



Book Reviews

IRON AGE HILLFORT DEFENCES AND THE TACTICS OF SLING WARFARE BY PETER ROBERTSON

Archaeopress, Oxford. 2016. 131pp, 89 B&W fig and tables, ISBN 9781784914103, pb, £25.00

One of the great ongoing debates in Iron Age archaeology has been the role of hillforts, and this small but significant volume examines one category of evidence – the humble sling stone – to see if it can throw light on this issue. The unworked but clearly carefully selected water-rounded pebbles are found scattered but often in small and large caches in various locations within hillforts, and their purpose has always been assumed to be for use in slings. Indeed, they are recovered from hillforts across Britain, making them a major find category from some sites on acidic soils and with few ceramics. Archaeological evidence for slings themselves – given their fabrication from leather or textile – is slim, but experiment has shown that the sling stones work well with slings known from ethnography.

The use of experimental archaeology has a long tradition within Iron Age archaeology, and it is central to Peter Robertson's is central to this study by building on the work of Jon Finney (2006) who carried out experiments in slinging to consider their implications for warfare. Here the results of a wider range of experiments are published, and the key differences are both in the variety of capabilities of the slingers participating in the experiment, and the measurement of accuracy as well as range, which has tended to be the main variable considered to date.

Peter Robertson usefully differentiates between functions of hillforts in general and the purpose of the enclosing earthworks on the other. He argues that whilst extensive excavations in hillforts have produced evidence of intense occupation in some and limited indications of substantial settlement in others, the interiors may indicate roles for the sites that may not be fully correlated with those of the enclosing features including ramparts, ditches and entrances. The project was framed from the beginning in terms of these features having a defensive role and, whilst it is recognised that social factors may have been highly significant in the construction, maintenance and modification of earthworks, their very form is suggestive of a defensive function. It is worth considering this assumption in the light of the results of the experiments.

Ethnographic analogy combined with experiment reveals that a range of sling types and ways of using slings are effective with the size and weight of sling stones found on Iron Age sites. Of the seven participants in the experiment, most used a replica of a sling found in York with a leather pouch and jute string; the most experienced slinger had a riveted leather pouch with modern braided cord, and the other sling used was an Andean form of braided alpaca wool cords and a split pouch. The variability in slinger experience and capability makes it hard to evaluate between these with certainty, but the implication is that all have similar potential. Likewise, different slinging styles were implemented – termed 'Greek', 'Figure of 8', 'Apache', 'Overhead' and 'Underarm'. Most required only a single rotation before release of the sling stone, but the last two required more rotations and so would result in a slower firing rate. Unfortunately, the number of different slingers of each type of sling and style of use, combined with different degrees of experience, means that this study cannot evaluate between these variables. Indeed, most of the results are from the one slinger with the riveted leather pouch. There would be room for further experiments that just examine some of these variables, and with more balanced sample sizes from each participant; the results could be relevant well beyond Iron Age studies and beyond Britain.

The experiments took place at Hod Hill hillfort in Dorset, an advantage using a real site, except that the use of stone sling shot (painted red) had to be abandoned as some were penetrating the turf and could not be retrieved and so would create misleading archaeological evidence; it is not stated where these had been obtained. Instead golf balls were tried and then air-dried clay balls were used – if not found they would decay in the rain. The slings were operated at set locations along a transect across the defences, with nine attacking locations (including within the ditches and on the sloping scarps) and two for defence – the inner and outer rampart. This has allowed consideration of effectiveness for both defenders and attackers. The other major innovation in these experiments was measuring accuracy by noting whether each shot hit a target representing a group of five attackers, hit the central figure of the group, or even the head of that attacker. What is notable is that hitting the group was frequently achieved, and even the central figure's head was more than rarely hit. The effectiveness of slings as weapons – and ones that could inflict serious injury or death – was evidenced by the damage to the target.

The most intriguing results were those comparing defenders and attackers. There is no discussion of how many sling stones the attackers could easily carry, and the way in which defenders could have more supplies brought up onto the rampart whilst attackers would potentially run out of ammunition. The ditches and scarps were as they are today rather in their pristine and even more inaccessible Iron Age form, but the experiments raise significant pointers regarding the potential of sling warfare. Various statistical tests were applied to the data, but the basic pattern was that slings could be highly effective for both defenders and attackers in the case of univallate forts. With bivallate forts, the defenders had an advantage. Indeed, attackers stood little chance of reaching and scaling the inner rampart without having been hit from an equivalent force of defenders – though protection with shields and armour might have mitigated the damage. However, defenders could have suffered considerable casualties if the attackers stopped at various points and fired off their weapons. Much would depend on the trajectory and methods of protection for defenders, and of course the relative skills of the two forces.

The results of the experiments show that although hillfort defenders might have an advantage in some circumstances it would seem that heavy casualties on both sides could be expected. With a combination of moderate accuracy and accomplished speed of firing, it is evident that the sling is effective weapon out of all proportion to its technological and labour input. The most significant investment would be time spent practising, and given the value of sling use in herding animals and scaring off predators, it is likely that from childhood onwards the level of competence was probably higher than any of the participants in the experiment. No women or children took part in these trials, but given the pattern of results are not dependent on strength this was indeed a potent weapon for the whole community if social norms allowed. This study has produced some exciting, though still provisional, results and highlights the potency of the sling. On demonstrating that hillforts were constructed for military reasons it is less conclusive; that old controversy will not be so easily resolved, but this type of rigorous study at least provides some empirical patterning to bring to the debate.

References

Finney, J.B. 2006. *Middle Iron Age Warfare of the Hillfort Dominated Zone c. 400 BC to c. 150 BC*. Oxford: British Archaeological Reports 423

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Review submitted: August 2017

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