

I.

EXCAVATION UNDERTAKEN BY THE SOCIETY OF ANTIQUARIES OF SCOTLAND OF EARTHWORKS ADJOINING THE "ROMAN ROAD" BETWEEN ARDOCH AND DUPPLIN, PERTSHIRE. BY DR DAVID CHRISTISON, SECRETARY.

In the account of the excavations undertaken by the Society at Ardoch in 1896-97, some notice was taken of the "Roman Road" described by early authorities as running between that station and Dupplin, together with the "Posts, Camps, and Forts" adjoining it; ¹ but as our knowledge of these works obtained at that time was merely superficial, further investigation by excavation, as sanctioned by the Council, was carried out last summer with the kind permission of Mr Samuel Smith, M.P., of Orchill, Sir Robert Moncreiffe, Bart., and Mr Kington Oliphant of Gask, the proprietors of the ground.

The planning of our discoveries was undertaken by Mr Thomas Ross, Architect, and Mr J. H. Cunningham, assisted by Mr F. R. Coles and Mr Alexander Mackie, who again acted as Clerk of Works, and on whom devolved the laying down of the mass of minor details by Plan and Section as the work progressed.

The information given by the early writers having been published in the account of Ardoch, will not be repeated here, but will be made use of as occasion arises.

The road is laid down on the O.M. continuously for fully 14 miles, some parts being marked "Roman Road," others "Site of Roman Road," but without sufficient distinction between the parts actually seen by the Surveyors and those where it was no longer recognisable.

Starting from Ardoch, the road runs about N.N.E. for $6\frac{1}{2}$ miles, till it strikes the Earn, but on resuming its course on the opposite or north side of the river, its direction is at first only a little north of east for 5 miles, although for the remaining 3 miles it trends slightly more northward. In considering the details of the road and the works in connection with it, we shall deal with the two sections separately.

¹ *Proceedings of the Society of Antiquaries of Scotland*, xxxii. 427.

A. THE ROMAN ROAD AND ADJOINING WORKS, FROM ARDOCH TO THE
EARN.

1. *The Road.*

As laid down on the Ordnance Map of 1869 (fig. 1, chart founded on the 6-inch O.M., reduced to a scale of half an inch to the mile), the road passes close to the east entrance of the Roman station of Ardoch, at an elevation of 400 feet above the sea, and gradually quitting the plain, gently ascends the high ground on the north, till it attains the summit level of about 680 feet, $2\frac{1}{4}$ miles from Ardoch; thence it gently descends for $4\frac{1}{4}$ miles to the river Earn, crossing the Machany Water about half-way, and reaching a level of about 100 feet at the Earn. Where it passes through uncultivated land it is still occasionally visible from slight differences in level and in the vegetation. Its course, as given on the O.M., is in straight lines, with occasional slight alterations in the direction, till it arrives 400 yards west of the Roman Station at Strageath, where it turns at nearly a right angle for 250 yards, and sending off a branch 150 yards long eastward to the Station, again turns north for 600 yards and reaches the river at the disused *Creel Ford*.

Structure.—Pococke¹ and Pennant² both noticed close to the road a number of small holes, from which the former supposed gravel had been taken "to supply the road," but the actual structure of the road does not seem to have been investigated until our excavations were made in 1897 and 1900. Opposite Ardoch it proved to be 26 feet wide, slightly arched, and composed of tightly compacted gravel; but opposite *Kaims Castle*, at the summit level, the structure was more elaborate. Here the ground, apparently first beaten hard to a level surface, had been paved with roughly-dressed flagstones, and this pavement was covered with a layer of

¹ *Tour in Scotland in 1760.* Richard Pococke, Bishop of Meath, *Scot. Hist. Soc. Pub.*, 1887.

² *Tour in Scotland.* Pennant, 1772.

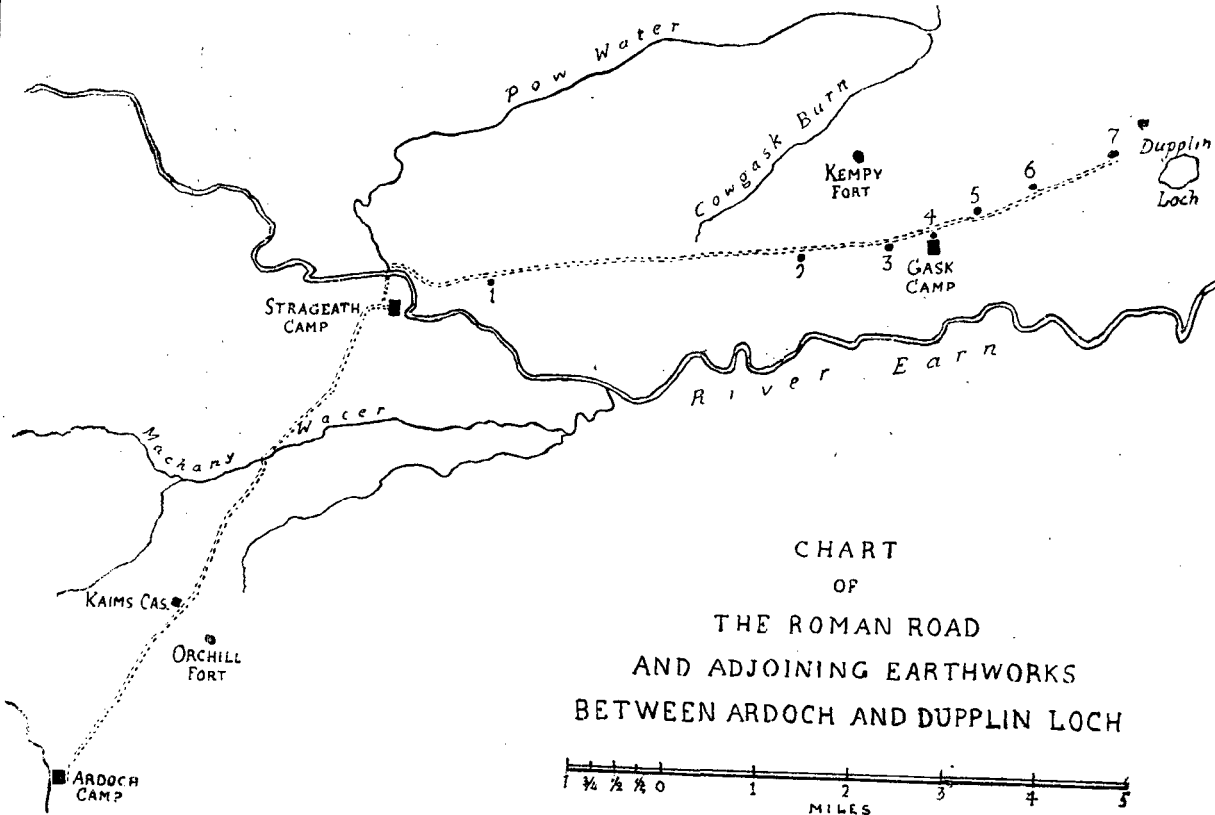


Fig 1.

broken stones, surfaced with compacted gravel. A neighbouring considerable portion of the road, constructed in the same way, had been removed not many years ago, as we were informed by a man who had taken part in the destruction.

2. *Earthworks near the Road.*

Besides the well-known *Kaims Castle*, $2\frac{1}{4}$ miles N.N.E. of Ardoch Pennant mentions three forts between it and Ardoch, which seem to have entirely vanished. One of them, not far from Kaims, was small and round, with three fosses; near it in front of a deep dell was a regular lunette with a very strong fosse; and not far off stood another round fort with two ditches. They are not marked on the O.M., and we could hear nothing about them. Unfortunately, even their precise localities cannot now be determined. Yet another fort is mentioned in the Old Statistical Account of Scotland, "to the northward of the house of Orchill." This also is not on the O.M., and it was thought to have been destroyed, but by information from the forester, Mr Mackie re-discovered it, and it proved to be in very fair preservation.

Kaims Castle.

Kaims Castle, "*Cemps Castle*, or more properly *Camps Castle*, seeing from thence the two forts of Ardoch and Innerpeffery" (*i.e.* Strageath) "are seen," as Gordon puts it, is situated on the summit level of the road about 680 feet above the sea, $2\frac{1}{4}$ miles from Ardoch, and 4 from Strageath, but whether Gordon's statement that both camps are visible from it is correct, cannot at present be tested, as the view all round is interrupted by trees. The immediate neighbourhood is tolerably level, but the fort stands on, or is carved out of, a little apparently natural mound 6 to 15 feet high, which curiously enough stands alone here.

Roy, who calls it a "Post," presumably meaning a Roman Post, gives a good plan of *Kaims Castle*, from which it is evident that it has suffered no injury since his day. In the account of Ardoch (*op. cit.* p. 434) it is described as a terraced rather than a trenched work, a peculiarity of

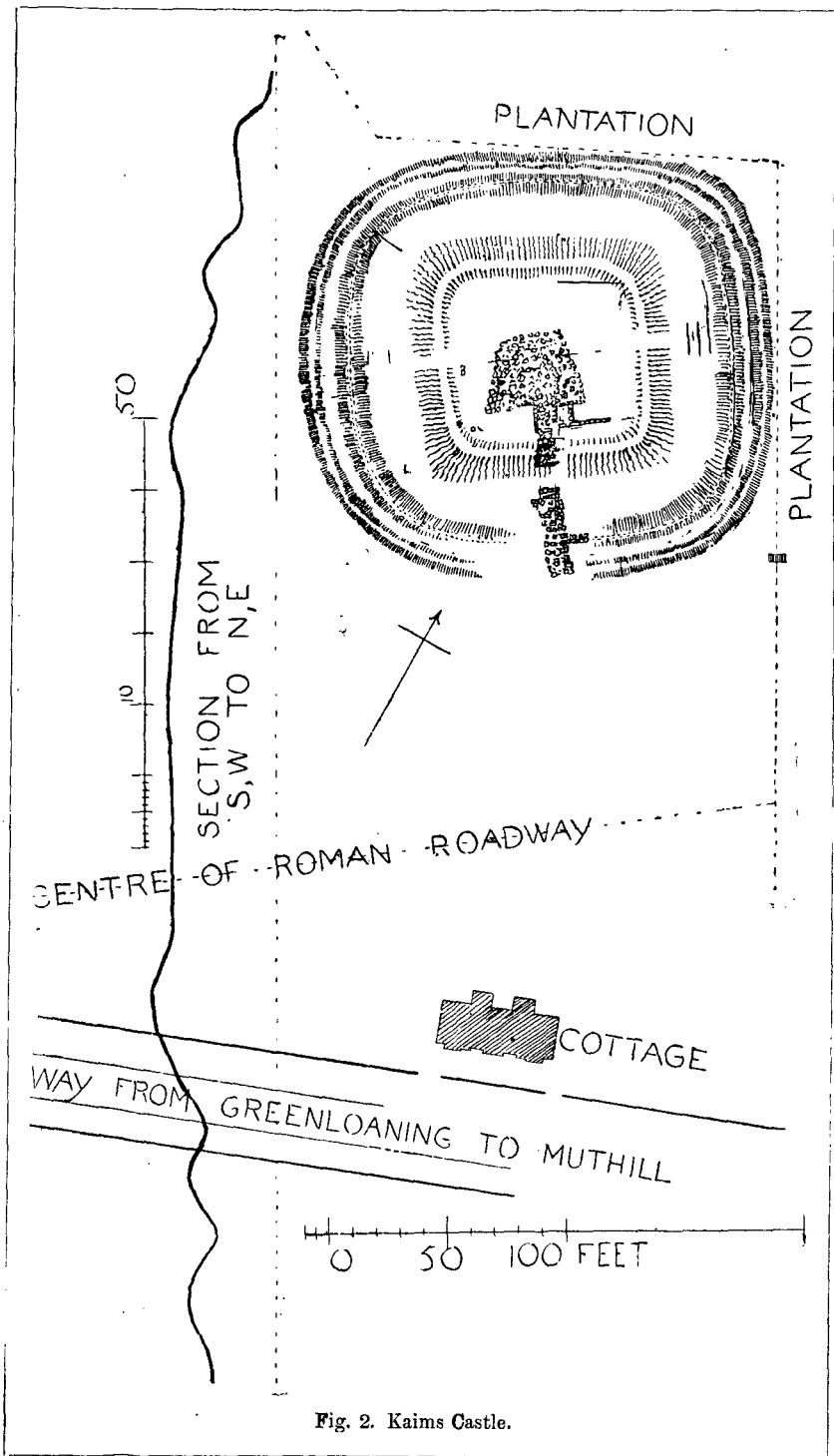


Fig. 2. Kaims Castle.

structure that had been remarked previously by Pococke ; but our excavations showed that this was not the original character of the fortification, and that the terracing had been produced by natural or artificial filling up of trenches which still existed underneath.

The ground plan (fig. 2) is peculiar, perhaps unique, among forts in Scotland, in having a *rectilinear* rampart defended by *curvilinear* trenches, and at first sight it might seem that a Roman fort had been placed within a native work, but I believe the peculiar plan was adopted simply from its being the easiest to carve out of the site.

As Mr Ross's plan shows, the rectangle is not strictly symmetrical. The total dimensions of the work are about 200 feet from east to west, by 180 from north to south, and of this the interior from crest to crest of the rampart occupies about 85 by 80 feet, or deducting the inner slope of the rampart, 75 by 70 feet.

The Rampart after excavation was found to rise about 3 feet above the inner area, and 8 above the first trench in front. It showed only doubtful signs of being constructed in layers. The two trenches are carved out of the natural mound, and the spoil from the outer one appears to have been cast outwards, thus forming an outer mound or rampart only a few feet high.

The entrance (fig. 3, from a photograph by Mr Mungo Buchanan, Corr. Member S. A. Scot.) is from the south by a straight paved way about 8 feet wide, which branches from the Roman road about 30 yards off, and seemed to stop short at the rampart, but on further excavation it turned out that the gateway here had been purposely blocked up with earth, and that the original paved entrance existed underneath, the pavement, however, being replaced for a few feet by hard gravel, 3 or 4 inches thick.

The inner area.—In the middle, but nearer the entrance than the further side, a squarish paved space, averaging 35 feet in width, was found, with a cobbled passage to the entrance. The pavement was of flags and other less suitable stones, roughly shaped, but fitted with some care. So many flagstones lay between the pavement and rampart as to

indicate that the rest of the area had also been at least partially paved. Post holes were carefully looked for, but in vain. Not a single relic of any kind was found in or about the fort except two shapeless lumps of lead.



Fig. 3. Paved Entrance to Kains Castle.

Orchill Fort.

This rediscovered fort is situated half a mile south-east of the Roman road at Kains Castle, and the same distance north of Orchill House, about 600 feet above the sea, on the wooded Orchill Muir, in the angle of junction of two rills. From the southern rill the ground rises steeply from 40 to 50 feet to the interior. No artificial defence, unless of some slight and perishable kind, seems to have been judged necessary on this side,

further protected as it is by a marsh; but the weak northern side was fortified by a semi-oval line of earthworks comprising, from the inside outwards, (1) a scarp 11 feet high; (2) a somewhat sharp-pointed trench;

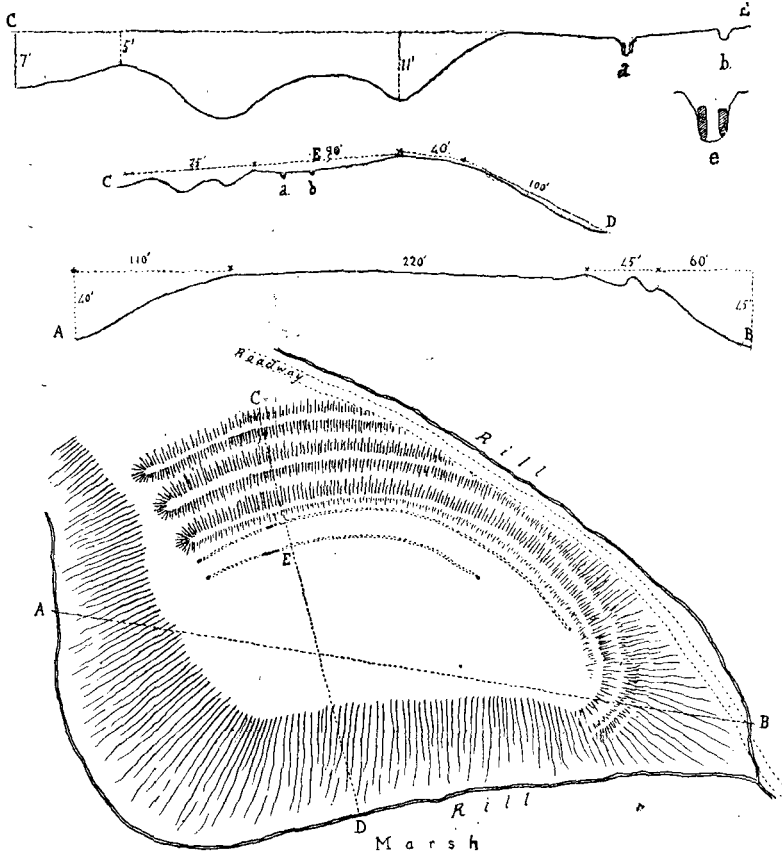


Fig. 4. Plan of Orchill Fort.

(3) a mound 5 feet high and 25 wide; (4) a rounded trench, 5 to 7 feet deep, of which the counterscarp is rather higher than the scarp; (5) a mound rising 3 or 4 feet above the exterior. But not all of these are

carried round the whole front of fortification. They are found on its western half, where the interior has a command northward of only a few feet, but eastward the exterior ground falls away, and the slope from the interior is steep, and here only the upper scarp and its trench, much reduced in size, are met with. At the eastern sharply-pointed end of the fort, where the narrow front could only hold a few defenders, a mound and trench are again added in front of the inner scarp and trench.

On continuing the transverse section through the inner area, two small trenches (represented by dotted lines in the plan, and shown at *a* and *b* in the section and enlarged section C E), about 18 inches deep, were discovered, curving round parallel with the earthworks, one about 10 feet in rear of the top of the scarp, the other from about 12 to 18 feet in rear of the first. They contained flat stones or flags, generally disarranged, but in some places still standing on end, so as to line the sides of the trenches (*e* in the enlarged section), leaving a space about 8 inches wide, which was filled with a blackish mould containing decayed or charred wood in small fragments but in large quantity. It seems a fair conjecture that these trenches held palisades, and that the stone linings were intended to assist in supporting and fixing them. In some places the same woody earth was found beneath the stones, as if the ends of the palisades had been fixed into a foundation beam.

By favour of Professor Bayley Balfour this woody earth was examined by Mr H. F. Tagg, Museum Assistant in the Royal Botanic Gardens, Edinburgh, who thus reports on it:—"The soil is composed largely of organic dust formed by the disintegration of wood. Small chips of wood are also present in considerable number. These chips of wood I find to be of three kinds—viz., oak, hazel, and willow."

B.—THE ROAD AND ADJOINING WORKS FROM THE EARN TO OPPOSITE DUPPLIN.

a. The Road.

The course of the road as laid down on the O.M. after two slight deviations is quite straight, and slightly north of east for five miles, trending

a little further north for the remaining three miles. Starting from the Creel Ford of the river, at an elevation above the sea of 100 feet, it climbs on to the northern ridge of Strathearn, along which it maintains a nearly level course, although ultimately attaining an elevation of about 470 feet. For nearly two miles from the river it has been greatly destroyed by agriculture, but for the next four miles as it passes through moorland or forest it is traceable all the way, although damaged by occasional farm and forest traffic. For the remaining $2\frac{1}{2}$ miles, according to the O.M., it is buried under the present highway to Perth, but the author of an anonymous paper read to our Society in 1789,¹ appears to make it pass a little more to the south at its east end, as he describes a branch "Case-way," leaving the street or Roman road and passing northward across a bog to reach the Drum, on the east of which stood a fort. Now the present highway passes close under this fort, and therefore a little north of the position of the Roman road, according to the anonymous authority.

As to the structure of the road we get little help from the earlier observers. Sibbald,² who seems only to have known the western end, which he says the people call the Street Way, declares that in some parts it is raised a man's height above the ground, and that it is wide enough for two carriages to pass each other with ease; and Pennant, the only other authority, describes it as being 24 feet wide near Dupplin, and "formed with great stones still visible in many places."

All the eastern part has probably disappeared, and when our operations began, the portion through moorland and forest west of Gask was in use for the transport of timber, and was much cut up. This exposed the structure for a considerable depth, but no paved base or gravelled surface could be seen, and further examination was apparently unnecessary. Some years ago, when the road seemed almost out of use, I walked over the whole distance, and detected in many parts a kerb, showing in the

¹ MSS. vol. ii. *Proc. A. S. Scot.*

² *Historical Inquiries concerning Roman Antiquities in Scotland.* Sir Robert Sibbald, 1707.

grass, which gave a breadth of 10 feet for the road, but within the kerbs I could see no made-up roadway of any kind. In some places the road passes through cuttings a few feet deep and in others it is raised a few feet, as was noticed by Sibbald.

b. Military Works adjoining the Road.

My account of these works in the Ardoch Report was necessarily imperfect, and some errors occurred in endeavouring to interpret the obscure descriptions of the earlier notices. These obscurities were cleared up by our excavations, and it is not necessary to go back upon them. Suffice it to say that the works supposed to be missing were found to be still existing, and that we added to the list one to the west of Gask, which had previously been unrecorded. Yet another has been discovered while these sheets were passing through the press, but too late to be inserted on my map. The total number in the whole of the section east of Strageath is ten, of which nine are close to the road, and one at a considerable distance from it. They may be classified thus:—

- | | | |
|----------------------|---|---|
| Near the road | } | 1. Seven small circular "Posts." |
| | | 2. A larger oval Post or Fortlet with an outwork. |
| | | 3. A rectilinear Camp or Station. |
| Remote from the road | } | 4. A curvilinear Fort. |

1. The seven Circular Posts.

Of the six circular posts now visible (the seventh having been quite ploughed down on the surface), Nos. 1, 4, 5, and 6 of the chart (fig. 1) are marked on the O.M., the other two having been discovered through inquiry by Mr Mackie. They are all much alike in size and structure, the diameter over all averaging about 100 feet, and the plan showing an inner flat area, generally without any sign of a rampart or palisade at the edge, and a rather shallow trench, the spoil from which has been thrown outwards, forming a low mound. Five of them were excavated, but it was not thought necessary to investigate No. 1, as it was so like

the others in general appearance, and was not conveniently situated for us. No. 5 may be singled out for special description, as it was very thoroughly excavated, and the others need only be noticed in respect to any differences they may show. The reader should not fail to observe that the plans, figs. 5 and 6, of these little posts are on a much larger scale than that of the larger works, figs. 2 and 4, and that want of space again necessitated a considerable reduction in fig. 8.

No. 5 (fig. 5) is about 100 yards on the north side of the road. The site is marked *Witch Knowe, Skeleton found here in 1855*, on the O.M., but there is no natural knoll, and the *Knowe* must refer to the very slight mound formed by the post itself; neither were any human remains revealed by our very complete excavation. The total diameter is 108 feet, of which 44 go to the inner area, and 14 to the trench, and 18 to the mound on either side. The trench is 6 feet deep, a considerably greater depth than in any of the others, and the mound beyond is only 2 feet above the exterior. The interior rises slightly towards the centre, and was covered with a thick layer of black mould without visible fragments of wood, and no trace of a rampart or palisade at the edge could be found. Nearly in the centre were four round "post-holes," about 18 inches in diameter and 2 feet deep, defining a rectangular space of about 11 feet by 9, measuring from the centre of the post-holes.

These post-holes were filled with a dark-coloured earth, which was thus reported on by Mr H. F. Tagg:—

"The contents of the post-hole are sand with a large quantity of organic remains. Among the latter I find pieces of charred wood varying in size, but none larger than $\frac{1}{8}$ of an inch square. The bulk of the organic dust present is such as might result from the disintegration of a woody structure, but the fragments are too small to identify the kind of wood."

The entrance to the post is from the south, the direction of the road, by a straight earthen ramp, 6 feet wide.

No. 4 lies 10 yards south of the road, a little to the east of the

entrance to the large camp at Gask, and only a few yards in front of its trench. It is the smallest of the circular posts, being only 80 feet in diameter, the inner area measuring 35. The trench is only 3 feet deep. Here again black mould covered the whole inner area, and four

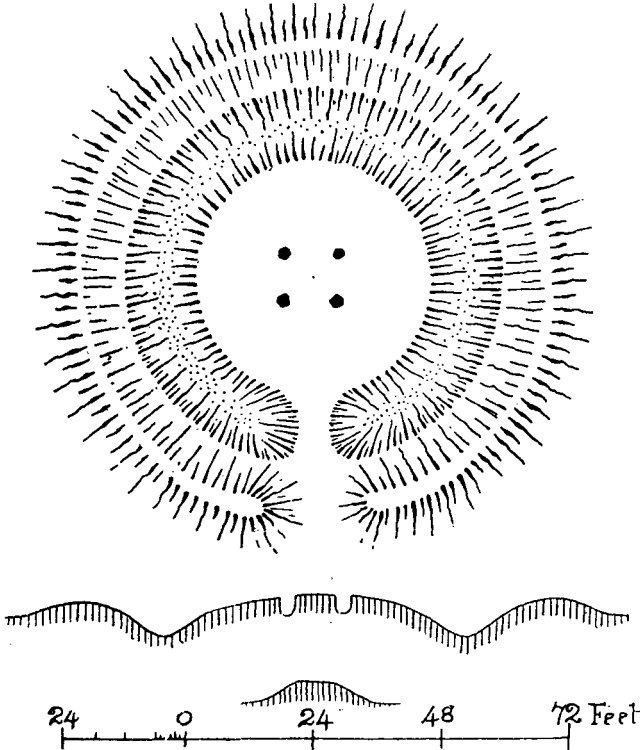


Fig. 5. Post No. 5, near the Roman Road, West of Gask.

post-holes 2 feet deep were found in the centre defining a rectangular space of 9 feet by 7.

No. 3, nearly half a mile west from No. 4, is 15 yards south of the road, and being covered by trees could not be fully excavated, but in size and plan it closely resembled the next.

No. 2, nearly a mile west from No. 3, is 50 yards south of the road, and was found to measure 112 feet over all, of which the level interior took 46, the trench about 12, and the environing mound 18 to 24. The trench was about 4 feet deep, and the mound rose 2 feet above the exterior ground. The four post-holes formed a square of $9\frac{1}{2}$ feet.

We now come to the one already referred to, as having been completely ploughed down on the surface. My information about it is entirely due to the kindness of Mr A. G. Reid, F.S.A. Scot., of Auchterarder, and Mr Benjamin Carruthers, farmer, of Shearerston. The buried remains were unearthed in March 1901, in the course of sinking a pit for holding a water tank on the farm of Raith. The position is $2\frac{1}{4}$ miles west of No. 2, 300 feet above sea-level, on the highest land for five miles round about, but not on a knoll, 200 yards south of the Roman Road, as measured by Mr Carruthers, at a greater distance therefore than the other posts, but this may be explained by the wide view commanded at that point in every direction. Mr Reid is informed that it can be seen from the supposed Roman Camp at Fendoch, in Glen Almond. At a depth of 3 or 4 feet four post-holes about a foot in diameter were discovered, going down about a foot into the 'rotten rag' rock. They were set square, and 9 feet apart. A quantity of black loam and decayed or charred wood lay in and about them. A few yards outside them, a red sandstone flag, 5 feet by $3\frac{1}{2}$ in length and breadth and 7 to 9 inches thick, rested upon two 'rough rubble' stones, and under it was a large quantity of black loam and wood remains. Some broken pieces of red pottery were also found, but not of a well defined character. No signs of an enclosing trench and mound were observed, but either the excavations may have been too limited to disclose them, or they may have been entirely obliterated, as the ground has long been under cultivation.

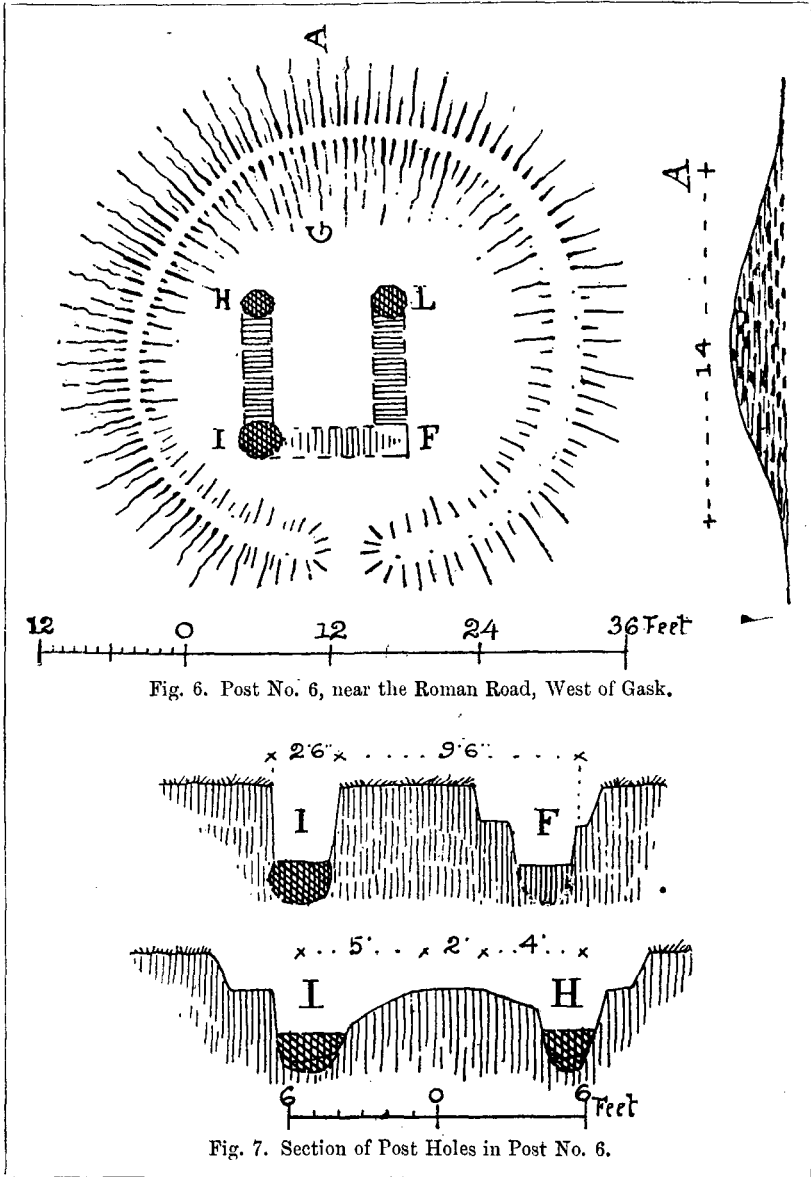
The decayed wood examined by Mr Tagg consisted of oak, willow, and hazel. The pieces of oak were rather large, and the annual rings showed that the timber must have been of considerable size, but the hazel and willow seemed to have been from small branches. Fragments, numerous.

but small, taken from a post-hole, were of oak, hazel, and willow. Amidst the woody black soil under the large slab a few grains, one of which could be identified as barley, were found.

The blackened wood found in ancient forts, etc., is commonly described as charcoal. But this would seem to imply that it had been burned, which may be a complete mistake. *Eramacausis*, the 'slow combustion' of decay, often reduces wood to a condition that is indistinguishable from charcoal, even by aid of the microscope. In the Gask specimens Mr Tagg concludes that mere decay is the probable cause of their blackened condition, because of (1) the absence of ash on the outside of the wood, and in the black mould, (2) the freedom of the outer part of the larger pieces from the cracks and splits that are so characteristic of charcoal, (3) the equally charred condition of the outer and inner parts of the pieces, (4) the thorough charring of all the pieces, as it might be expected that, in case of fire, some would partially escape combustion.

No. 1, $3\frac{1}{4}$ miles west of No. 2, we did not excavate, but the diameter is about 110 feet, so that it probably closely resembles Nos. 2 and 3 in details.

No. 6 is $\frac{2}{3}$ of a mile east of No. 5, and 70 yards north of the road. The plough had recently come close up to this work and destroyed the trench with its outer mound, but the inner area, with an unequivocal rampart (here alone met with in the six works otherwise so much alike), survived in good condition (fig. 6). It was about 14 feet wide and 3 feet high, and was composed of about ten alternate layers of black mould, and yellow or red clay. The level interior was about 22 feet in diameter. In it, but not in the centre, were four 'post-holes' in a square formation, with a base of 11 feet measuring from the centres of the holes, but, unlike the other works in which 'post-holes' were found, three of these holes were connected by flat cuts, probably to hold beams. The 'post-holes' were larger than in the other instances, being fully 3 feet deep, and from 2 to $2\frac{1}{2}$ feet in diameter (fig. 7). One of the holes, F, seemed to have been filled in at the bottom to allow beams in L F and I F to meet.



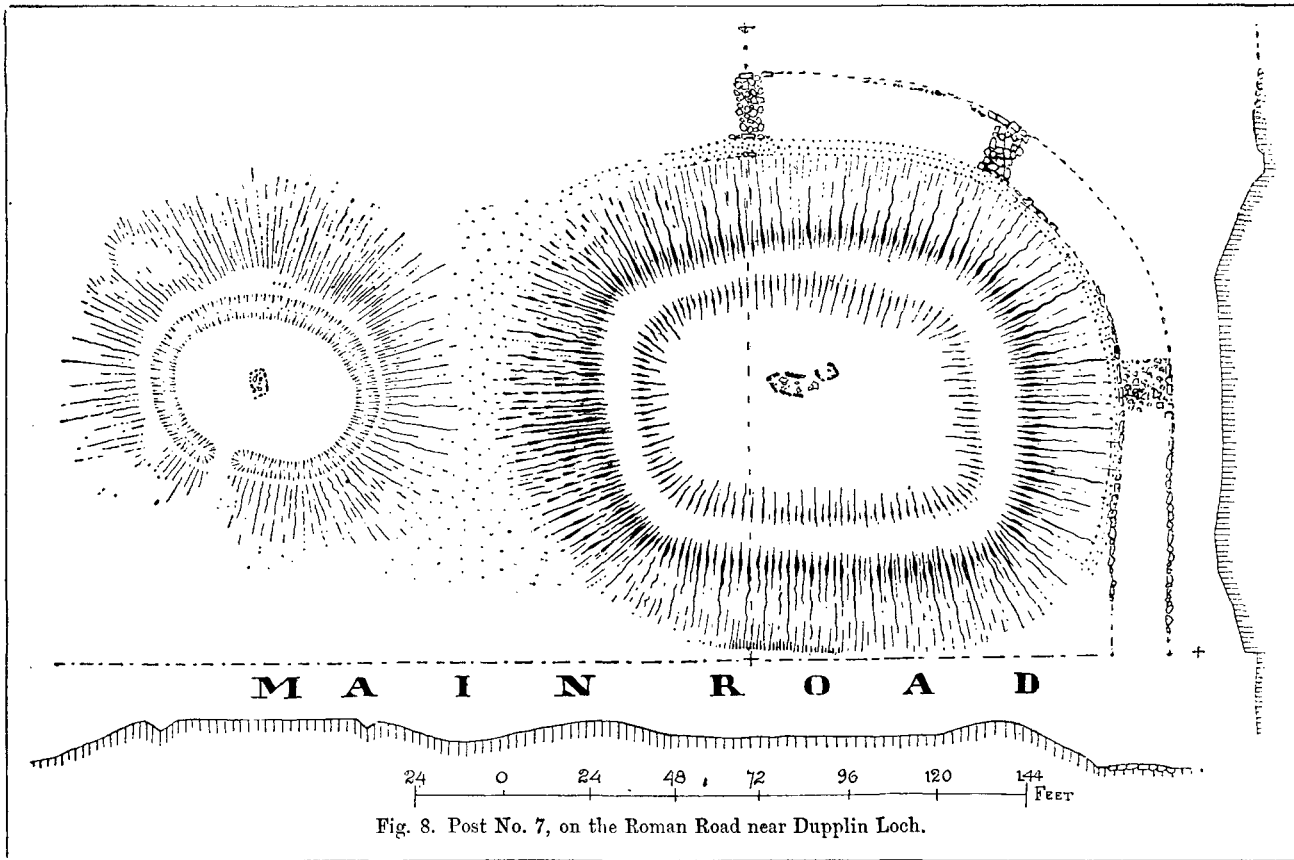


Fig. 8. Post No. 7, on the Roman Road near Dupplin Loch.

2. *Oval Post or Fortlet No. 7 and its Outwork.*

The chain of posts is finished off, as it were, by a larger and oval work at the eastern extremity of the Roman road, which seems never to have been traced beyond this point. This post or fortlet differs from the others, not only in its greater size and oblong-oval shape (fig. 8), but in having an outwork and being on a hillock. The anonymous writer of 1789 (*ante*, p. 24) describes this work as being "on the east of the Drum on Thorny Hill, or the Hill of Midgate." It does not appear what he means by the Drum, but the name Midgate¹ Hill still clings to the hillock in question, a trifling eminence, but conspicuous in a remarkably flat neighbourhood, rising in height to from 10 to 14 feet, and its roots extending about 300 feet from east to west, and 150 from north to south.

The highest end of the little ridge is at the west, but the fort is constructed at the east end, its massive rampart giving that end the appearance of a second top, the dip between the two, however, being only 5 or 6 feet.

The construction of the fort is very simple. A broad, but low, gently sloping, oblong-oval rampart crowns the east end of the eminence, enclosing an area of about 100 by 75 feet from crest to crest of the rampart and 75 by 50 of level space. At the east end and north and south sides the rampart is continuous with the slopes of the hillock, thus giving it a height of from 12 to 14 feet, but to the west it has only a fall of 5 or 6 feet to the dip between it and the little western summit. Upon the latter there was no sign of fortification till our excavation revealed an oval nearly V-shaped trench about 10 feet wide and 5 deep, girdling the top but destitute of a rampart, and enclosing a space of 50 by 35 feet. There is an entrance over the trench on the south side of this outwork, but there is apparently none to the fortlet. Perhaps it was in the south side, which had been partially cut away in making the modern road, or it may have been purposely filled up, as was the case at Kaims

¹ In the MS. I read this as Midgeal, and so wrote it in the account of Ardoch.

Castle. There the original entrance through the rampart was manifested by pavement, but here, as there was no pavement, all trace of an entrance might disappear once it was filled up with earth.

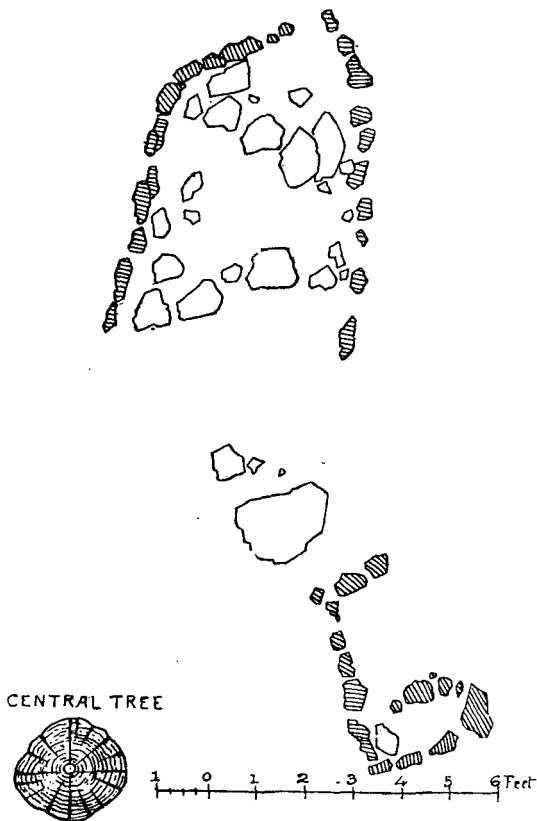


Fig. 9. Structures in interior of Post No. 7.

The whole of the interior of both enclosures was turned over, but no relic of any kind found, and the only structures were a kind of imperfect paving in the centre of both. In the main fort it was in two portions (fig. 9), one 6 feet in length and 5 in breadth,

margined on three nearly straight but not rectangular sides by a kerb of stones set on edge, the other 4 feet by 3, with little remaining but a similar kerb. They were unsymmetrically placed with regard to each other and the sides of the fort. A similar structure of a more regular oblong form, measuring 7 feet by 4, existed in the centre of the lesser work to the west (fig. 10).

The present highway passes close under the hillock on the south side, and the O.M. represents the Roman road (by a dotted double line within the highway) as being under the macadam and stopping short at the

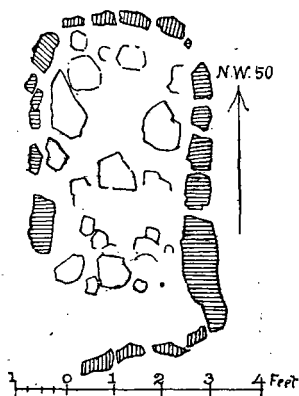


Fig. 10. Structure inside outwork of Post No. 7.

west end of the hillock. A disused grass-covered road branches off from the highway at this point, turns round the end of the hillock, and then strikes northwards. Close to it, about 200 yards north of the hillock, there was something like the remains of a circular work, of the same size as the posts to the west, and it was therefore thought that this road might be either the Roman road itself or a branch from it. But we were told it was a disused road to a farm, and probably it was nothing more, as our excavations failed to reveal characteristic structure either in it or in the supposed post. A well-paved causeway, however, was found branching off from the highway at the other or east end of

the hillock (fig. 8), and passing close under it to the middle of the north side. Here it was lost, and the final trend was not northward, but as if to go round the west end of the fort. This causeway was about 15 feet wide, and it was well arched to discharge the rain into a small trench or drain between it and the foot of the hillock on one side, and to the outside on the other.

Distribution of the Posts.—The intervals between the eight posts

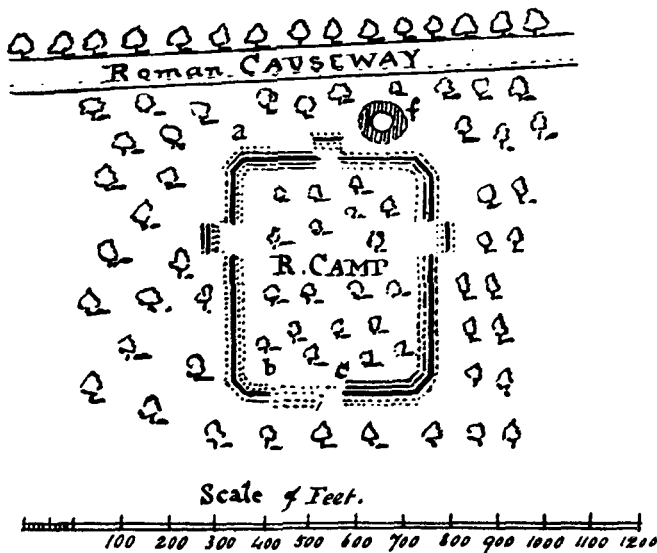


Fig. 11. Plan of Gask Camp

themselves, and between them and Strageath, vary as much as from about half a mile to two miles and a quarter; but as regards the six in the eastern $3\frac{1}{2}$ miles, where the road passes through uncultivated land, the intervals are only from half a mile to seven-eighths of a mile, and the existence of only two in the western five miles may be due to the destruction of others, as this stretch of the road passes mainly through cultivated fields, and as the one recently discovered was buried out of sight, the same fate may have befallen others.

3. *Large Camp or Station at Gask.*

This camp is very clearly laid down in the plan accompanying the anonymous account of 1789 (fig. 11). It is situated about a quarter of a mile north-west of Gask House on the south side of the Roman road and of post No. 5, 50 yards from the road and four or five from the post, which is about the same distance eastward from the traverse guarding the north entrance of the camp. The plan shows a perfectly regular rectangle, somewhat defective on the south side, enclosed by a single entrenchment, the contained area being about 470 by 400 feet, or nearly the same as that of Ardoch Station. The *Portæ Principales* are represented much nearer the north than the south end, and both these and the *Porta Prætoria* have straight traverses in front of them.

All knowledge of this camp seems to have vanished before the Ordnance Survey was made, and we could only find slight traces of it on the surface. In the old MS. plan the whole area is shown planted and surrounded by wood, but the southern quarter had afterwards been ploughed, and there no sign of the camp was visible. In the northern part, too, we experienced some difficulty in identifying the camp trench, as many drainage ditches crossed the space, but by making numerous cuts, the whole, even on the ploughed land, was made out, corresponding closely with the old plan, with the addition that the fourth traverse, the one in front of the *Porta Decumana*, which was not laid down on it, was also found. As the main trench and the trenches of the traverses were not more than 3 feet wide and 18 inches deep, the spoil having been used apparently for the trifling rampart in rear of the trenches, the whole was suggestive of the first marking out, or beginning, of a camp rather than of a finished work. Ploughing had brought the clay to the surface in the southern part, and the roots of the thick plantation in the northern part prevented much excavation there, but the cuts that were practicable revealed nothing in the interior.

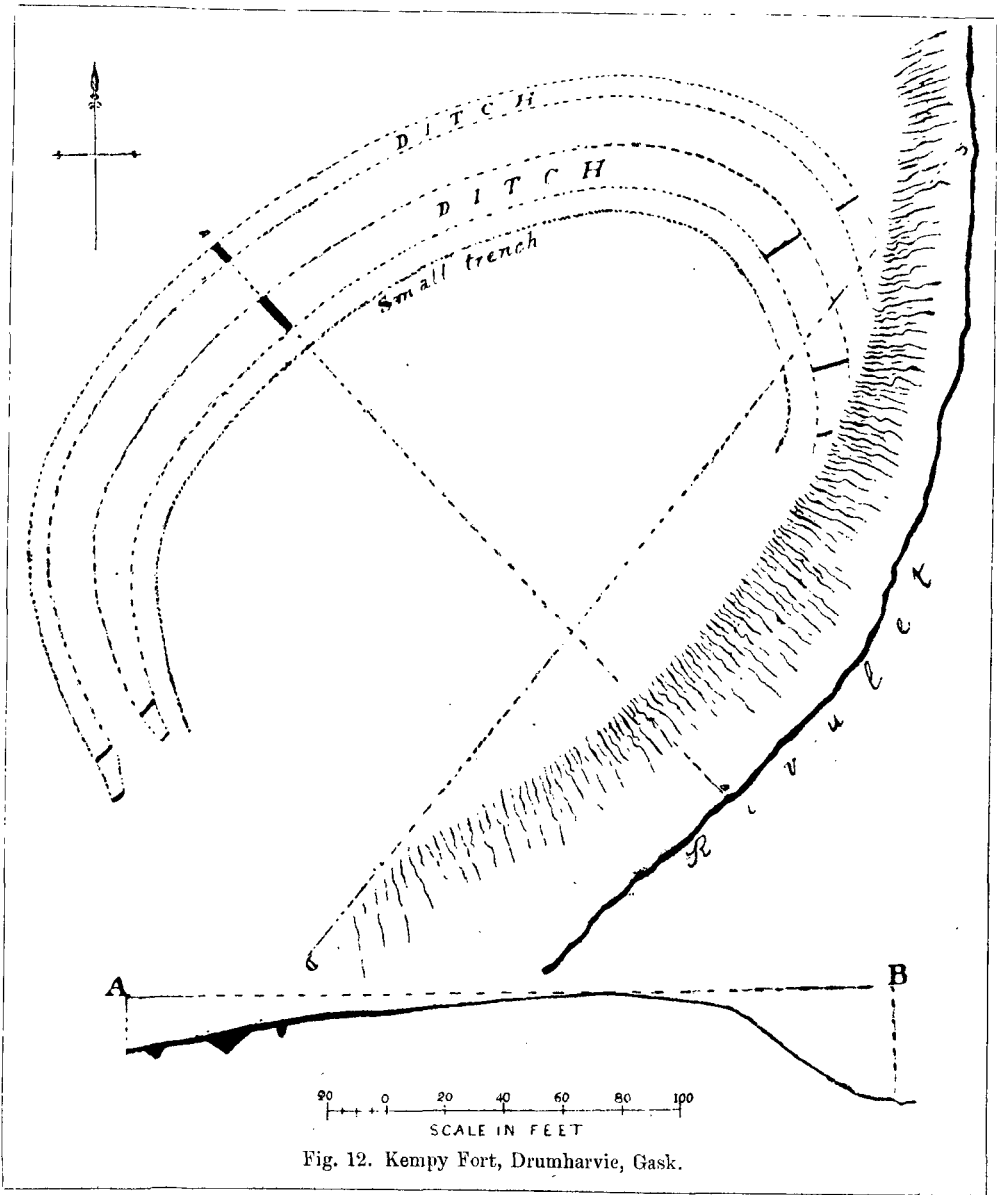


Fig. 12. Kempy Fort, Drumharvie, Gask.

4. *The Curvilinear Fort.*

This fort (fig. 12, from a plan by Mr Mackie) is situated 1 mile north of the Roman road, $1\frac{1}{2}$ miles west by north of Findogask Church, 200 feet above the sea, on the farm formerly known as Muirhead, now called Drumharvie. The knoll on which it stands is still called "Kempy," as in 1789, although the name is omitted on the O.M. In site, structure, and plan this fort closely resembles the Orchill Fort (fig. 4). It is similarly placed on the edge of a steep bank in the angle of junction of two rills which, in this case, unite at its north end to fall into Cowgask Burn. The ground to the north and west falls gently, and here two curved trenches could still be faintly traced on the ploughed surface, the defence of the south-east side having been left to its natural strength, aided probably by some fence of perishable materials. On excavation, the inner trench proved to be V-shaped, 14 feet wide and 6 feet 8 inches deep, and the outer one 6 or 8 feet wide and 3 or 4 deep. The space between the trenches was 15 feet wide, and showed doubtful traces of a rampart of earth and stones. There were also traces of one in rear of the inner trench. Immediately in rear of this was a little trench precisely like the two "palisade trenches" at Orchill Fort, and containing a similar black woody mould.

The dimensions of Kempy Fort are 385 by 215 feet over all, and 250 by 165 inside.

GENERAL REMARKS.

The Road.—The fact that an old roadway was traceable, and still is in a great measure traceable, connecting the station of Ardoch with Strageath, another equally strong work of Roman type, and of about the same size, and where Roman relics have been found, and further on with a third work, also of similar size and characteristically Roman in plan, sufficiently proves that the road itself was Roman, in the sense that it was used by the Romans, although it may have existed previously as a native road; and the fact that a chain of "posts" runs close to

the modern road, to near Dupplin, shows that the position of the Roman road coincided more or less with the modern road as far as that point. Here all trace of it is lost, but probably it was making for Perth, as it is continuous with a good modern road which $1\frac{1}{2}$ miles further on joins the present highway from Stirling to Perth, about four miles from the latter city. The present highway keeps a less elevated course on the south side of Strathearn, and only crosses the Strath near Dupplin to climb the northern side; but the Roman road, by crossing Strathallan, and keeping on the north side of Strathearn all the way, got upon higher and, probably at that time, less marshy ground.

Posts and Forts near the Road.—We have seen that besides the three camps or stations, no less than twelve lesser military works have been recorded in connection with the road. Three of these, in the space of $2\frac{1}{4}$ miles between Ardoch and Kaims Castle, are lost, and their precise localities are unknown, but from the brief notice by Pennant, our only authority for them, they appear to have been of types met with also in various parts of Scotland remote from Roman occupation. Kaims, therefore, was probably the only Roman post on the road in the six miles between Ardoch and Strageath, and that this was so is the more probable as no posts are found in the five-mile stretch from Kaims to Strageath, although it passes largely through uncultivated land.

Very different is the arrangement on the eight miles east of Strageath. In the first five miles, indeed, only two posts have been discovered, but in that stretch the road passes chiefly through cultivated fields, and in the remaining three miles there are no less than five, besides the final post or fortlet. Of larger works there is but one, closely resembling the Orchill fort, and one mile north of the road.

That the posts are intimately related to the road is proved by their being aligned along and close to it, by their entrances being towards it whether they lie to the north or south of it, and by their identity of plan and structure. Their defensive strength as earthworks is but feeble, the trench being in all but one not more than $3\frac{1}{2}$ feet deep, and the mound outside it only a foot or two above the exterior. Neither did we

find any evidence of a rampart or other defence round the inner area, except in No. 6, which had a rampart 2 or 3 feet high, composed of layers of sods and clay. The key to their purpose appears to be the four post-holes found in the centre of the area of the five that we excavated, and which in all probability held the supports of wooden towers about 9 to 10 feet square. The thick layer of black mould over the whole inner area may have proceeded from the decay of other wooden structures as well as of the fallen towers, but no other holes or signs of foundations were found, although narrowly searched for. For defensive purposes the small supposed towers could have held very few men. It seems probable, therefore, that they were mainly watch-towers, and this purpose seems the more likely, as the post at Raith appears to have been intentionally placed further from the road than the others, in order to have the advantage of an extensive view.

The intervals between the six final posts vary between half a mile and nearly a mile, and whether this irregularity may have been due to the prime object of keeping the posts in sight of each other cannot be tested, as the Gask plantations everywhere intercept the view, but it does not seem a likely reason, as the ground traversed by the road is remarkably flat. This raises the question whether the chain of small circular posts served some simultaneous purpose, or whether each was superseded in its turn as the making of the road progressed, and was intended for use only till the road passed beyond it and another post was constructed.

The identity in size, shape, and structure between these posts and the *Hügel* of the German Limes is remarkable, the only difference being that in the latter a mound of earth has been accumulated on the top which is absent in the former. Owing to the difficulty of accounting for this accumulation, and to the absence of decayed wood on the original surface of the area, and for other reasons, Jacobi¹ concluded that the *Hügel* were designed as they stand to be visible mounds, and

¹ *Das Römerkastell Saalburg*. L. Jacobi, Mitglied der Reichs-Limes-Kommission. 1897.

that they were the landmarks of the Limes, until they were superseded by the line of little square towers of stone and other structures which subsequently defined the boundary. He thought that the mounds formed the visible Limes, and the wood in the four holes and foreign bodies in other parts of the structure were the permanent evidence of the true position of the Limes. But the general opinion of the German authorities seems to be that the four holes did hold posts for the support of a wooden tower, and certainly in the case of our Scottish examples this is strongly indicated by the thick layer of woody earth over the inner area, which, taken in connection with the post holes, can scarcely be due to anything else than the decay of fallen towers of wood. It is, besides, hardly possible that the Gask posts could have anything to do with a Limes.

The large camp at Gask is no doubt Roman, but its slight profile, although the plan is complete, suggests that the intention to make a station here was abandoned in its initiatory stage, and this raises the question whether the intention to continue the road beyond Dupplin was not given up at the same time.

The origin of the two curvilinear forts is not so evident. Compared with the posts they are situated much further from the road, and this, together with the fact that one of them is to the north and the other to the south of it, suggests that, however they came to be there, it was not in connection with the road; but on the other hand the Romans may have had reasons for erecting them, whether in relation to the road or not, which we have no means of fathoming now.

The curvilinear form of the forts predisposes us to regard them as native, but the circular or oval form of all the lesser undoubtedly Roman works near them and directly connected with the road, deprives this argument of much of its force.

It remains to be considered whether in plan and structure the *Orchill* and *Kempy* forts resemble undoubted native forts elsewhere in Scotland. In general plan the type is one of which about sixty examples occur in the Lowlands alone, in which the enceinte is incomplete and rests on the

unfortified edge of a precipice or steep bank. Several varieties occur. In one, the fortified front bears a very small proportion to the unfortified part. This is met with rarely in inland forts, but is very common on the coast, where precipitous headlands with narrow necks were easily rendered almost impregnable by running walls or entrenchments across the neck. In another variety the lines are semi-circular or semi-oval, and rest on a straight unfortified base either of precipice or bank. The third variety differs from the last only in the larger proportion of fortification, forming about three-quarters of a circle or oval. *Orchill* and *Kempey* belong to this variety, and I know of only six other examples in Scotland, of which it is remarkable that two are at no great distance from *Orchill* and *Kempey*, one being close to Ardoch and the other near Crieff Junction, and that they resemble *Orchill* and *Kempey* more closely than do the other four, which are in the counties of Roxburgh, Dumfries, Peebles and Lanark.

So much for the resemblances in *plan*, but a more important question perhaps is this:—Do the other forts of this type agree in *structure* with *Orchill* and *Kempey*, and are they also earthworks? This is a question which unfortunately cannot be answered, because, setting aside these two, as far as I am aware no earthworks except such as are undoubtedly Roman have been excavated in Scotland, and without excavation it is rarely possible to tell whether an apparent earthwork really is one or not.

For the same reason of imperfect means of investigation we cannot tell whether the stone-lined 'palisade trenches' of *Orchill* and *Kempey* occur in the other forts of analogous plan in Scotland. If a Roman origin for them may be indicated by the occurrence of a *Gesteinung* in portions of the *Pfahl-gräbchen* of the German Limes,¹ it is fair to add that trenches of the kind have not been met with in any of the numerous undoubtedly Roman works excavated by the Society in Scotland.

If we could fix the date of the native earthen forts it would be a great help, but here again we are blocked by the almost total deficiency of information, particularly as no relics of any kind have been found in

¹ L. Jacobi, *op. cit.*, 50.

them. The probability that the ordinary *stone* forts were not introduced in the West Highlands, perhaps in any part of the Highlands, till the sixth century,¹ tends to settle the question as far as they are concerned ; but it is doubtful if there are any forts of *earth* there at all, and, even if we accept the sixth century as the date of the Highland stone forts, that would be no sufficient guide to the date of the forts in the Lowlands, or Pictish Scotland, whether of stone or earth. Here we can go a little further, again only in regard to the stone forts, as the relics found in them are compatible with their existence as far back as the Roman occupation, although not necessarily taking them so far ; but this has no direct bearing on the date of the earthen forts.

The result of the inquiry would seem to be, that the question whether the forts at *Orchill* and *Kempy*, and by implication their analogues at Braco and near Crieff Junction, were Roman or native, cannot be definitely settled in the present state of our knowledge.

Absence of Relics.—It is most remarkable that, with the exception of two shapeless lumps of lead in Kaims Castle, not a single relic of any description was met with in the whole of our extensive and varied excavations, and thus we have no means of forming an opinion from that source as to their date. All that can be said with any certainty is that the road, and the works in obvious connection with it, indicate an intention on the part of the Romans to push on beyond Ardoch and Strageath in the direction of Perth.

¹ *Early Fortifications in Scotland*, p. 121.