

# The Plan of the Roman Fort at Dalswinton: A Comment

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## ABSTRACT

*An alternative is proposed to the interpretation of the plan of Dalswinton Roman fort offered by W.S. Hanson and colleagues in their important study of the air-photographic, geophysical and LiDAR evidence published in Britannia in 2019. It is suggested that the larger, second-phase fort faced not east, but south, as previously thought, but that most of the remains of this layout have been removed by the plough. A suggestion is made concerning the possible garrison of the second-phase fort.*

**Keywords:** Dalswinton; Scotland; Llanfor; fort; plan; *ala*

In a recent article in *Britannia* W.S. Hanson and colleagues reassessed our understanding of the Flavian-Trajanic fort discovered from the air in 1949 at Dalswinton, near Dumfries, using newly available geophysical and LiDAR data.<sup>1</sup> Previously the main source of information was aerial photography, supplemented by extremely small-scale excavation in 1954. This very large fort was pivotal in the Roman occupation of south-west Scotland and displays two phases (FIG. 1). In Flavian I (Agricolan?) a squarish fort of 3.5 ha faced east, this plainly indicated by the *via principalis* which transects the plan and which is offset to the east (B on FIG. 1). In Flavian II (c. 86/90 to c. 105?) the fort was enlarged to the north to cover 4.2 ha. Hanson *et al.* conclude that the second fort contained largely the same layout of buildings as the first, with the frontal area (*praetentura*) now transected by a secondary road (C on FIG. 1), and that like its predecessor it faced east – a radical departure from the previous understanding that had the Phase 2 fort facing in a different direction from the first.

Although the case is stated in great detail and with great skill, the proposed arrangement of the second fort lacks parallels, and the purpose of this note is to suggest an alternative possibility that would allow us to accept the earlier interpretation of a second fort facing in a different direction (south) and would solve a number of problems with the most recent proposal. The accompanying figures are not to scale and are merely intended as diagrams to aid the reader's understanding.

I.A. Richmond and J.K.S. St Joseph deduced from the positions of its eastern and western gates – offset from the centre of the sides and therefore indicating the line of the forward-lying *via principalis* – that the Phase 2 fort faced south.<sup>2</sup> Centrally placed gates to the north and south indicate the lines of the *via decumana* and *via praetoria* (see openings in the thicker outline of the second fort on FIG. 1 and the reconstruction in FIG. 2).

Despite the change of position of the northern and southern gates, Hanson *et al.* conclude that the Phase 2 fort faced east, the same direction as its predecessor. Their basic reason for this is that a road (B on FIG. 1) is so conspicuous in the air photographs and geophysics that they believe it must still have run all the way across the fort in Phase 2; they conclude that this can only be the *via principalis* in Phase 2 as well as Phase 1.<sup>3</sup>

The Phase 2 fort plan deduced is without parallel. Hanson *et al.* interpret the geophysics to suggest that a road, having entered the fort from the Phase 2 northern gate, then gradually turned to fall in with the earlier *via principalis* (see arrow on FIG. 1).<sup>4</sup> A similar swerve is proposed at the southern gate. The northern swerve does not seem to this writer to be explicit on the greyscale plot (their fig. 10), although it is one of many possible ways of interpreting the weak negative features in this area. There is no hint of the proposed

<sup>1</sup> Hanson *et al.* 2019.

<sup>2</sup> Richmond and St Joseph 1956.

<sup>3</sup> Hanson *et al.* 2019, 301.

<sup>4</sup> Hanson *et al.* 2019, 301; indications of this turn are described as 'slight' at 306–7.

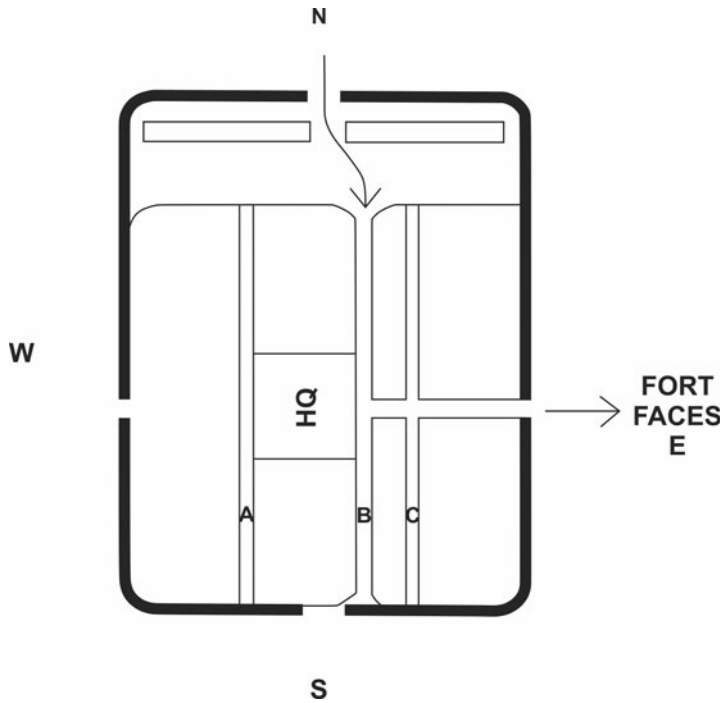


FIG. 1. The Phase 1 fort at Dalswinton with defences of the Phase 2 fort (thicker line) superimposed.

swerve on the air photographs (their figs 2 and 3) which show the course of the earlier *via principalis* with great clarity. The proposed swerve at the southern gate is said to be supported by a drain that swings across the *via principalis* towards the south-west. However, on an air photograph (Hanson *et al.* 2019, fig. 2) this feature appears to run past the Phase 2 gate rather than heading for it, instead falling in with the intervallum road and continuing west. This means it could simply be part of the Phase 1 fort drainage system.

But most problematically the suggestion that the *via principalis* continued in use fails to explain why the gates would be moved if the main thoroughfare running between them remained on its former line 15 m to the east. If the fort continued to face east, the natural thing would be for the gates at either end of the *via principalis* to continue to be offset to the east, rather than being shifted to the centre points of the northern and southern ramparts.

Hanson *et al.* assume that a road that divides the *praetentura* of the east-facing arrangement (C on FIG. 1) is an insertion of Phase 2. This idea is carried over from Richmond and St Joseph who could not understand why a road parallel to a *via principalis* would run across the whole fort area. They concluded that it must be part of the Phase 2 plan which had superseded the east-facing arrangement, but, because they could see no road running in from the Phase 2 southern gate, were forced to propose a most unusual kind of plan: 'The . . . second fort . . . now faced south-west. Much of the road-system of this fort is clear, comprising a grid of rather narrow roads which enclosed 12 blocks south-west (S) of the *via principalis* and lacked an axial *via praetoria*.<sup>5</sup> In other words, they envisaged roads A and C on FIG. 1 as separating three equal blocks in front of the central range, with no road running directly in from the *porta praetoria* – an implausible arrangement, now known to be completely without parallel.

Seeing the two parallel roads B and C as being of different phases is rendered unnecessary in the light of the newly recovered plan of Llanfor, a fort of the early 70s in Wales, which shows two roads in an exactly

<sup>5</sup> Richmond and St Joseph 1956, 12–13.

similar disposition which are contemporary and define a strip of *tabernae* lining the *via principalis*.<sup>6</sup> Hanson *et al.* are aware of the close similarity of the Llanfor plan, but persist in seeing the road parallel to the *via principalis* as an addition of Phase 2 and say that ‘the partial reduction in the width of the *praetentura* in Phase 2 at Dalswinton may also be paralleled at Llanfor, where *tabernae* c. 7 m long opened onto the *via principalis* with a narrow road behind them’.<sup>7</sup> However, the plan at Llanfor is patently of short-lived single period: the two closely parallel roads are part of the original arrangement. The disposition at Dalswinton is so similar that the conclusion must be, *contra* both Richmond and St Joseph and Hanson *et al.*, that both roads belong to Phase 1 (arrangement in primary fort shown, within the Phase 2 enlargement, in FIG. 1). This minor road, designed to effect the separation of the *tabernae* or other structures lining the *via principalis* from barracks and other buildings in the main part of the *praetentura*, offers no clue to the layout of the fort in Phase 2.

For Hanson *et al.* that the road east of the *via principalis* relates to the Phase 2 use of the fort is also suggested by traces interpreted as east–west roads faintly visible between it and the *via principalis*, overlain by later activity attested in the geophysics.<sup>8</sup> For the Llanfor parallel to be applicable, no east–west roads should continue across this strip. Only one clearly and convincingly does – in the northern part of the fort, a prominent east–west feature that terminates at the point where it meets a modern linear anomaly; but this could be a Phase 2 road running along the back of the south-facing central range.

Arguably, therefore, almost everything that we see inside the Phase 1 enclosure actually belongs to the Phase 1 fort: hence the conviction of Hanson *et al.* that the basic layout lived on into Phase 2. But we have seen there is a gross mismatch between the Phase 1 layout and the rearranged gates of Phase 2. An alternative explanation, not considered by the authors, is that there was an entirely conventional Phase 2 layout inside the revised defences, facing south as Richmond and St Joseph deduced, but that its interior structures have mostly been removed by ploughing, so that the aerial photographs and geophysics show mainly the Phase 1 buildings and roads beneath.

Even in 1956, over half a century before the geophysical survey, destruction by deep ploughing was cause for comment. The 1956 report describes, ‘A [modern] lade [mill-stream] which zig-zagged across the fort site, on a course well shown by the air photograph and marked by the Ordnance Survey but now being rapidly obliterated by deep ploughing.’<sup>9</sup> Given that this feature must have cut the Roman levels and was itself being obliterated, the Roman levels through which it was cut must also have been rapidly disappearing. Significantly, this was in the northern half of the fort where, as Hanson *et al.* note,<sup>10</sup> the output of the magnetic survey had been most compromised by the effects of ploughing, although they also comment that the southern part of the fort was also frequently ploughed up till the 1950s. At the south-eastern angle, Richmond and St Joseph found that ‘It soon appeared that ploughing had reduced the rampart itself to almost nothing.’<sup>11</sup> In the fort interior, ploughing was described as ‘drastic’ and having entirely removed stratigraphy in some areas.<sup>12</sup>

Nevertheless, the magnetic survey does disclose some slight surviving evidence, carefully noted by Hanson *et al.*, which supports the suggestion of a largely obliterated Phase 2 fort interior on a different orientation from Phase 1. They describe a trace of road running in from the southern gate of the Phase 2 fort (‘an area of hard-standing or a short stretch of road running across the centre of this block [i.e. what they take to be the southern end of the central range of their east-facing Phase 2 fort] from the south gate’).<sup>13</sup> Surely this represents the Phase 2 *via praetoria* overlying the Phase 1 central range. In the north-western quadrant of the Phase 1 fort the geophysics suggest an east–west running building (a barrack?) but ‘elsewhere in the *retentura*, however, the general impression is of structures that run north/south’.<sup>14</sup> The transition to these north–south running anomalies occurs where the transition to the central range of the reorientated Phase 2 fort would occur if it was arranged as in FIG. 2.

<sup>6</sup> Hopewell and Hodgson 2012.

<sup>7</sup> Hanson *et al.* 2019, 316.

<sup>8</sup> Hanson *et al.* 2019, 307.

<sup>9</sup> Richmond and St Joseph 1956, 11.

<sup>10</sup> Hanson *et al.* 2019, 303.

<sup>11</sup> Richmond and St Joseph 1956, 12.

<sup>12</sup> Richmond and St Joseph 1956, 15–16.

<sup>13</sup> Hanson *et al.* 2019, 308.

<sup>14</sup> Hanson *et al.* 2019, 302.

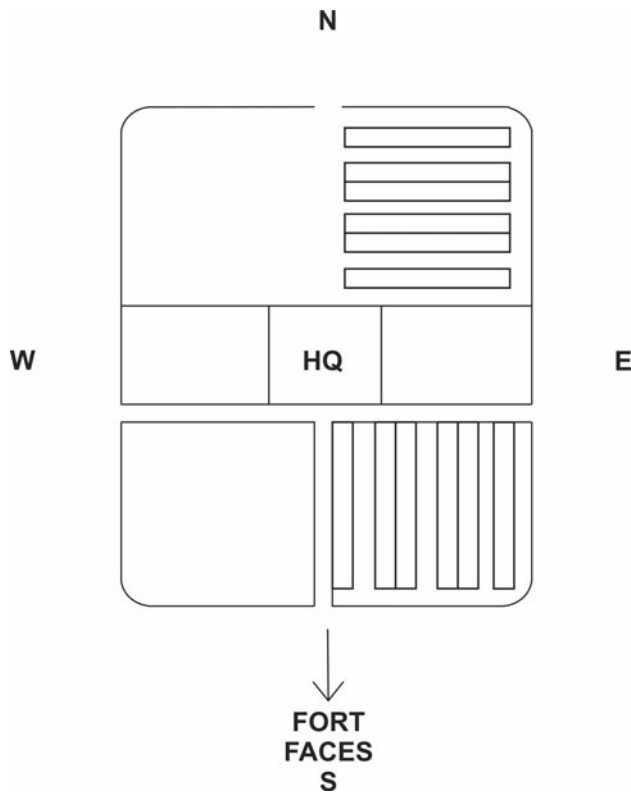


FIG. 2. Schematic reconstruction of the possible layout of the Phase 2 fort at Dalswinton.

On the geophysics plot the ‘parrot’s beak’ northern ditches of the Phase 1 fort appear unencumbered by any second-phase remains. Hanson *et al.* suggest these ditches remained in Phase 2 as a subdivision of the fort, something without parallel (despite the cited dividing *wall* in Antonine Newstead). It is likely that more Phase 2 buildings overlying these ditches have been ploughed away. Even if the retention of these ditches were accepted, surely the rampart around the extension would be continuous: but the extent to which Phase 2 has been ploughed to destruction is shown at the north-western angle of the Phase 1 fort ditches, which on the air photographs are clearly visible throughout their turn, even though they must once have been overlain by the extended rampart of Phase 2. Also, this interpretation asks us to believe that the fort was extended, and the defensive circuit and gates reconfigured, to provide room for only two extra buildings, that is the two east–west anomalies lying within the northern rampart of the extension (sketched in on FIG. 1), which Hanson *et al.* interpret as barracks and ascribe to legionaries on account of their apparent lengths of 76 and 64 m.<sup>15</sup> The remaining 52 m-long barracks believed to be carried over from the Phase 1 fort they see as housing a 500-strong *ala* or some combination of other auxiliary units.

It might be objected that the removal of a second phase by ploughing is made unlikely by the features interpreted as demolished barracks to the north of the Phase 1 ditches, strongly visible both in the geophysics and air photographs. Moreover, it might be objected that the eastern of these buildings seems on the face of it to respect the line of the Phase 1 *via principalis*, suggesting that it had continued in use. But it might equally be said that the western ‘barrack’ respects the line of the Phase 2 *via decumana* as proposed here. The *via principalis* apparently respected by the east ‘barrack’ appears on the air photographs

<sup>15</sup> Hanson *et al.* 2019, 302.

(Hanson *et al.* 2019, figs 2 and 3) to be the road that emerges from the gate of the Phase 1 fort, and veers to the east, rather than taking the westward line of the supposed swerve. The two barracks in the northward extension are represented by conspicuous geophysical anomalies, to be sure, but are clearly much disturbed and the precise lengths impossible to ascertain. The difference in lengths (76 and 64 m) and the great distance between the building plots as reconstructed (over 20 m) suggest that something is missing from the shorter (eastern) building, and that it originally extended further west.

Richmond's exploratory trench across the south-eastern quadrant of the interior (which, incidentally, seems faintly visible as a diagonal negative anomaly in the greyscale plots) found more than one phase of post-trenches and suggested that this part of the fort had been radically replanned.<sup>16</sup> Richmond believed that there was a distinct phase of post-trenches that was *earlier* than those relating to the street system visible in the air photographs – something which would be consistent neither with the interpretation offered by Hanson *et al.* nor the alternative offered here. Given that this trench was less than 1 m wide, no great weight should be placed on Richmond's speculative reconstruction of building plots or even the order of the two phases, which have a direct relationship at only a single point on the published plan. However, the observations do suggest that at some time in the life of the fort there was a building phase that bore no relation to the plan seen in the air photographs.

It might be objected that it is less likely that Phase 2 activity has been removed by the plough in this southern area of the fort, where the remains are clearly better preserved than in the northern part – some survival should be expected. However, it is precisely the fact that there is some apparent survival of part of the Phase 2 layout here (the road, just inside the Phase 2 southern gate, noted by Hanson *et al.* and interpreted here as the *via praetoria*) that suggests a Phase 2 layout that is largely missing from the geophysics. Richmond's trench implies that even more actually survives; the issue is whether it shows up clearly in the air photographs and geophysics.

Finally, there is a prominent geophysical anomaly outside the southern side of the fort(s) that Hanson *et al.* tentatively suggest may represent a bath building.<sup>17</sup> If this is correct and it is associated with the second fort, the Richmond and St Joseph south-facing orientation would mean that the building was located outside the *porta praetoria*, always the preferred position, though not the invariable one, for the baths.<sup>18</sup>

It is suggested, therefore, that the simplest and most plausible interpretation of the evidence is as follows.

Phase 1: the fort faces east, similar in layout to Llanfor. Llanfor most probably housed a complete *ala* of cavalry (16 stable-barracks 53 m in length) and a cohort of legionaries (six barracks 59 m in length). At Dalswinton I, the barracks were all somewhat shorter, at 52 m. The fort was correspondingly smaller, 3.5 ha as compared to 3.86 ha at Llanfor. It is not clear whether the absence of barracks longer than 52 m rules out a legionary presence in Phase 1.<sup>19</sup> The space available would have fitted an *ala* combined with, if not legionaries, a quingenary auxiliary cohort.

Phase 2: the fort faces south, increased in size to 4.2 ha. Whatever internal layout there was has been almost entirely removed by the plough. If rearranged to face south as the repositioned gates suggest, the fort could have contained more barracks like those proposed for the extension, all in excess of 60 m long, in both the *retentura* and *praetentura*, as shown schematically on FIG. 2. With six barrack plots in each quadrant, there could have been a maximum of 24. The barracks in the *praetentura* on FIG. 2 are shown running north–south on the basis of very faint positive alignments that seem to the writer to run perpendicular to the Phase 1 east–west roads, but could equally well have been arranged east–west.

While the presence of legionaries alongside auxiliaries, deduced by Hanson *et al.* from the lengths of the buildings in the extension, must be considered for the Phase 2 fort, the fact that all the barracks of this phase could have been this long (well over 60 m), and all of equal size, does raise other possibilities. It is worth remarking in conclusion that the size of the second fort and the potential number of barracks, at 24, would be appropriate to an *ala milliaria*. The only one available in the British garrison was the *ala Petriana*, which Richmond had indeed placed in Phase 2 at Dalswinton. E. Birley quickly dismissed this

<sup>16</sup> Richmond and St Joseph 1956, 15–17, fig. 4. Visible on greyscale plots: Hanson *et al.* 2019, figs 8, 12.

<sup>17</sup> Hanson *et al.* 2019, 309.

<sup>18</sup> Sommer 1984, fig. 22; 2018, 132, fig. 1.

<sup>19</sup> Hanson *et al.* give the *praetentura* barracks of Phase 1 a length of 64 m and associate them with legionaries, but this is on the assumption that the road bisecting the *praetentura* is secondary. But, as at Llanfor, it was probably original, dividing a range of *tabernae* or other structures from barracks, which would then have a length of 52 m from the beginning.

suggestion on the grounds that the *ala Petriana* is thought not to have been expanded to milliary size until after the turn of the second century, whereas one would imagine Dalswinton II was designed shortly after *c.* 86 and by *c.* 90 at the latest.<sup>20</sup> However, the sole evidence for the later expansion of the unit is that it is not designated *milliaria* on a diploma fragment of 98. It has been suggested that the milliary sign might have been on a missing part of the fragment or omitted in error.<sup>21</sup> Now that it is generally accepted that the Vindolanda tablets indicate that *cohors I Tungrorum*, based at that site, was enlarging to milliary size in the years leading up to *c.* 90,<sup>22</sup> we might reopen the question of whether *ala Petriana* was enlarged in the same period. This thousand-strong force would have been an appropriate unit for Dalswinton II, like Newstead, a key strong point on the front line of northernmost dispositions between the late 80s and *c.* 105. Long barracks might point to an *ala milliaria* as well as legionaries.<sup>23</sup> If, with the retreat from Scotland and the closure of Dalswinton, the *ala* was moved to replace *ala Sebosiana* at Carlisle in *c.* 105 that would be consistent with the evidence we have for the movements of these units;<sup>24</sup> and the *ala Petriana* would have maintained its connection with the western of the two great routes into Scotland.

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<sup>20</sup> Birley 1957.

<sup>21</sup> Spaul 1994, 181.

<sup>22</sup> Birley and Meyer in Bowman *et al.* 2019, 228.

<sup>23</sup> The barracks of the contemporary *ala milliaria* fort of Heidenheim in Raetia were 82 m long, with 13 *contubernia*: Scholz 2009.

<sup>24</sup> *RIB* 957 establishes that *ala Petriana* arrived at Carlisle before the last years of Trajan's reign, i.e. before about 115: Jarrett 1994, 38.