectiles identified as potential carbine balls (7%); 2 identified as slugs (0.5%) and 9 modern rounds i.e. 19th century (2%). In 1628 the Council of War introduced regulations on bore size, i.e. the number of bullets produced from one pound (16 ounces) of lead, for particular types of firearm in an attempt to standardise production. The Council specified that pistols and carbines should be of *twenty-four* bore; calivers and arquebuses *seventeen* bore and muskets *twelve* bore (Blackmore 1961, 24). However this level of consistency is not reflected in the lead projectile assemblage as there appears to be a diverse assortment of bore sizes ranging from tiny hail or buckshot at *one-hundred-ten* bore weighing 0.1 oz (4g) to large *eleven* bore balls weighing 1.5oz (40g). In the mid - 17th century an array of firearms of various shapes, lengths and bores were available throughout the British Isles, and although many were manufactured by British gun makers, a significant proportion are likely to have been imported from the continent (Edwards 1998, 239). It is possible however to identify particular peaks within the data that may provide some indication to the presence of certain firearm groupings, however, the ability to closely identify the type of weapon each projectile was fired from is a difficult process and one open to a degree of inference.

Accordingly, data relating to the lead projectile assemblage has been divided into four parts based on the broad range of bore sizes stipulated by the Council of War and the size of bullet which could reasonably be fired from each firearm i.e. pistols; pistols and carbines; calivers, arquebuses, bastard muskets; and the full bore musket (Graph 1). The bulk of lead projectiles appear to range in size between *twenty-two* and *fifteen* bore, with a peak at *eighteen* bore. Out with this grouping there is another smaller peak at *thirty-two* bore. Larger projectiles are poorly represented within the assemblage with only a small proportion greater than *fourteen* bore and only 12 musket balls that appear to be *twelve* bore.

The dataset suggests mobility was a significant factor, as there is a trend towards smaller and lighter firearms such as the pistol and the carbine, suggesting the presence of cavalry in the field. Carbines, as a cavalry firearm, were more ubiquitous in the Royalist army, occasionally in preference to the pistol, and although less prevalent in the



Graph 1: Weight in grams (g): Relative bore size and possible weapon type

Parliamentarian army they were employed by the Earl of Essex's cavalry (Blackmore 1990, 50). The arquebus, a shorter lighter version of the full bore musket, was also used by light cavalry or dragoons (Edwards 1998, 236). A new lighter pattern musket, possibly referred to as a caliver or a bastard musket, which did not require the use of a fork rest to steady them was introduced to infantry in the later stages of the war (Roberts 2002, 60). The musket ball assemblage may therefore reflect favour towards this lighter type of firearm taking into account its suitability for skirmishing, particularly in landscapes such as Cornwall.

Comparison of this data with other assemblages from what are perceived to be more fixed conflicts is necessary to establish whether larger full bore muskets are more abundant within these assemblages or if they were in fact less established than has been traditionally accepted. This evidence will be discussed further in conjunction with a more detailed analysis of the lead projectiles and patterns identified within the artefact distribution.

3.2 Diagnostic analysis of lead projectile and artillery assemblage

This section will provide a summary of a diagnostic analysis of the lead projectile assemblage which has served to highlight the diversity of this particular collection and the contribution it can make to our understanding of 17th century warfare. Several features have been brought to light which have provided a fascinating insight into the nature of the fighting at Tywardreath, including the type of troops and artillery engaged; the quality of ammunition supplies and attempts at modification of the bullets.

3.2.1 Prominent Sprue

In such an enclosed landscape the role of cavalry and artillery are expected to be minimal, except in smaller units and at a more local level (Ede-Borrett 2004, 33). The engagement of cavalry at Tywardreath is suggested by the presence of pistol and carbine balls within the assemblage, however this can also represent the activity of infantry officers who would use pistols in close quarter fighting. Evidence which provides further support for cavalry activity at Tywardreath may be found in the presence of pistol balls with prominent sprues, six of which were recovered from the site. This feature has been identified by (Mandzy 2009) as an attachment for an early form of paper cartridge. They have been found in other 17th century assemblages including the Thirty Year War battles of Lutzen (Schrüger pers. comm.) and Zboriv (Mandzy 2009), as well as an English Civil War skirmish at Blandford, Dorset. At Tywardreath there are two types, one where the top of the cylinder is crowned either with an irregular shaped flat cap with a protruding lip (MB/1/057; (MB/1/103); (MB/8/027), or with a rim and a depression in the centre as if the lead has collapsed during casting (MB/1/052); (MB/1/056); (MB/2/078). Unlike modern forms of cartridge, the ball sits outside and the sprue is used as a point in which to bind the two together with string. This early form of paper cartridge is likely to have been used by Cavalry whom would not wish to be burdened by clattering bandoliers on horseback. Ease of loading would also have been an important factor. The majority of these pistol balls appear in close proximity to each other in Field 1, apart from two in Field 2 and 8, it may indicate the movement of one body of horse.



Image 1: Prominent Sprue

3.2.2 Evidence of Poor Quality Casting

The efficient manufacture and supply of ammunition is of key importance to the success of any army. By the end of the Lostwithiel Campaign supplies of 'ball and match' were becoming dangerously low and soldiers may have relied on their own sources of lead and casting materials to ensure they had enough stocks to use against the enemy. The quality of projectile casting within this assemblage is particularly poor with evidence of casting mistakes and misshapen bullets appearing frequently. Examples include deformed bullets due to air bubbles forming because the lead has been poured at too high a temperature, e.g. (MB/2/038); (MB/1/105); MB/8/018); (MB/2/091) (MB/1/078); (MB/7/008); together with unfinished and shoddily cast balls where the two halves of the mould are offset (MB/2/101). A significant number of musket balls were either egg shaped or a shape similar to that of a bulging disc e.g. (MB/2/075); (MB/3/048). This feature, previously attributed to impact damage, appears to have been the result of casting in a makeshift mould, possibly of stone or an organic material such as wood. The shallow morphology of the projectiles suggests that the moulds had not been carved deep enough or suitably defined at the edges to create the spherical shape of a musket ball. Two musket balls, MB/3/039); (MB/2/022), may also raise questions about the quality of the lead used in casting, as they are unusual in terms of their weight and colour, suggesting the use of substandard lead to cast them. One example is a large musket ball with a diameter of 18.9mm (0.73in) and yet weighs only 24g (0.8oz) and also has a number of dark inclusions embedded within it as if they are part of the structure, possibly to add bulk if lead levels are low.



Image 2: Collapse of lead during casting



Image 3: Formation of air bubble



Image 4: Poor casting technique

3.2.3 Deliberate Modification

Several balls within the assemblage appear to have some degree of modification including slicing, cutting and the addition of other materials to the body of the projectile. Evidence of slicing comes in the form of two fragments of lead which appear to be evenly cut quarters of a musket ball, (MB/1/123); (MB/2/109). The musket balls may have been cut in such a way so that when fired it spreads out causing severe damage (Sivilich 2009, 96). This has been recognised as late as the mid 18th century in an assemblage relating to the battlefields of Culloden and Monmouth. Other examples include thin grooves that run the entire diameter of the ball (MB/5/026); (MB/5/017). These grooves may have been cut for the simple purpose of making the ball tumble in the air, or perhaps to accommodate wire and therefore increasing its capacity to cause damage to the target. Another type of modification may also be seen in a musket ball which has incorporated within its body an iron object, possibly a nail, (MB/4/010). It is not clear whether it has been hammered into the ball or included during casting, but does appear to be a deliberate inclusion.

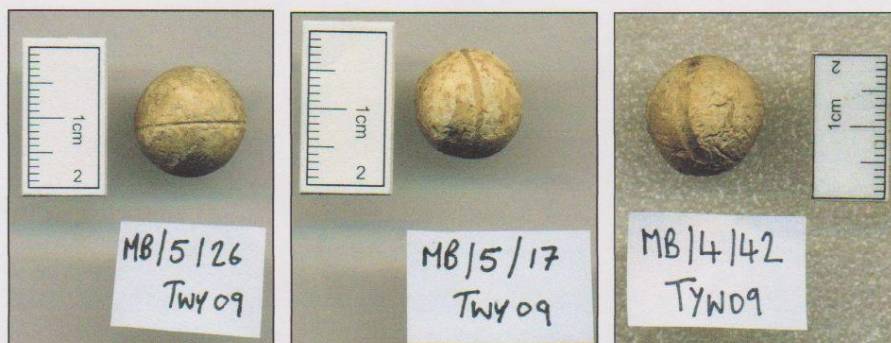


Image 5: Cutting or possible wire embedding



Image 6: Inclusion of iron object, possibly nail (left) and a quartered musket ball (right)

3.3.4 Banding

Banding is a diagnostic feature described as a flattened strip or band situated at the equator of the projectile. Two types have been identified in this assemblage; the first is a wide band oval in shape and with well defined edges which alter the shape of the ball by almost completely flattening the sides (MB/5/019); (MB/1/021); MB/5/002); the second is smaller, again usually oval in shape but with evenly spaced vertical grooves running its length (MB/1/110); (MB/4/005); (MB/1/096); (MB/1/070); (MB/3/028); (MB/1/119). This feature has been interpreted as a result of the ball expanding within the barrel of the musket as it is fired, particularly if the ball is a close fit. As it expands the surface of the ball grazes the sides of the barrel leaving behind grooves, and in more extreme circumstances creating a compressed appearance.



Image 7: Banding possibly due to expansion in barrel when fired

3.3.5 Firing Surface

Eighteen musket balls and three pistol balls in the assemblage have a mottled appearance featuring on only one half of the sphere or in a large patch. This mottling, also described as a melted or scarred look, is often accompanied by radial lines spanning out from a central point with (MB/2/063); (MB/7/004); (MB/3/063); (MB/3/044); (MB/3/038); (MB/3/036); (MB/3/027); (MB/3/063); (MB/2/128) providing key examples of this feature. As with banding, this feature has been associated with the firing process and has been interpreted as a surface exposed to gases within the barrel as the gunpowder is ignited. This is a diagnostic feature which does not appear in 18th century assemblage and may correlate to the later use of paper cartridges which may provide some degree of protection against heated gas. Wadding would have been used in the 17th century to increase windage and to prevent the ball from falling out of the barrel when in transit and could have been cloth, wool or dry vegetation. The latter is possibly represented by (MB/4/042) which is covered in multiple grooves and may be interpreted as grass impressions embedded into the surface during firing.



Image 8: Firing surface caused by exposure to hot gases during firing

3.3.6 Teethmarks

Teeth marks have been identified on six musket balls, although it is not clear which belong to animal or human action (MB/3/010) (MB/2/053). There may be a number of reasons for teeth marks on musket balls; boredom; to activate saliva if water is unavailable; to modify the ball as mentioned above; or as a consequence of holding projectiles in ones mouth during battle, as was recommended in 17th century drill books to save the musketeer time in the cumbersome process of re-loading (Hughes 1977).



Image 9: Teeth marks

3.4.7 Artillery

Artillery appears to play only a small role within the Tywardreath assemblage as only one cannon ball features in this assemblage (CB/1/092). It is made of iron and is small in size, measuring only 38.2mm (1.52in) in diameter and weighing only 230g (8.1oz). This size suggests a light manoeuvrable field artillery piece called a Robinet (Henry 2005, 9), which would have been suitable for use in a landscape transacted by thick hedges and narrow lanes. Another small lead cannon ball features in a collection of projectiles, and other items including several bandolier caps, given to Andrews by a local landowner who had recovered the items over the years as they were turned over by the plough close to where Andrews has been metal detecting. Another object (CB/5/025), tentatively identified as a cannon ball by Andrews, is made of lead and flattened on two opposing sides with rounded edges. It is inconclusive whether this object is a cannonball due to its shape as the flattening appears too deliberate to be impact damage, although it is possible that it has been modified for some purpose. Other types of artillery projectile are less visible within this assemblage, although there are two possible candidates for canister shot. The first is a musket ball sized object made of iron (MB/1/104) and the second is a cylindrical lead object (MB/4/045) which is similar to other types recovered from the battlefield of Edgehill.



Image 10: Examples of possible canister shot

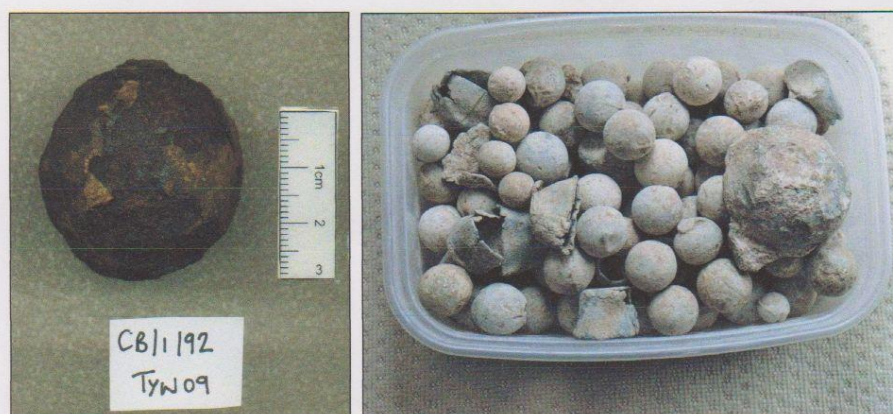


Image 11: Iron cannon ball and a lead cannon ball in the right corner along with musket balls and powder box caps

3.5 Signature artefacts

Several signature artefacts of 17th century warfare have identified both in the assemblage and from images send to the author by Andrews. The most abundant of these signatures are objects associated with musket firing, including bandoleer caps, powder flask nozzles and two halves of a squashed brass container which may represent the remains of a powder flask. A bandoleer is a leather belt worn by the musketeer, which has hanging from it a number of wooden containers, individually referred to as boxes rather than apostles (Blackmore 1990, 72), holding measures of powder and a bag of musket balls. The bandoleer cap is secured to the top of the box with string and can be made of either wood or lead, although the latter is the only surviving example in the archaeological record. The suspended boxes of the bandoleer were a hazard to the 17th century infantry man, not only because of their noisy and cumbersome nature, but due to the fact they were liable to catch fire if exposed to the burning embers of the matchlock (Blackmore 1990, 73). It is no wonder the cavalry preferred to use the paper cartridges as described above. Seven box or bandoleer caps were identified in the assemblage (PC/1/083); (PC/1/084); (PC/1/106); (PC/2/071);

(PC/3/080); (PC/4/047); (PC/8/015), all of which were squashed but in reasonable condition, except for one which had split along its sides. (PC/8/15) had on each side a small loop or attachment, now squashed flat, which would have been used to fasten the cap onto the box and attach it to the bandoleer. Several other bandoleer caps have been recovered by Andrews and others across the site, some of which were excellent examples with prominent looped attachments. One priming flask nozzle (PC/4/32), made of lead and in good condition, was also recorded in the assemblage. The base of the nozzle is similar in shape to a bandoleer cap, but with a tube extending from the top used to accurately pour priming, finer grain powder into the priming pan. Like the bandoleer cap, the nozzle also had prominent loops with which to affix it to the flask, which is likely to have been similar in shape and size to the box.

Two objects (MB/4/047); (Lead/2/036) which represent small strips of folded or rolled lead have been identified as possible lead rations kept individually by soldiers to cast their own supply of musket balls. Examples of folded lead strips have been recovered from sites from the 17th – 18th century, including the English Civil War Battle of Edgehill (1642) the Siege of Newark and the Battle of Sedgemoor (1685).

Although not present within this assemblage Andrews has provided the author with images of other signature artefacts including a fragment of a trigger guard.



Image 12: Above - Powder box cap and a powder flask nozzle below



Image 13: Folded lead strips as possible raw material for casting projectiles

3.6 Buttons and Buckles

More personal objects such as buckles and buttons are an important part of the assemblage, however it is often difficult to ascertain if they represent material which has been dropped or torn off during the conflict, especially as at this point in the mid - 17th century soldiers wearing civilian clothing would have been more common than any garb resembling a uniform. Only a small selection of artefacts from the assemblage was characteristic of 17th century material, with the rest representing the 18th and 19th centuries. Some of this later activity was of interest in terms of later military activity, for example approximately six buttons had Royal Artillery insignia – a shield showing three cannon crowned by three cannonballs – dating from 1785 – 1802 (Wilkinson-Latham 2006, 68). The origin of these buttons is unclear but it is likely to represent some form of training or coastal artillery defence to reduce the risk of invasion during the Napoleonic Wars.

Few buttons in the assemblage could be identified as 17th century in date, as the majority were either decorated 18th century tombac, zinc and copper alloy, buttons or 19th -20th century brass buttons commonly found in ploughed fields across the UK. There are three possible 17th century buttons within the assemblage, (B/2/62); (B/4/18) and (B/4/19). (B/2/62) is made of a bronze or copper alloy material and is slightly bowl shaped. On the facing there is a trace of hand stamped decoration taking the form of small circular impressions creating a four-leaf clover shape. The reverse side is hollow and would have had some form of backing with the shank. (B/4/19) is also made of a copper alloy, or bronze and is decorated with raised bosses; six bosses encircling a central boss. On the reverse side the shank is integral to the button but has broken. The last button (B/4/18) is a crude circular object made of lead with two central holes as fasteners. Compared with other metals lead was a relatively cheap material in which to make buttons, and like wood could have been covered in cloth. Such objects are however very difficult to chronologically tie down, especially one as simple as this, a date to the 17th century is therefore remains inconclusive (Bailey 2004).



Image 14: Possible examples of 17th century buttons

In comparison to the buttons the buckle assemblage was far more diverse, with several examples potentially dating to the 17th century. Buckles are difficult artefacts to date as simple forms may be reproduced over many centuries with very little variation, therefore many buckles may only be dated to a period of 150 years. Seven types of buckle were identified from the assemblage dating within the range of 1350 – 1650 for simple types and a range of 1500 – 1650 for more complex forms. The simple forms included one annular buckle (MIS/2/30); a simple spectacle type with a partially broken tongue (MIS/4/018); simple rectangular buckle with intact tongue (MIS/1/043). More complex forms dating more closely to the 17th century include an ornate copper alloy single looped sub rectangular buckle (MIS/4/16); two rectangular asymmetrical types (MIS/1/024), (MIS/3/011); a trapezoidal type (Buckle/5/018); two ornate spectacle buckles with moulded floral design and broken strap bar, (MIS/1/013) and (Buckle/5/010) (Whitehead 2003).



Image 15: Possible examples of 17th century buckles. The buckle centre top is a shoe buckle.

4.0 An analysis of the site and the artefact distribution

The ability to understand this assemblage is reliant on the accurate recording of the find spot data so that each artefact may be understood within the context of its position in the landscape and its relationship to other artefacts within the scatter. However, we must be aware that interpretation will be limited within the parameters of accuracy offered by hand held GPS device; the subsequent plotting of this data on Google Earth and importantly the fields Andrews was able to access. An attempt has been made by the author to present the Google Earth distributions in a clearer, more comprehensive format in a style closer to that of a GIS package. Differentiation between the main artefact groups have been made i.e. lead projectiles, cannon balls and powder caps, however as the author only has secondary access to this data it was not possible to highlight sub categories such as musket balls, pistol balls or carbine balls.



Figure 4: Over distribution map of finds from Tywardreath

The distribution map created by Andrews extends beyond the artefact assemblage made available to the author for analysis. Therefore it is possible to understand this data within a wider landscape context, which broadens to include areas northeast of Tywardreath and the battlefield of Castle Dore itself. The main body of material recovered by Andrews is situated in four fields directly south of the village of Tywardreath and in two larger fields positioned further south shaped by two curving lanes, Tywardreath Hill and Polpey Lane. As previously mentioned both lanes meet at the point of the pre-19th century coastline, creating a distinctive feature in the landscape. In these fields the distribution is less concentrated but with a clear bias towards the line of hedges running to the side of Tywardreath Hill, with few artefacts plotted further east towards Polpey Lane. To the east of Tywardreath village the distribution continues to spread northeast in a wide scatter which covers approximately thirteen fields with significant concentrations of material either side of the Castle Dore Road (Figure 4). Modern expansion of Tywardreath has clearly had an impact, creating a gap within the northwest portion of the assemblage as indicated by the dense concentration of artefacts that still exist on the fringes of the 20th century housing estate. This extensive artefact distribution stretching from Polmear to beyond the Castle Dore Road is now connected by only one field to the

southeast corner of the housing estate, therefore if expansion was to continue the site would subsequently be divided in two.

Numerous contemporary accounts refer to the difficulty of the Cornish terrain, describing the “steepness of the hill and deepness of the wayes” (after Ede-Borrett 2004, 107)¹, as well as the stout earth and stone Cornish hedges, many of which still survive, forming an ‘enclosed country’ (Mercurius Aulicus 1644)². Symonds describes the hedges as ‘cannon prooffe’ and having “no avenues wider than one or in some places two horse can approach at a time” (Symonds 1644, 64). This landscape would undoubtedly have influenced the mode of fighting, with restricted mobility effecting the deployment of horse, foot and artillery, as well as the vital supply of food and ammunition transported by baggage train. In such circumstances successful commanders were required to be tactically flexible, turning initial limitations of terrain to their advantage by utilising smaller units of infantry and cavalry to engage in skirmishing and ambush rather than open warfare (Roberts 2002, 48). The influence of the landscape on military tactics is potentially reflected in the archaeological assemblage of material at Tywardreath. Two possible patterns present themselves. The first sits within the main body of material situated in the four fields south of the village and is defined by a series of north-south running ‘Cornish’ hedges. Here the pattern of distribution is closely associated with the line of the hedges, with dense accumulations of material respecting the field boundaries and becoming less concentrated towards the middle of the fields (Figure 5). This pattern of material provides strong evidence of a running fight, with bodies of foot making use of the substantial hedges as ready-made defensive breastworks to give fire with some degree of protection. There is clear movement within this assemblage, with each side advancing or retreating to the next set of hedges, inevitably attempting to cross the open ground of the fields as quickly as possible. This method of fighting is well documented in contemporary sources of this campaign with references to the Parliamentary foot lying “so close under the hedges” (Symonds 1644, 64) for protection and then being “forced to fight from hedge to hedge” (Mercurius Aulicus 1644), as the Royalists pushed them along the ridge from Lostwithiel.

¹ The Coppie of a Letter of a Parliamentary Officer, Sept. 9th 1644

² Sept 7th 1644



Figure 5: Note the pattern of projectiles situated close the the hedgeline

Moving northwards there is a second pattern of material which appears to traverse the Castle Dore Road, with a bias in concentration towards northern fields and the road to Treesmill (Figure 6). The Castle Dore Road runs eastward into Tywardreath and westward unto the ridge of the ring fort and the site of battlefield. In such a restricted landscape troop movements were dependent on the narrow roads and lanes that contoured the landscape. The strategic necessity of the roads is illustrated in a letter from Essex to Sir Philip Stapleton. Here he describes his withdrawal from Lostwithiel to reach the coast being severely hindered as the roads were, “so extreme foul with excessive rain” (after Ede-Borrett 2004, 103).³ Therefore, as the roads provided the only means of efficient communication, control of the routeways was of paramount importance to any General wishing to exert control over the enemy. This assemblage potentially represents an attempt at maintaining control of this landscape, as this particular site appears to be a cross-road with routes running west to St Blazey; south to Polkerris and Menebilly; east to the high ground of Castle Dore and into Golant; and finally north to Lostwithiel. All are ports and routeways that were essential to the supply of the Parliamentary army. Therefore this may have been an attempt by the Royalist army to starve out Essex’s army, as an anonymous Parliamentary officer accounts,

“On Tuesday 27th August, the Enemy, having drawn themselves off the day before about 3000 horse and foot, that partie marched towards a place called Blazey Bridge, about three miles from Lesithiel, which they did to stop the passage of provision from Milly-Billy (Menibilly) Bay, if they could, from coming to my Lord General; for be taking it, my Lord could not have provisions, but by breaking through them” (Parliamentary officer, after Ede-Borrett, 2004, 107).

³ The Earl of Essex’s letter to Sir Philip Stapleton, Sept. 7th 1644



Figure 6: Oblique view of the Castle Dore Road looking west towards Tywardreath from Castle Dore. Note the pattern of material on either side of the road

Skirmishing with the enemy certainly seems to have been almost constant throughout the Lostwithiel Campaign, as the same Parliamentary officer continues to describe the intensity of the situation,

“After our horse and foot made good at Blazey bridge many daies, Defended themselves against so many numerous companies of the Kings forces for almost 20 daies, in continuall skirmishing” (Parliamentary officer, after Ede-Borrett, 2004, 107).

It is interesting to note also that Dawson’s 1804 map depicts this area to be less enclosed than surrounding fields. Perhaps the openness of this area and its situation on high ground was a factor in its potential selection as an effective position, possibly as a road block, where horse and foot could be deployed (Figure 7). Does this body of material, stretching from the Castle Dore Road down along Tywardreath Hill to the former coastline at Polmear therefore represent an attempt to ‘break through’ the Royalist lines, resulting in a skirmish and rout across fields and hedges down to the sea? Here the interpretive quandary presents itself; what is the direction of travel? There is little doubt that the volume of lead projectiles recovered from this area certainly suggests intensive fighting, but where does the skirmish originate? The topography and the patterning of lead projectiles on the Castle Dore Road would favour the fighting to have run down the ridge in the direction of the sea, as perhaps represented by the trickle of material running along the edges of Tywardreath Hill lane. Contemporary sources suggests greater activity towards St Blazey, therefore the action may have begun at the bottom of the ridge which encompasses Tywardreath to the southeast.

One must however consider that the geographical scales of this landscape are relatively compact and in an unfamiliar landscape certain landmarks will be used continually to describe more general areas.

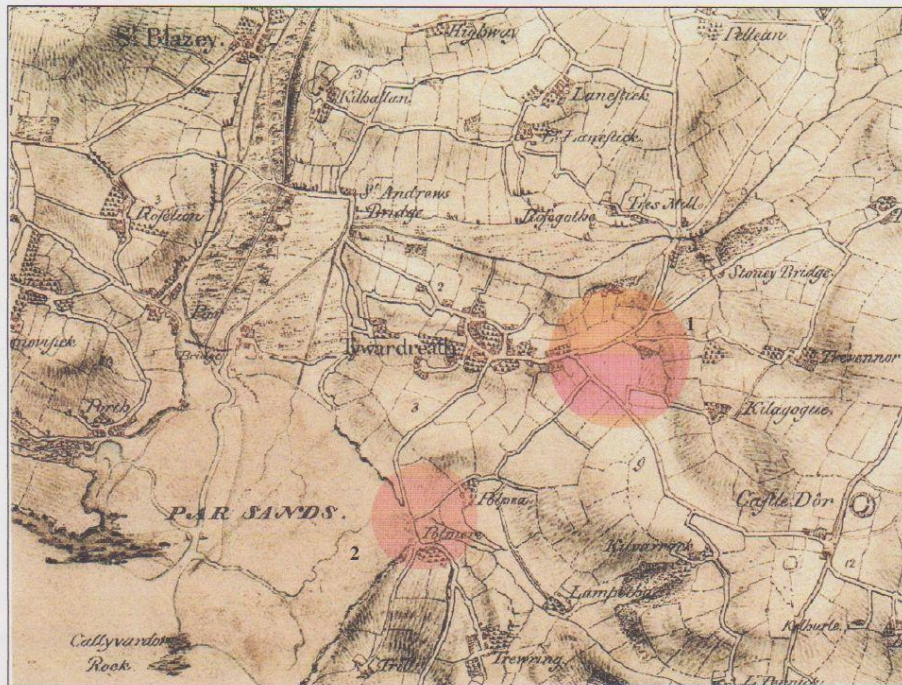


Figure 7: Dawson's 1804 Map - Area of artefact distribution on either side of the Castle Dore Road. 1: Note the open fields and number of roads branching out from this position. 2: Lanes at Polmere extending to the old shore line before land reclamation.

There is, however, an alternative interpretation which suggests this assemblage represents an action which occurred as part of the Battle of Lostwithiel. The assemblages of the Castle Dore battlefield and Tywardreath are closely connected in the landscape by the downward sloping topography of the Tywardreath ridge and more directly by the Castle Dore Road which partially follows this ridge as it sweeps northwards to Castle Dore. As detailed in the historical background, Essex withdrew his army from Lostwithiel on 31st August in an attempt to reach to the coast. They were hotly pursued by the Royalists southward along the ridgeway until they reached Castle Dore. Here Essex made a stand, managing to hold his position against waves of Royalist horse and foot. Sometime into the battle Major-General Bassett arrived with his cavalry and foot from the direction of St Blazey and attacked Essex's left flank. Essex successfully counter-attacked with a tertio of approximately 1,500 men (Ede-Borrett 2004, 41). In a letter Essex recounts the action, clearly one of the few successes of the battle.

"I took two troops out of the Plymouth Horse that were on the St Blazey side, and Colonel Butler took a hundred musqueteers, and Captain Floyd, all of my regiments, and with the two troops fell upon three or four of the Enemies regiments, and their horse, beat them back two or three Closes". (Essex, after Ede-Borrett 2004, 103)⁴

As Major-General Bassett was in St Blazey speed was of the essence if he was to make any impact on the battlefield. From St Blazey it is therefore possible that Bassett utilised the road network to its full potential using the Castle Dore Road, which runs through Tywardreath itself, as the most direct route to the action. We know that Essex sent troops of horse and infantry to halt Bassett's approach, but could this have occurred as far along the road as Tywardreath? Visibility westward along the ridge from Castle Dore down into Tywardreath is relatively clear; therefore it is very possible that Bassett's advance had been noted in time to pre-empt the attack and buffer the left flank from a fresh Royalist advance. As described by Essex, the Royalists were pushed back over several fields in this engagement. Could this explain the heavy skirmishing between the field enclosures south of Tywardreath village? If Essex was aware of Bassett's advance would he have had the luxury of sending a force to meet him given the strength of the Royalist position?

Resolving this issue of interpretation is dependent on further archaeological survey in order to establish whether an archaeological connection between the Tywardreath and Castle Dore assemblages exists. The current gap is a result of restricted access to fields owned by Cornwall County Council. Further archaeological survey is also required to establish the extent of the assemblage as it is not clear the boundaries lie, particularly westward beyond Tywardreath Hill and towards St Blazey. This will become a particularly significant heritage management issue as development continues to expand in this area, especially as this remains relatively unknown site. Over the next three years the Tywardreath Battlefield Project and extend the survey area to include more fields surrounding Castle Dore and north along the ridge towards Lostwithiel.

5.0 Conclusion

This report marks the first stage of analysis and interpretation of this site. The purpose of such a report is to draw out questions from the data and to highlight its potential, rather than attempt to provide definitive answers and conclusions. Clearly there are many questions to be addressed. The primary question, which should remain at the forefront of this investigation, is; what does the assemblage at Tywardreath represent? Although a simple question it is important to keep it open so that any new evidence brought to light can serve only to enhance our understanding of the site rather than cloud or confuse any earlier interpretations. The second is; what is the extent of this assemblage? Where are the boundaries and how does it connect within the landscape? This is important not only to understand the conflict but to ensure that the archaeology of this site can be managed within the landscape appropriately.

This work by Andrews has demonstrated that Tywardreath was very much at the centre of the later stages of this campaign. As the Royalist army continued to strengthen their grip over the Parliamentarians, constricting them into a smaller and smaller area of the landscape, the people of Tywardreath too would have experienced the misery and desperation faced by those soldiers trying to survive in a strange and hostile land. With food and fodder in short

⁴ Letter from the Earl of Essex to Sir Philip Stapleton Sept. 7th 1644

supply and it is very possible that the villagers of Tywardreath would have suffered with them, enduring constant forays from both armies, friendly or not, for whatever resources were available. Many of the young men and boys from the surrounding area may even have been drafted to fight in the fields in the months before they had ploughed and grazed their sheep. Although the discovery of this site has provided a fascinating insight into the military activity surrounding the Lostwithiel Campaign of 1644, I also believe its importance lies in highlighting the scale of the fighting across this landscape as it demonstrates the conflict was not restricted to an isolated ridge but moved close into the hamlets and villages. There is no doubt that, therefore, that the assemblage at Tywardreath, recovered and recorded by Andrews, represents a significant contribution to our understanding of English Civil War activity in Cornwall and its impact on the local population.

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