

BLOOD RED ROSES: THE ARCHAEOLOGY OF A MASS GRAVE FROM THE BATTLE OF TOWTON AD 1461.

Edited by Veronica Fiorato, Anthea Boylston and Christopher Knüsel. 2000. Oxbow Books, Oxford. £30. ISBN 1-84217-025-2.

The short title of the book is a poetical allusion to the subject matter: the study of the skeletal remains of Lancastrian foot soldiers from a 'Wars of the Roses' battle. It is a multi-disciplinary work, involving forensic anthropologists, archaeologists, historians, experts in arms and armour and takes the form of a set of papers clustered around a common theme. Happily there is no attempt at producing a fashionable 'integrated text', which tends to make some accounts of archaeological investigations almost unreadable. Although the subject matter of some of the papers may appear hard going the general reader ought not to be put off by this.

An introductory chapter describes the initial finding of ancient human remains during works at Towton Hall, Yorkshire, in 1996. There then follows an account of the battle by Andrew Boardman, appropriately the author of the most recent work on the subject. Boardman re-iterates the claim that the Battle of Towton on Palm Sunday 1461 was the bloodiest battle to be fought on English soil; in fact the bloodiest battle involving British arms up until the first day of the Battle of the Somme (1916). There is a discussion of the conduct and results of the battle, together with a critical examination of the sources and their estimates of the numbers of combatants. Dr Boardman also concludes that although, of course, this defeat for the Lancastrian cause did not destroy their capacity for further military action it was the last time that they were able to field an army that did not rely heavily on Scots and mercenaries. Here, unfortunately, he repeats the allegation that Ralph, Lord Dacre, a Lancastrian casualty of the battle, was buried upright in Saxton churchyard with his horse in the same grave. This, of course, is a legend that was refuted more than ten years ago by the late Pauline Routh. More pertinently, Boardman goes on to quote John Leland on the presence of mass burial pits nearby containing some of the enormous number of those slain at Towton. The next two chapters describe the excavation of just such a pit (0.5 to 1.0 metres deep) at Towton Hall. Catastrophe pits, such as mass burials following a major battle or disease epidemic present different problems of excavation from those encountered in an 'attritional' cemetery, where the dead from a town or other settlement normally are laid to rest in discrete graves. New methods of recording the skeletons, attempting to separate individual persons found lying prone or supine, were attempted. Despite the potential confusion of the interlaced skeletons it was possible to conclude that the bodies had been laid carefully, if haphazardly, in the pit rather than being thrown in carelessly. The three chapters that follow deal with the detailed analysis of the skeletons with regard to demography, stature and health. The layperson could be forgiven for skipping these but this would mean missing some gems. Thus, the chapter on Demography showed that, not surprisingly perhaps, all thirty-eight skeletons examined proved to be male. What was certainly fascinating was that several of the men had died in their late forties, equalling in numbers those who were at least twenty years younger. Moreover, examination of their wounds revealed that here were veterans of several battles in the 'Roses' series; their earlier healed injuries were still detectable in nine individuals. One of the taller men had an old, severe but healed wound of the lower jaw. A reconstruction of his facial appearance, with ancient scars, was commissioned for the project and is illustrated on the back cover.

Here too, at last, we have a partial answer to the old chestnut: 'How tall were people in the fifteenth century?' The skeletal evidence for physical stature for the middle ages tends to come from skeletons in parochial cemeteries that have been in use from the twelfth century to the mid-sixteenth, at least. Christian cemeteries by definition have nothing by way of 'grave goods' that could be used to ascribe a date to individual burials, so all that can be done is quote an *average* height for women and another for men over the general medieval period. In a recent survey, average height for men excavated from twelve different 'medieval' cemeteries varied with the site, from 170 to 173 cm. However, as recently as 1998, Bertram Fields (in *Royal Blood*, p.253), felt able to say 'Humans in the fifteenth century were normally smaller than they are today'. Hitherto, exhumations of fifteenth-century individuals had chiefly been those of members of the (tall) nobility and so could not be regarded as typifying the population as a whole. Indeed, here the authors refer to information that the height of Edward IV, 6 feet 4 inches, was known from documentary sources (citing the popular work: *Chronicles of the Wars of the Roses*), whereas that figure was not quoted in any document during his lifetime but dates instead from the examination of the remains in his coffin in St George's Chapel in 1771. However, to return to commoners, it was calculated that the thirty-seven Towton men for whom the leg bones could be measured ranged in height from 158.5 cm (5ft 3in) to 183.5 cm (6ft 0in), giving a mean stature 171.6cm, or over 5 feet 7 inches tall. So is this average height representative of Englishmen of the period or is there some other explanation? Clearly it would appear that no attempt had been made to recruit soldiers necessarily from among the taller members of the population, given that nearly half of these men (43%) were less than 5 feet 7 inches tall. It may be significant here to consider the physique of the soldiers and sailors who perished when the *Mary Rose*, grand warship of Henry VIII sank in 1545. Here, less than a century after Towton, these men ranged in stature from 5ft 3in to 5ft 11in, with a mean of 5ft 7in (Ann Stirland, *Raising the Dead: the skeleton crew of..the Mary Rose*, 2000, p.80). Although the Towton dead do not provide us with a definitive figure for average height in the fifteenth century they do allow us to dismiss the notion that persons of the period were significantly shorter than in the present day.

Another question that has exercised Ricardians is that although the notion of the 'hunchback' is a Tudor invention, did it have as its root in Richard possibly having one shoulder apparently higher than the other owing to over-extensive weapon practice? Dr Christopher Knüsel here addresses the problem generally rather than specifically. He studied professional athletes and examined the effect of exercise and prolonged practice on the favoured arm. Thus, for example, right-handed male professional tennis players have as much as 35% more bone mass on the right arm than on the left. Dr Knüsel then looked at robust arm bones from Towton, both directly and via X-rays. Some showed similar robusticity of both arms, suggesting practice on two-handed weapons such as hand-and-a-half swords or poleaxes. Others showed an asymmetry of the right shoulder but also the left elbow. Through comparisons made with the arm bones recovered from the *Mary Rose* (together with longbows, from the wreck, of estimated draw-weights up to 170 pounds), the conclusion was that here were archers. In right-handed archers the left arm must remain straight, whereas the right arm carries the weight of bow and arrow as well as taking up the draw strain of the string: this appears to lead to a build-up of muscle and bone on the right shoulder joint and of bone on the left elbow (pp.108-9). So could Richard's body have shown an asymmetry of its upper part, owing to diligent weapon practice involving his dominant (and unwithered) arm? Would such excessive muscular development have produced the appearance of one arm being higher than the other? The answer is *perhaps*, especially if he had practised archery, although class presumably would have precluded him from recourse to the longbow.

The Towton Project team had the benefit of the experience of an American forensic ballistics expert, Shannon Novak, present during her sabbatical year. Ballistics is not the field of expertise that springs to mind immediately so far as medieval battle is concerned but transferable skills are involved, as it were. Whether or not early examples of cannon were deployed in the Battle of Towton they would have been rather ineffectual, compared with arrows, say. After dealing with 'puncture wounds' Dr Novak was able to draw the distinction between 'projectile-force', 'sharp-force' and 'blunt-force' injury on the skeletons, frequently with more than one type of injury being visible on a single skeleton. She demonstrated that it was possible to look at a skull from Towton that showed multiple injuries and deduce the precise order in which blows were struck, according to the lines of fracture radiating from the wounds. Experts from the Royal Armouries at Leeds ingeniously attempted to match the observed wounds to the battle implements, supplementing this work. The four chapters by specialists from the Royal Armouries at Leeds discuss aspects of medieval warfare with a possible bearing upon the Battle itself. Dr Graeme Rimer reviews the types of weapon and bodily protection available to foot soldiers of the type who would have been engaged in the Battle of Towton. He uses the *Bridport Muster Roll* of 1457 to demonstrate that, after the longbow, the poleaxe was the most common weapon resorted to by the foot-soldier, followed by the glaive and the bill. Furthermore, he finds that the muster for Edward IV's French Expedition of 1475 contained ten times as many foot soldiers as men-at-arms. The infantry would have been provided with little by way of personal protection, less than half possessing a *sallet* (defending the head) and/or a *jack* (protecting the torso). Hence, most of the dead studied in the Towton project had head injuries. In one of these it was felt that a puncture wound of square cross-section could be matched accurately with the top spike of a staff weapon, almost certainly a poleaxe. Dr Thom Richardson describes the armour of the nobility, based on monumental effigies, brasses and illustrations in manuscripts of the fifteenth century, together with the prolific surviving examples of armour of the period. When considering the body protection of the ordinary soldier at Towton, however, Richardson has fewer resources upon which to draw. He illustrates several different types of sallet, a quilted jack, a brigandine ('coat of plates') and a habergeon (mail shirt) of types that some of the infantry may have worn at the battle. John Waller contributes a chapter on archery as well as a second on medieval 'Combat techniques'. A second chapter by Tim Sutherland is entitled 'The archaeological investigation of the Towton battlefield' and deals chiefly with metallic objects found or excavated from the site of the battle. Most of the latter objects proved to be fragments of later agricultural implements but there were arrow heads of medieval date that could have had their origin in the battle itself. A concluding chapter by two of the editors deals with the contributions made by the Towton Project to knowledge of late medieval warfare. The spines of the Towton dead were in a condition that reflected hard agricultural work as the primary occupation of these indentured warriors but a number of them showed musculoskeletal changes in the arms, which were suggestive of the regular practice of archery. The skeletons also revealed that the men were in robust good health until they were killed. They suffered no major dietary deficiency diseases; moreover, because cane sugar, other refined carbohydrates and dried fruits could be afforded only by the nobility, their teeth, even if worn down, were in good condition and dental decay was rare. They revealed a higher proportion of head wounds than was evident in the mass graves from the Battle of Wisby 1361. This may have been because the latter wore mail coifs and these had fallen into disuse a century later, to be replaced by the less regularly available and more easily detachable sallets. Conversely, the dead from Wisby showed far more injuries of the lower limbs than did those from Towton. Did the latter wear greaves or some other protection for the leg?

There are several Appendices. Osteologists, anthropologists and palaeopathologists will be delighted with the complete catalogue of skeletal data for all the deceased that is offered. The work also includes a Gazetteer of battles on English and Welsh soil from the first to the seventeenth centuries AD. The list is not exhaustive, since it is based on responses to a questionnaire sent out by one of the editors and that many recipients of the questionnaire failed to reply. The results are listed by region and date. The value of the data is uneven, given that it can only be as good as the information supplied by respondents. However, in a work dedicated to one of the battles in the Wars of the Roses it is a pity to see that some battles in this series are not properly dealt with. Thus, there is no record in the Gazetteer of Ludford (1459) or Losecote Field (1470), although the latter is mentioned in the body of the text (p.174). Curiously the major Battle of Mortimer's Cross (fought on 2 February in the same year as Towton) is

dismissed merely as '15th Century'. For Bosworth there is no mention of the possible alternative site of Dadlington. A second table, summarising archaeological work undertaken on English battlefields is more useful and includes continuing projects at Tewkesbury, Bosworth and Towton itself.

The book is magnificently produced, with a Foreword by Robert Hardy, thirty-six colour plates and many more black-and-white photographs and the index is excellent. It advances forensic analysis of burials and of mass graves, in particular, and points the way for future analysis of 'catastrophe cemeteries' and of multi-disciplinary historical studies generally.

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First published in *The Ricardian* Vol. 12, No. 158 September 2002.

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