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Roman Camps in Scotland

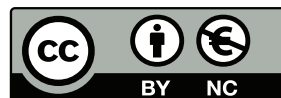
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CHAPTER 4

Contribution of aerial survey

Aerial survey and photography has developed our knowledge of archaeology, and particularly our knowledge of Roman camps, in the 20th century and into the 21st. Subsequent to the military needs of the Hanoverian conquerors of Scotland (the requirement for a suitable map of the territory), it was again military needs that stimulated the technology of airborne reconnaissance that has had the most impact on the discipline. There are some celebrated early photographs of archaeological sites from the air, such as the forum at Rome from a tethered balloon in 1899 (Ceraudo 2005: 74) and Stonehenge from a balloon in 1906 (Wilson 2000: 16–17), but the man largely regarded as the pioneer of air photography for archaeology was Osbert Guy Stanhope Crawford. He was a member of the Royal Flying Corps during the First World War, and during this time started to use air photographs for mapping purposes (Crawford 1955: 117ff). Following his military service, Crawford was fortunate to be appointed as the first specialist in archaeology at the Ordnance Survey (OS), becoming its Archaeology Officer in 1920. His own background prior to the war had largely been in geography, and Crawford saw himself as first and foremost a field archaeologist. He made a great many contributions within his area of research, and as a member of staff at the OS was able to suggest the publication of ‘period maps’, including the first OS map of Roman Britain in 1924. This map showed a skeleton of Roman sites so far identified, but was shortly followed by the second edition in 1928, which included more sites identified through archaeological fieldwork (Phillips 1980).

In this research, Crawford had not lost sight of the application of aerial photography learnt during the war, giving lectures on the technique and publishing a paper on *Air Photography for Archaeologists* in 1929. He also started taking photographs of sites from the air himself, and co-authored the first publication on the subject *Wessex from the Air* (Crawford & Keiller 1928). Crawford undertook his first flight in Scotland in 1930, following Roman routes (the Roman road through Annandale and Clydesdale,

Perthshire and Dere Street), but, although he noted the sites that he saw from the air, no photographs were taken (Crawford 1930: 276–7). Nine years later, Crawford joined forces with Geoffrey Alington and identified a number of new Roman sites in June 1939, rediscovering the camp at **Ward Law** (interpreted as a fort until relatively recently) and locating the camp at **Gallaberry** (Crawford 1939: 284–5) (illus 14 & 132). The purpose of Crawford’s flights was to investigate Roman roads and sites, partly in order to produce a third edition of the *OS Map of Roman Britain* (eventually published in 1956). His systematic approach to the recording of archaeological sites set the scene for many field archaeologists in subsequent years, whether employed by the OS or by the respective Royal Commissions for Scotland, England and Wales (established in 1908). However, in acknowledging his contribution to landscape studies, particularly with his foundation of the journal *Antiquity*, his contribution to the study of Roman camps in Britain is frequently ignored. While he was certainly one of the pioneers of aerial archaeology, credited with driving the subject forward (Bowden 2001: 37), his own interest in the Roman remains visible in the country is plainly evident in his *Topography of Roman Scotland North of the Antonine Wall*, published in 1949, based on his Rhind Lectures to the Society of Antiquaries of Scotland in 1943. His mapping approach to archaeology echoed that of Roy, to whom he served as an extremely belated successor, the former credited with founding the Ordnance Survey, the latter with founding archaeological landscape studies in Britain. While Crawford started the popular *OS Map of Roman Britain*, now in its fifth edition (2001), Roy was the first to set the archaeology of Roman Scotland in its landscape setting with his map of 1773.

Crawford’s successor in the promotion of aerial reconnaissance in archaeology was J. Kenneth St Joseph, a member of the Royal Air Force (RAF) during the Second World War, but employed by Cambridge University from 1948 (St Joseph 1976: 2). The history of the Cambridge University Committee for Aerial Photography (CUCAP)

is well known, with St Joseph rightly acknowledged as the person who advanced the application of aerial photography to archaeology (Webster 1983). St Joseph's research interests lay in the field of Roman military archaeology, and he is the key figure who expanded the number of temporary camps known in Scotland as well as elsewhere in Britain. Indeed, at least 43% of all the camps now known in Scotland were discovered by St Joseph personally. He

of Roman Scotland, with aerial survey initially taking place after the war within the RAF training programme, before sponsorship by CUCAP in 1948. In addition, St Joseph records that he was able to view Ardoch from the air during a flight in 1944 (St Joseph 1976: 2). Earlier (in 1941) Flight Lieutenant Eric Bradley, also flying from Scone, recorded the camp (initially thought to be a fort) at **Steeds Stalls, Gourdie** (Richmond 1943: 47–9). The

airport at Scone was regularly subsequently used as a flying base by CUCAP on sorties in Scotland, a convenient base for flying west along the Gask Ridge (Strageath was frequently the first target on these flights), and north and east to Inchtuthil and Strathmore.

In tandem with the Cambridge flying programme, vertical air photograph collections (particularly the National Survey of Scotland taken by the RAF after the war) began to be scrutinised for archaeological sites. This work was largely undertaken by staff at the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS), under the direction of Kenneth Steer, also an archaeologist with specific interests in the Roman period. Steer and colleagues discovered various Roman sites, including several camps on the Antonine Wall (Feachem 1958), and a number of camps in preparation for Inventories of the Counties of Selkirkshire and Peeblesshire (such as **Oakwood** (illus 15) in the former, **Eshiels** and **Innerleithen** in the latter) (RCAHMS 1957; 1967). While Roman sites received perhaps more detailed treatment



Illustration 14

Aerial view of Gallaberry, from the east, taken by O G S Crawford in 1939. The cropmarks of a probable Iron Age fort and other features can be seen top left, above the camp. One of the parallel ditches of a probable Neolithic cursus runs through the camp and to the right; the second is visible to the bottom of the image. © Courtesy of English Heritage/RCAHMS. SC1164037.

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regularly published papers on his new discoveries from the air in the *Journal of Roman Studies* and elsewhere.

Both Crawford and St Joseph received training in the value of aerial reconnaissance from the military during the First and Second World Wars (from the Royal Flying Corps and the RAF respectively). The location of an RAF training school at Scone in Perthshire before, during, and after the Second World War was fortuitous for the study

when it came to researching, excavating, and publishing the results of RCAHMS' study of air photograph collections (for example, Steer & Feachem 1954), other sites of other periods were recorded and included in the respective Inventories. The examination of large areas of land through such aerial photography collections tends to be less biased in the recording of archaeological sites than observer-directed aerial survey itself, which is subjective

CONTRIBUTION OF AERIAL SURVEY



Illustration 15

Vertical air photograph of the camp at Oakwood, taken by the Royal Air Force in 1946, and identified by Feachem during the preparation of the Inventory of Selkirkshire (RCAHMS 1957). The four sides of the camp are indicated, and the additional arrow towards the bottom of the image marks the Roman fort. © Crown copyright: RCAHMS RAF Collection: 106G/UK/0086 4437.

and often depends on predetermined flight plans and specific survey programmes, as well as the inevitable constraints of weather (see Cowley 2002: 256–62; Brophy & Cowley 2005).

St Joseph and his colleague (and ultimate successor) David Wilson at CUCAP remained virtually the sole practitioners of aerial reconnaissance for archaeology in Scotland until the RCAHMS started its own flying programme in 1976 under the direction of Gordon Maxwell. CUCAP largely ceased archaeological sorties in Scotland in the early 1980s, the mantle being passed to the Royal Commission. The number of temporary camps recorded continues to rise, albeit not as rapidly as in the four decades following the Second World War. Approximately 25% of all camps recorded from the air have been discovered by Maxwell and colleagues at RCAHMS. Maxwell's main field of research also lies in the area of Roman archaeology, and the continued reconnaissance for, and discovery of, temporary camps comes as no surprise. New discoveries are now usually recorded in the 'Roman Britain in xxxx' section of the journal *Britannia*, with occasional 'air reconnaissance in Roman Britain' summary articles continuing the traditions established by Crawford and St Joseph (eg Maxwell & Wilson 1987). Prospective aerial survey in Scotland has had a tendency to follow known Roman campaign routes north of Hadrian's Wall, as a glance at a map of recorded cropmarks in the CUCAP collection will testify (Whimster 1983: fig 68). Despite a more varied programme of reconnaissance in RCAHMS, this trend has broadly continued, partly owing to the weather conditions and the land available for cropmark potential. This has had an enormous benefit for the study of camps in Scotland, probably to the detriment of other periods, with so many practitioners concentrating on Roman remains from the time of Crawford. He freely acknowledged that it was impossible to record all the sites visible from the air, and that he sometimes chose to focus on Roman roads and sites (Crawford 1939: 289).

However, the concentration of aerial survey by Roman archaeologists on known and prospective Roman routes through Northern England and Scotland has inevitably led to a bias in the patterns of sites known (bearing in mind that 82% of camps in Scotland have been recorded through such means; table 2), a pattern that has not been significantly altered by subsequent RCAHMS reconnaissance (Jones 2005a). Serendipity has rarely been given the opportunity to play a part in the discovery of camps from the air, with only a couple of anecdotal examples: the fort and camps at **Malling**, Lake

of Menteith, were spotted by David Wilson while on a geological aerial survey with St Joseph – that location had not been pursued before as it was deemed to be a most unlikely site for Roman occupation (Wilson 2005); the camp at **North Slipperfield**, near West Linton, was spotted by the author on a flight with Maxwell, and had not been identified previously partly owing to being on the 'wrong' (that is, not the observer's) side of the plane on the flight path south of Edinburgh, and a little distance from the Roman road. On neither occasion was there any uncertainty as to whether what was visible was of Roman origin. Since 1992, very few camps have been discovered during aerial survey, including **North Slipperfield** mentioned above, and a new site at **Islafoot Drumlanrig** (also discovered by Maxwell), on the opposite side of the River Nith from the Roman fort. The flying year 1992 not only represents the one of the few years in the last twenty in which weather and other conditions combined to produce excellent cropmark results, it also represents the start of a period of decline in prospecting specifically for Roman sites due to the cessation of flying by Gordon Maxwell at RCAHMS and David Wilson at CUCAP. While this slight change of emphasis in flying programmes will probably be seen to benefit landscape studies in general (and serendipity will be allowed to play more of a part in the search for Roman camps), the impact on the recording of Roman camps is perhaps already apparent (see table 2). Chance discovery has not yet had an impact on the identification of camps, although a few new fortlets have been 'accidentally' discovered away from known Roman routeways since the late 1980s: at Kirkland (near Moniaive in Dumfries and Galloway), possibly attesting to a penetration route from Drumlanrig/Nithsdale to the south-west (Keppie 1993: 281); at Kirkton, Livingston (West Lothian), again away from known Roman routes (Keppie 1993: 280); and probably at Lochrutton (west of Dumfries), suggesting a route towards Glenlochar (Hunter 2005: 402). The Livingston site opens up the intriguing possibility of a hitherto unsuspected route south to the Flavian fortlet at Castle Greg and then south-east, farther across the Pentland Hills to Tocherknowe (West Linton), possibly continuing along the Lyne Water (via the camps around West Linton and **Kaimhouse Lodge**) to the fort and camps at **Lyne**/Easter Happrew.

The proliferation of temporary camps and other Roman sites recorded as cropmarks has led to a tendency of research and publication, and in many cases small-scale excavation, being carried out by the aerial practitioners. St Joseph was the first of these to address possible date ranges

CONTRIBUTION OF AERIAL SURVEY



Illustration 16

Vertical air photograph of the camp at Raedykes, taken by the Ordnance Survey in 1965. The four sides of the camp are indicated by arrows (also see illus 193). © Crown copyright: RCAHMS OS Collection: OS/65/028_0127.

for camps, grouping them into various series dependent on their size and gate-type (St Joseph 1958: 93; 1969: 113–19; 1973: 228–33; 1977: 143–5). However, some camps appear to have been ‘shoe-horned’ into various groupings, and St Joseph did not take into consideration unusable ground within the camps when allocating them to these series. For example, **Raedykes**, at 93 acres (*c* 38ha) was first placed in his ‘120 acre’ (48.5ha) and then ‘110 acre’ (*c* 44ha) groups (St Joseph 1973: 231; 1977: 143–4), rather a large disparity, particularly when one considers that the camp takes in the extremely uneven ground of Garrison Hill (illus 16 & 193). While affording a good view of the surrounding

countryside, parts of this hill would likely prove unsuitable camping ground, reducing the useable area even further. In addition, one of St Joseph’s series hangs together purely on gate-type (Stracathro-type – see Chapter 9) as the camps range in size from about 2 to 24ha (5 to 60 acres) (St Joseph 1973: 229; Hanson 1978a: 144; Jones 2009c), thus contradicting his own proposal for classifications based on acreage. While many of St Joseph’s propositions were ingenious and do stand up to critical analysis, further possibilities and more complex scenarios than those that link directly to the literary evidence (eg Tacitus’ *Agricola*) should also be sought.