

Review of *Landscapes through a Lens. Aerial Photographs and Historic Environment* (2010, Cowley, Standring and Abicht eds., Oxbow).

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Aerial photography was a major early force behind the emergence of an entire sub-discipline that we now call landscape archaeology. Indeed, it also had a key role in encouraging the peculiarly 'archaeological imagination' that dominated wider discussions of landscape and place in Britain during much of the 20th century (e.g. Hauser 2007). It is therefore heartening to see this crucial topic return to the limelight via a dedicated, densely illustrated volume. As Cowley, Standring and Abicht note in their useful introduction, the history of human documentation of the earth's surface via remotely-sensed imagery has been marked by several crucial thresholds of technological advance and expanding application. In a similar way, the discipline of archaeology's engagement with aerial photography has moved forward in a series of stages. The 1920s and 30s were a phase of early adoption and theory-building about the relationship between surface signatures and sub-surface archaeological remains. Thereafter, archaeological mapping efforts in many parts of the world during the 1950s, 60s and 70s were influenced by the higher resolution vertical photos and new photogrammetry-led topographic maps of the time, even if they rarely engaged with more complex image manipulation directly. The rise of intensive archaeological survey projects, from the 1960s and 70s onwards, reinforced the importance of landscape characterisation for all periods of the human past, and for these projects, historic aerial photos were a particularly relevant and comparatively low cost resource. The sharp upswing in the use of Geographic Information Systems in archaeology from the beginning of the 1990s and 2000s, led to the closer integration of aerial photographs with a host of other landscape-scale data, including satellite imagery (both declassified military datasets such as Corona and coarser multispectral imagery from major scientific programs such as Landsat, and later, ASTER). We have now also had over ten years of exposure to the strengths and weaknesses of higher resolution (~0.5-4m), commercially-acquired, satellite imagery (Ikonos, Quickbird, Geo-Eye etc.), and can form a clear opinion of the how these perform archaeologically when compared to aerial coverages of comparable scale. More recently, we have witnessed a sea change in citizen-led global mapping ushered in by earth viewers such as Google Earth and Nasa Worldwind (of which more below). We now stand at the threshold of further rapid developments over the next few years, as plane-borne 'big-data' methods such as LiDAR or hyperspectral imaging becoming mainstream and affordable to archaeologists, at least for certain parts of the world.

In other words, the moment is just right for this kind of upbeat review of the continuing potential of a long-favoured, and if anything, increasingly important archaeological resource. The editors of the volume do a nice job of evoking the history of archaeological engagement with historic aerial photographs, giving relative newcomers to the topic some important technical signposts and offering some thematic groupings through which the individual contributions that follow can be understood. They rightly emphasise the serendipity of aerial photographs for archaeologists, given that increase

of archaeological knowledge has not usually been a priority behind the capture of such imagery, but is nonetheless a fortunate side-effect. Indeed, such photography has typically been driven by military strategy and shifting theatres of global confrontation, and the net result, perhaps slightly grisly if you think about it for a moment longer, is that there are both 'oases' of comparatively lush, historic photographic coverage, such as over Europe (and over the Low Countries in particular with repeated reconnaissance back to World War 1: Stichelbaut et al.) and also 'deserts' with only much more recent and partial attention (parts of Africa and South America for example). The contributions in this volume perhaps accentuate this geographic skew slightly – out of the 26 papers, the lens falls 16 times on northern European and north-western formerly Soviet countries, 3 times on southern Europe, 3 times on the Middle East, twice on the US, and once each on Sudan and Antarctica – but are nonetheless a pretty good reflection of the current clustering of academic interest and archival opportunity.

The volume focuses firmly on applications rather than analytical methods. There are brief discussions of the strengths and weaknesses of different kinds of imagery (Deegan, Fowler), the integration of aerial photos with maps and ground-based remote sensing (Burks) or the continuing need for a blend of high and low-tech approaches to image interpretation (Winton and Horne). Many papers demonstrate the advantages that snapshot sequences of aerial photos provide for understanding landscape change. Issues such as coastline shifts (Palmer), long-term fluvial geomorphology (Walstra et al.), ecosystem conservation (Smith et al.), erosion monitoring (Evans) and/or climate change (Fox et al.) are all well-covered. Another related strand in the volume prioritises the interweaving of aerial photograph interpretation, cultural resource management and attention to specific regional or national archaeological sequences. Under this umbrella, in one way or another, individual contributions consider a diverse range of sub-topics, such as the soil or crop mark signatures of subsurface earthworks (Burks; Musson and Franchin Radcliffe), standing or topographically-prominent structures in arid or semi-arid contexts (Kennedy and Bewley; Laursen; Stoker) or relationships between changing ecologies, field systems and settlement (Edwards, Kijowska et al.; Olesen; Stoker). They also occasionally highlight the importance of various smaller collections, other than the better-known ones in the US (NARA) and UK (TARA), which can be found elsewhere in both national and institution-specific archives (Ceraudo and Shepherd; Kennedy and Bewley; Musson and Franchin Radcliffe; Stichelbaut et al.). Particularly inspiring amongst these is the sheer ambition of the UK National Mapping Programming and the kinds of opportunities for macro-scale and comparative landscape archaeologies that it, as yet uniquely, enables (Winton and Horne).

Understandably, World War 2 also looms large in the various chapters of this volume, both due to the sheer quantity of photos available from this period, and as a result, also due to the opportunities thus available for exploring military and non-military built archaeology of the mid-20th century AD (Abicht; Baclieri and Thomas; Easton; Godziemba-Maliszewski). However, certain papers also make clear that this view-from-the-air should not restrict us to an exclusively top-down interpretative agenda (the latter being what Gabriel Moshenska [2009: 48] nicely but critically calls a 'bombardier's view'), but can also contribute to more rounded archaeologies of the surveilled, the bombed and/or the interned. For example, Fowler explores the two-way surveillance strategies associated with photographs of Cold War radar installations. Uziel provides a very good contextualisation of the aerial imagery that covers Holocaust

sites, by also emphasising the quite different focus and intentions of the reconnaissance missions that covered these areas and the fact that aerial imagery can only really be made sense of alongside ground-level records and personal testimonies. Stoertz uses aerial coverage of a small Gloucestershire town during 1944 as the basis for a rich, and in every sense grounded, discussion of the impact on local life that was made by the massive troop build-up in this area before D-Day. Golding also stresses that the use of aerial photographs as part of public archaeology need not lead to exclusively one-way engagement between specialists and the public, but can also prompt more interesting, less authority-bound kinds of interaction.

Indeed, while certain kinds of photo analysis will no doubt always require specialist methods, this volume hints in passing at further opportunities for wider engagement if we were to make such images more widely accessible via earth viewers such as Google Earth or Nasa Worldwind. These platforms and their fully online web mapping equivalents are perhaps the natural places to provide public access to georeferenced versions of historic air photos and archival metadata (as well as coarser indicators of very oblique images and/or those not yet digitised). In some sense, the sheer scope of *Landscapes through the Lens* anticipates such developments, but its overall focus is not primarily on joined-up possibilities of this kind. It therefore sits on something of a historical cusp: our knowledge of archival sources are still very patchy but slowly being systematised. The range of archaeologists and others who engage with historic aerial photos is expanding but still restricted to a limited number of people with the necessary traditional competences in archival search and rescue. The amount of online metadata and image thumbnails is increasing but still represents only a tiny fraction of the overall resource. However, I would argue that the pace with which this situation will change, depends partly on how we, as academics, archaeological professionals and/or members of the public, choose to address questions of data sharing.

More precisely, one continuing problem that the authors in this volume delicately skirt is image copyright. Some archives such as NARA place few if any conditions on the subsequent use of scanned imagery, though they may understandably seek to cover their operating costs via a one-off fee for assisted archival searches and/or the scanning process. Other archives impose sharper licensing restrictions that reduce the range of secondary uses to which the imagery can be put, and discourage wider uptake. Given the circumstances in which these images were acquired (usually with public funds, sometimes at considerable risk, often in colonial, imperial or conflict situations that we might now wish to move beyond), the argument in favour of open access (e.g. via Creative Commons, Open Data Commons licenses or equivalent government-led initiatives) should become unassailable. More to the point, this removal of impediments to reuse is a key way to allow larger numbers of people to value and enhance the resource. In particular, it is the cloud-sourcing of incidental information about the historic environment, using historic aerial photos as a prompt, that is arguably the biggest opportunity missed at present, and one whose potential dwindles year-by-year in step with the dwindling number of people who have clear personal memories of these earlier 20th century landscapes.

References

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