

ART. IX.—*The granaries at Hardknott Castle.* By
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Read at Carlisle, September 7th, 1962.

THE Ministry of Public Building and Works undertook some years ago the task of clearing and consolidating the stone buildings of the Roman fort on Hardknott, which were excavated in 1889 and the following years¹ and had become overgrown.

The excavations of that period had stripped the buildings fairly thoroughly, and so the recent work has thrown no new light on the history of the site. In the case of the granaries, however, clearing the debris of the old excavations, and in some places digging out completely parts of the building for the first time, have uncovered details not previously recorded, and visitors will notice that the remains now visible on the site do not altogether correspond with the published plan by R. G. Collingwood (CW2 xxxviii, fig. 2 facing p. 320).

The granary is the most substantial building on the site with walls 3 ft. 6 in. thick, without any air vents. Two sides are each strengthened with five buttresses. Originally a single partition wall ran down the centre of the building, but it was found inadequate and a second wall, parallel to it on its north-eastern side, was added and is consequently not bonded into the outer wall.

All trace of the floor has vanished but a series of piers, not recorded on the earlier plan, runs down the centre of the south-western granary and down the original centre-line of the other. The earlier plan shows a sleeper wall in the south-western granary and this is not easily accounted for. It seems possible, however, that a dry-stone wall was built in between the piers, to strengthen

¹ For a bibliography of the site and its excavation see the appendix to this paper, p. 150 f.



PLATE Ia.—Detail of interior of S.W. granary.



PLATE Ib.—Detail of interior of N.E. granary.



PLATE IIa.—Loading-platform.



PLATE IIb.—W. corner of S.W. granary.

the floor, at some stage in the life of the granary, and that it was removed at the time of the excavations or while the site lay open. Plate Ia shows some dressed stones *in situ* between two of the piers in this granary, and this is the only evidence for the wall. In the other granary, at the south-eastern end, there are the remains of a wall, as shown on the earlier plan, but with a broken and not a squared end (Plate Ib); the line of it is continued by an irregular set of piers. The quarter-round feature shown on the original plan in the west corner was not found when the granary was cleared. This side of the building had been badly damaged in the course of the excavation, as the excavators first emptied it and then used it as a rubbish-tip for the fallen stone from the other side of the building. A new, but not unexpected, feature is the loading-bay at the south-east end of each granary. As Collingwood pointed out,² the building was so sited as to allow space for these platforms. Both are badly damaged. The platform in front of the south-western granary is the more complete (Plate IIa). It is faced with squared, roughly dressed stones and filled with rubble, soil and mortar. It does not stand to its full height, and amongst the debris there was nothing to suggest what had formed its upper surface, but presumably it would have been stone flags. At the west side of this platform (Plate IIb), at the north side of the other, is a break in the facing as though there had been a doorway, subsequently blocked, but the opening is barely 2 ft. wide, and although one side of it has a proper corner, the other is irregular. There is a similar feature in the Severan west granary at Corbridge.³ It may be noted that two doorways are mentioned in the earlier accounts;⁴ these were not located unless the "door at the southern end of the western granary" is the opening shown here in Plate IIb.

² CW2 xxviii 330.

³ Cf. AA4 xxviii (1950) 152 f.

⁴ Cf. CW2 xxviii 330, citing CW1 xiii (by a misprint given as xii) 451.

Another hitherto unrecorded feature is a roughly built wall, 5 ft. long, butting against the south corner of the building. The decayed remains of mortar among the stones make it most unlikely that this is a post-Roman addition to the building. It cannot have served as a support to it, and it probably never stood much higher than it is now. It may originally have held a wooden paling and acted as a windbreak sheltering the loading-bay.

This recent work has shown that Collingwood's description, based on the original publication by the excavators, is inaccurate in several particulars. The granaries are, in fact, a single building partitioned and not two buildings with an eaves-drip between. The north-eastern granary, as well as the south-western, has been shown to have provision for a raised floor, so that it is probable that both were used for storing grain, although later some other use, not now discoverable, was made of the north-eastern granary. Unfortunately, no finds were made, in the course of clearing the building, to throw any light on its date. It was presumably erected in the early years of the 2nd century, but the later stages of its history remain obscure.

APPENDIX: *A bibliography of the site.*

By ERIC BIRLEY.

The following note is substantially the same as that which I contributed to the programme for the Royal Archaeological Institute's Carlisle meeting in 1958, later printed in AJ cxv 244 f., except that I have added special references to earlier studies of the granaries.

The first reference to Hardknott Castle is in the 1607 edition of Camden's *Britannia*, the earliest eyewitness mention by Ralph Thoresby; a survey and a not bad description of it, produced by Irton and Serjeant in 1792, were reproduced in Hutchinson's *Cumberland* (1794) i 569, which first recognised it as a Roman fort; its excavation in 1889-1894 marked the first large-scale venture of the kind by this Society (reports in CW1 xii 228-233,

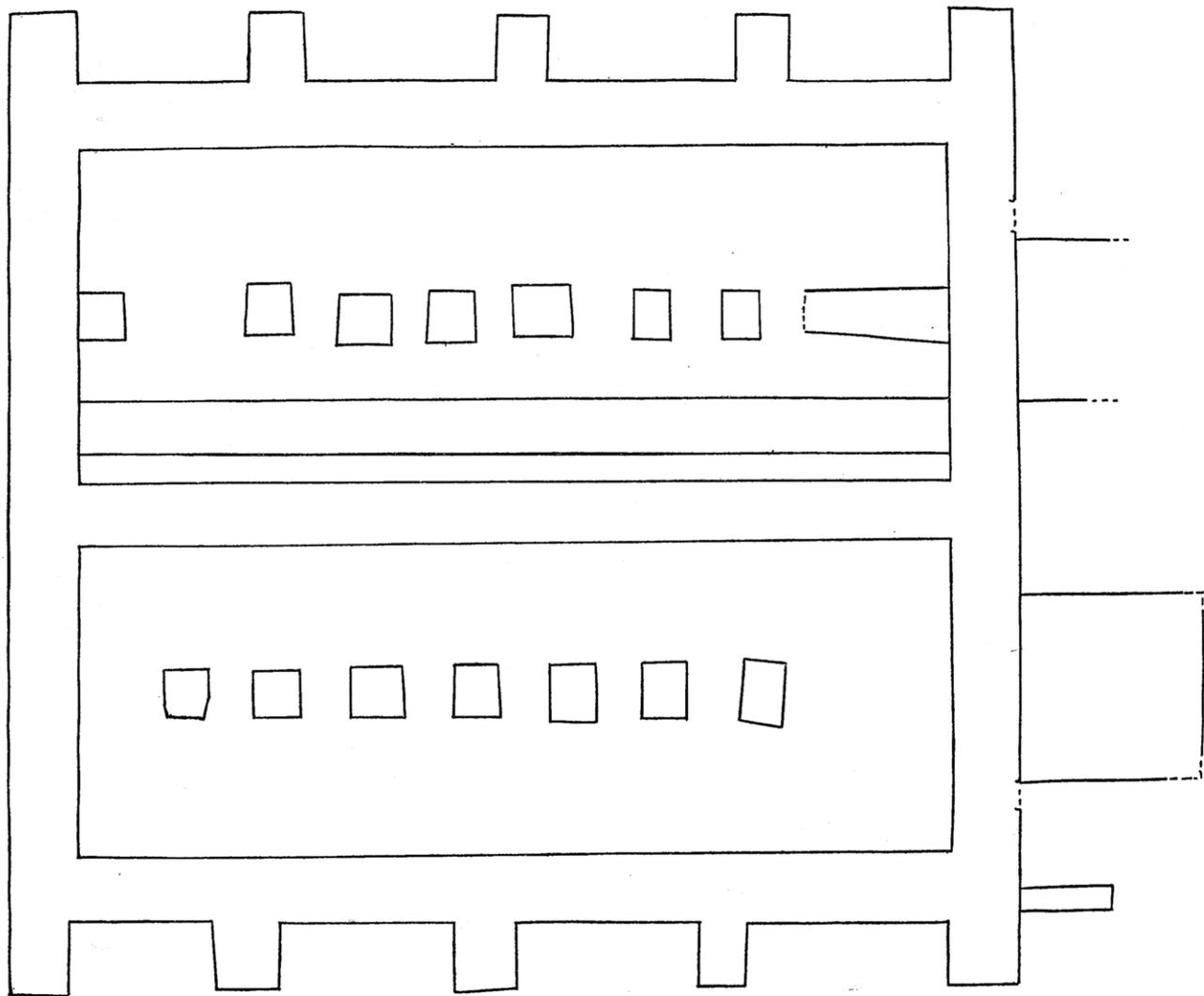
375-438 and xiii 449-452; CW2 i 303-305). The finds were later studied by R. G. Collingwood (CW2 xxi 29-42 and *Archaeologia* lxxi 1-16), who in 1927 produced a fresh survey of the results of the excavations and an assessment of the character and history of the site (CW2 xxviii 314-352): it was coloured and distorted by prepossessions as to the significance of its omission from the Tenth Iter, and an objective review of the archaeological material is still awaited.

The fort is of the standard Trajanic type, almost square and 3 acres in size, with stone-fronted ramparts and principal buildings of stone; the barracks remain virtually unexamined, but Miss Fair noted in 1948 that in the *praetentura* at least one barrack-building had been destroyed by fire and its gable end had fallen outwards, where it still lay (CW2 xlvi 219 f.). An external bath-house, of simple type and with a detached *sudatorium*, excavated in 1892, was studied in detail by Miss Fair (JRS xvii 220-224); the only other external feature of interest is the fine parade-ground, a little way uphill from the fort, with a large *tribunal* on its north side and near it a number of pits, best explained as to take the altars no longer needed when new ones were dedicated — either on the reigning emperor's birthday or on 3 January, when the garrison celebrated the occasion in due form (cf. L. P. Wenham in CW2 xxxix 19 ff.).

There is no reason to suppose pre-Trajanic occupation; the fort was presumably reduced to a care-and-maintenance footing under Hadrian or at latest c. A.D. 139, but there is sufficient pottery evidence to demonstrate that it was reoccupied (like so many of the Pennine forts) in the early years of Marcus Aurelius; only further excavations can show whether the two or three coins of the 3rd and 4th centuries represent more than the casual losses of passers-by along the road to Ravenglass (for the course and character of which, cf. Professor Richmond's careful description, based on field-work in 1946, CW2 xlix 15-31).

For the granaries in particular, reference may be made to CW1 xii 386 f. (Chancellor Ferguson) and 407 f. (C. W. Dymond) on the excavations of 1892, and xiii 451 f. for those of 1893 (the Rev. W. S. Calverley), with Dymond's corrigendum of Ferguson in CW2 i 303 f. For an estimate of the storage-capacity of the Hardknott granaries cf. R. G. Collingwood's appendix, especially p. 140, to Haverfield's posthumous paper on "The provisioning of Roman forts" (CW2 xx 127-142): he estimated their combined floor-area as 157 square yards and, allowing for a storage-height of 6 ft. and for gangways occupying about a fifth of the floor-space, a storage-capacity of 361 tons of wheat. (Contrast Housesteads with 266 square yards and 443 tons on

the same basis of calculation; there, too, study of the exposed remains shows that we really have a single granary at first subdivided by a central row of pillars, then by a partition-wall as at Hardknott, and finally by a second wall producing the appearance of two granaries separated by an eaves-drip.) Cf. also Collingwood's summary discussion of the granaries in CW2 xxviii 329 f., in which he puts forward a revised view, suggesting that the western granary alone was used for storing grain — at 8 ft. height sufficient "to keep a *cohors quingenaria* in bread for a year" — while the eastern granary "may thus have been set free for other use".



THE HARDKNOTT GRANARIES

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