

A giant scale for long-distance photography

PLATES XVIII–XIX

In photographing excavation a person and/or ranging pole is usually an adequately visible scale, but for aerial or distance photography of a whole site they are insufficient. The device described here overcomes this difficulty, being visible at up to 1.5 km., and it is difficult to say whether the idea, the manufacture or the use of it is the simplest.

It consists of a 10 m. by 1 m. strip, made up of rectangles of pre-shrunk lightweight cloth, alternately black and white, sewn together. Each rectangle is 1 m. by about 1.10 m. the extra 50 mm. at each end making for ease and accuracy in sewing. The entire strip can be made in an evening, and folds into a small bundle weighing less than 1 kg., which can be carried in the hand. For distance photography from the ground it is held parallel to the plane of the film by two or three people, or fastened to a steep slope or wall, while for aerial photography it is staked out flat in or near the site.

The scale has several uses, the most obvious of which is that it provides an indication of size on the whole-site level as visible and as accurate as the centimetre scale used for photographing objects in the studio. A less obvious use is that scale plans or elevations can be traced directly from an enlargement of a vertical air photo or a horizontal distance shot, and with some types of site, e.g. *tells*, a contour plan can often be made from a series of photographs taken around the mound that show

significant changes of slope in profile. Apart from giving the dimensions of a site, the scale's visibility at a distance makes it possible to show the exact location and in a single picture place the site accurately in its topographic and environmental context (PLS. XVIII and XIX).

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Professor R. J. C. Atkinson writes:

Dr Hammond's giant scale for air-photography is so simple, and so evidently effective, that one wonders why no one has thought of it before.

In hilly terrain of the kind illustrated here an isolated scale provides most of the information that can easily be extracted from an oblique air-photograph. On flat ground, however, the usefulness of this device can be greatly extended, either by using a pair of such scales set accurately to occupy opposite sides of a square or, more economically, by using the scale to mark one side of a 10 m. square and single 1 m. squares to mark the remaining two corners. The inclusion of the four corners of a square of known size, preferably not too far from the centre of the photograph, allows a perspective grid to be drawn by a very simple geometric construction (Williams, 1969, ch. 1),* so that detail can then be plotted on to square paper.

* Williams, J. C. C. 1969. *Simple photogrammetry* (London and New York).

Air reconnaissance: recent results, 30

PLATE XV

In Britain, traces of buildings in timber are recognized relatively seldom on aerial photographs amongst the multitudinous crop marks caused by buried archaeological sites of every variety. This is perhaps partly due to the limitations of interpretation. Rubbish-pits and post-pits may yield the same shaped mark: in a building constructed of timbers of varying sizes, only holes for the largest members may be recognizable as crop marks, and these do not always form a distinctive pattern, when they

occur, particularly, amongst marks in a complicated maze of a kind not infrequently seen on river terraces. Some of the most striking photographs of timber buildings are perhaps those of the royal villages at Yeavinger and Milfield (Northumberland), where a variety of structures appear, including large 'halls' with buttresses set close against the longer walls (Knowles and St Joseph, 1952). On Roman sites, timber buildings have been noted at a good many places. Thus, it was