

III.

PREHISTORIC ARGYLL—REPORT ON THE EXPLORATION OF A BURIAL CAIRN AT BALNABRAID, KINTYRE. BY MRS T. LINDSAY GALLOWAY, F.S.A. SCOT.

SITUATION.

The cairn is situated $5\frac{1}{2}$ miles south of Campbeltown on the eastern shore of Kintyre, at the mouth of Balnabraid burn, one of the most sheltered and attractive spots on that precipitous coast. The burn divides the parishes of Southend and Campbeltown, and rises some 2 miles westward on the hills of Achinloan and Arinarach about 1000 feet high. It flows due east, and where it enters the sea it has worked out a somewhat capacious pocket in the cliffs about 800 feet across north and south.

From this point the ground rises steeply on the north, but less rapidly on the south side, with a gradual ascent upstream. In the little bay there is no formation in the nature of a delta, the strong currents of Kilbrannan Sound and the Firth of Clyde evidently being too powerful to allow of any land extension.

Spread almost horizontally over the pocket are the grass-covered gravels of the 25- to 35-foot raised beach, sloping slightly seaward. The burn where it nears the west side of the cairn swerves to the south and then turns due eastward. The cairn is of oval formation so far as can be judged from the surviving parts, its longer axis a little west-of-north and east-of-south.

The burn has evidently for a long period kept near the southern edge of the pocket and has washed out the gravels there down to high-water mark. For a considerable time it has been tending to meander towards the north, with the result that it has eaten into the raised beach, upon the southern fringe of which the cairn was built. Thus the western side of the cairn is being undermined by the stream.

The hills to south, west, and north form a close horizon, but eastward is the expanse of the lower part of the Firth of Clyde. Due east is the Ayrshire coast, between Culzean and Heads of Ayr, $29\frac{1}{2}$ miles across;

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28° south-of-east is Ailsa Craig, 18 miles distant; while in a line 14° north-of-west, skirting the south end of Arran and Bennan Head at 14 miles, is Prestwick at 36 miles.

The nearest inhabited place is the steading of Achinhoan (the lambs' field) 1 mile to the north-east. One mile to the north, on the shore at Achinhoan Head, is St Kieran's Cave. The ruined steading of Ballnatunie lies inland to the north $\frac{1}{2}$ mile distant, and that of Coraphin, also derelict, on the shore to the south $\frac{1}{2}$ mile. On the northern slope, 1 mile west, is

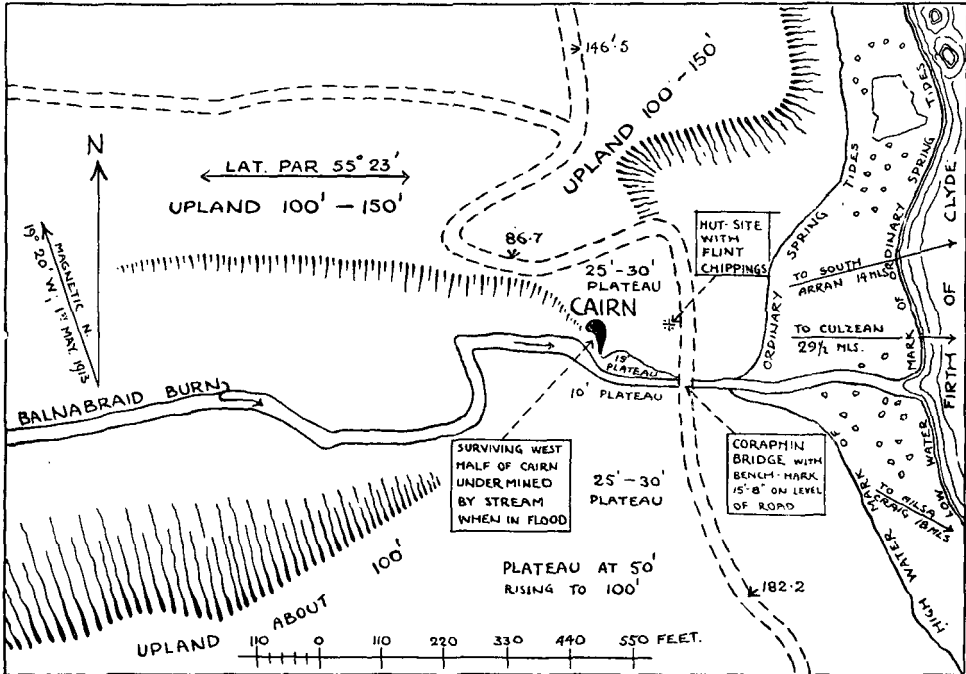


Fig. 1. Plan of Area near Cairn.

a third derelict steading, that of Balnabraid. The little Muril burn flows from the south into the Balnabraid burn, 1 mile west of the cairn. It is doubtful what was the ancient name of the now isolated and uninhabited nook in which the cairn is situated.

Mr Mann submits a chart of the area (fig. 1) which he has prepared after a careful examination of the district and based partly upon an enlargement of the largest available—the 6-inch—Ordnance Map. View of cairn and its plan and sections are given in figs. 2 and 3.

Mr Donald M'Queen, Campbeltown, was the first person to take an interest in the cairn, and after paying several visits to it he ventured, on

21st October 1910, to remove one or two of the stones from a cavity on the western side which had been broken away by the action of the stream beneath it. He noticed a pottery vessel in the cavity. Seven days later he reported the matter to Mr James Lothian, Argyll Estate Office, Campbeltown. Immediately thereafter Mr T. Lindsay Galloway, M.A., F.G.S., Mr M'Queen, Mr Donald M'Kinlay, and myself went out to the



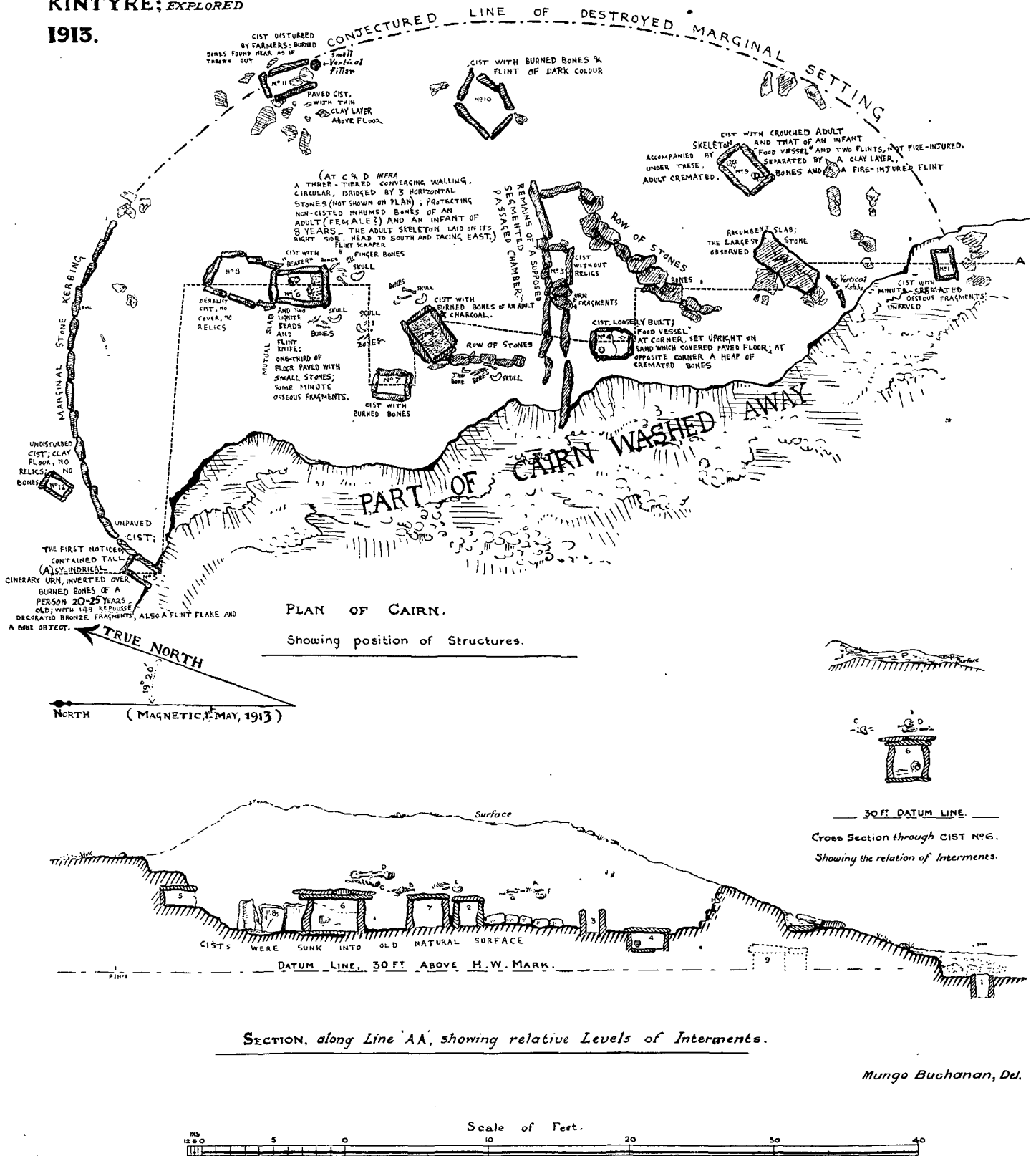
Fig. 2. Cairn from the north-west.

cairn and made a little further examination, extracting from the cist the pottery vessel previously observed.

In the *Proceedings* of the Society for 1911 (xlv., p. 434) Mr M'Kinlay reported briefly upon this preliminary examination, and described the three cists observed in it, and the sepulchral vessel taken from one of these cists.

The vessel referred to (fig. 4) was found inverted within a cist structure (marked No. 5 on the plan now submitted) 27 inches long by 27 inches wide by 30 inches deep, which was covered by a slab of sandstone. To the south we came across another cist (No. 7 on the plan) 20 inches long by 12 inches deep, made of four slabs of sandstone. On the shore-sand which had been

**OVAL CAIRN AT
CORAPHIN,
BALNABRAID WATER,
KINTYRE; EXPLORED
1913.**



Mungo Buchanan, Del.

anciently sprinkled on the floor were noticed fragments of incinerated bones. To the north was noticed another cist (No. 12 on the plan) apparently without osseous remains, with very black soil on the floor. These preliminary scrutinies indicated the importance of the site.

The late Mr Beckett, who had experience in the detection of ancient dwelling-sites, discovered just under the turf of the northern part of the plateau some 45 flint chip-pings (none secondarily worked) scattered over a small area, which seemed to indicate the presence of a hut-site, 15 feet inwards from the near edge of the road and 125 feet east $\frac{1}{4}$ ENE. magnetic from the northmost point of the marginal setting of the cairn.

The field in which the cairn is situated has once been under cultivation, except that part covered by the cairn, the northern and north-eastern edges of which have apparently been encroached upon by the farmers. The prehistoric hut-sites would therefore be now somewhat difficult to recognise.

Why the cairn was placed to the southern edge of the plateau and not centrally, as might at first have been thought an appropriate situation, is not clear. Perhaps some of the dwellings of the builders or users of the cairn were also in this sheltered pocket, and if so the

huts would most naturally have been placed on the north and north central part where there is more sunshine, and where the steep wall to the north would afford protection from the colder winds. The cairn would therefore fall to be placed to the south quarter as we now find it, and doubtless it was originally well free from risk of disturbance by the burn.

As destruction was slowly overtaking it, it was considered advisable to get the remaining portion of the cairn thoroughly explored. His Grace the late Duke of Argyll, K.G., K.T., LL.D., F.S.A. Scot., proprietor of that part of Kintyre, at once granted permission, and assisted in every manner, expressing his desire for an expert scrutiny.



Fig. 4. Cinerary Vessel from Cist No. 5.

The services of Mr Ludovic M'L. Mann were enlisted. He secured the co-operation of Mr A. Henderson Bishop, F.S.A. Scot., and two other experienced field archæologists, Mr Mungo Buchanan, Corr.Mem.S.A. Scot., and the late Mr Alexander Beckett. Local help was given by Messrs M'Kinlay and M'Queen, while Mr Lothian and Mr Alfred E. Lewis, Chamberlain to his Grace, took a deep interest in the work.

The examination was begun early in May 1913, and was finished within two months. The report, which otherwise would have been issued at once, was held over until post-war times.

The exploration revealed an elliptical marginal stone setting on the north side. The cairn is not marked in any of the Government maps. The deviation of the needle on 1st May 1913 was 19° 20' west-of-north, and was extracted by the Director General of the Ordnance Surveys.

THE EXPLORATION.

As it was desired to keep the cairn as intact as possible, the explorers took away the stones one by one and later replaced them. Thus the investigation gradually proceeded until the whole body of the cairn had been scrutinised. As will be seen from the ground-plan and sections, the burials lie at somewhat different levels, and were both cisted and uncisted; and a much disturbed passage chamber and a portion of a marginal setting of stones were met with.

Description of Cists Nos. 1 to 12.

Cist No. 1.—No. 1 cist lay on the extreme south end, if not outside of the extreme south margin of the cairn. Its longer axis trended slightly north-of-east and south-of-west. The inside lengths were 29 inches on the north and 24 inches on the south; the inside breadths, 13 inches on the east and 13½ inches on the west. The two slabs of the sides projected beyond those of the ends; the slab at the west end was supported by a fairly large boulder set outside. The unpaved floor was covered with fine gravel containing many quartz pebbles and some cremated bones. The cover-stones had been removed at the preliminary investigation, but the top of the cist was about 18 inches below the surface of the cairn and 29 feet over Ordnance datum line. It is shown in fig. No. 5.

Cist No. 2.—This cist, well constructed and having its longer axis lying north-east, measured internally 34 inches in length, 20 inches in width, and 20 inches in depth. Its heavy water-rolled cover-stone, 40 inches by 25 inches by 5 inches thick, was found in an upright position, one edge rather deeply sunk into the sand which had gradually percolated into and almost filled the chamber. The dislodgment of the structure had

been caused either by subsidence of the foundations or much more probably by human interference in ancient times.

On removing the sand carefully from the interior there was met with at a depth of 12 inches a thin horizontal layer of fine gravel, on which was a great quantity of small fragments of burnt bones. In the south-most corner of the floor was a shallow heap, about 12 inches diameter, of very black soil with much charred wood. Outside the cist, and at



Fig. 5. Cist No. 1 at extreme south end of cairn ; Cover-stone to right.

the same elevation as its floor, was a straight row of six somewhat irregularly shaped stones, running nearly north and south from the south-west slab of the cist.

Cist No. 3.—This was a roughly rectangular, but somewhat irregularly shaped chamber, its longer axis due east and west. It differed somewhat from its companions, because it was part of a curious widely-spread structural arrangement, and seemed to have been one of a series of a line or row of segmented chambers. It was situated near the east end of the row, the longer axis of which lay nearly east and west. No relics, though diligently sought for, were observed.

The whole passage, which was likewise found destitute of relics, was built of slabs mostly vertically and carefully set to form two parallel sides.

This structure recalls the architecture of the latest phase of the Stone Age. The passage had suffered disturbance in its higher parts, and no systematic roofing or system of roof-supporting stones was noticed, probably because the superstructure had been removed in ancient, if not in prehistoric, times.

Precisely at right angles to, and therefore lying north and south of, the passage, and nearly connecting it with Cist No. 2, was the row of six stones already described. To the north of this cist, No. 3, touching its east side and running out north-east, was a vertical slab 4 feet long, and set at right angles to it, at the east extremity of the slab, was another one about 3 feet long. These two slabs looked as if they had once formed two sides of a rectangular cist from which the other couple of slabs had been removed.



Fig. 6. Food-vessel Urn from Cist No. 4.

From the south-east end of the second slab, in a direction south, ran a line of rather irregular round boulders for a distance of $12\frac{1}{2}$ feet very nearly parallel to the longer axis of Cists 2, 9, and 10, and to that of the largest slab in the cairn.

Cist No. 4.—This structure was, like all the others, a rectangular one, tending closely towards a square formation, but, unlike most of its companions, it was loosely constructed of rather small slabs, the corners being built up of still smaller stones. Its internal measurements were

29 inches by 21 inches by 14 inches deep, and its longer axis lay north and south—that is, parallel to that of Cist No. 7, and at right angles to the passage structure.

In the north-west corner a food-vessel urn (fig. 6) was found upright, set on a layer of sand 1 inch deep covering the flagstone which formed two-thirds of the floor. In the south-east corner was a heap of cremated bones, lying on a pebbly sort of soil clear of the flagstone.

Cist No. 5.—This cist was exposed by the falling of a portion of the foundation of the cairn into the stream. It was the cist which had attracted the attention of Mr M'Queen, who noticed the urn (fig. 4) within the chamber, and from which Mr M'Kinlay, on being informed, took the vessel to Campbelltown.

The longer axis of the cist lay at an angle of 14° east-of-north and west-of-south, and exactly parallel to that of Cist No. 12, which was 9 feet to the north-east. The north-east wall was one of the undisturbed slabs

of the marginal setting of stones round at least part of the cairn. When the main investigation started this cist was immediately noticed. The slab from the south-western end had either been removed at the preliminary investigation or had fallen down. This cist was not formed of thinnish slabs like the other cists, but was built of boulders. The upper stones were set so that they overhung the lower; the cist had a vault-like roof capped by two flat water-rolled stones. An angular block of red sandstone was found embedded in the soil in the south-east side of the south-western end of the cist. Above the stone was a layer of fine sharp river-sand or sea-sand, which extended under the stones of the cairn to the south-east. Round the chamber, sand and smaller stones had been used for packing between the walls and the surrounding natural soil. The length of the cist was not exactly ascertainable, as the south slab was missing. Its inside length was about 43 inches. Internally it measured 22 inches wide and 12 inches deep. The floor was unpaved.

A small flake of flint was discovered lying against the block of sandstone. In a shallow circular cavity on the floor was a heap of cremated human bones. The pottery vessel found here had originally apparently been placed in an inverted position over the bones, among which was



Fig. 7. Perforated Bone Object and Jet Beads.

a small, thin, slightly curved rectangular piece of bone, carefully cut to shape and with two circular perforations near the middle of either face, the perforations being worked in a somewhat slanting manner (fig. 7). There were also found among the bones 149 fragments of bronze sheeting, some of them very small. A few of the pieces showed that the sheeting had borne geometrical designs in repoussé. Some of the fragments were twisted, as if they had passed through a fire.

Cists Nos. 6 and 8.—Cist No. 8, 53 inches by 33 inches and 18 inches deep inside, with its longer axis about north and south, was of loosely set stones, had no cover, and was filled with fallen-in small stones, as if anciently destroyed, or perhaps never completed or used.

Cist No. 6 measured internally 46 inches by 26 inches by 27 inches deep. It adjoined and was on the same level as Cist No. 8, the north slab of No. 6 being the south slab of No. 8. The contrast between these two neighbouring structures was striking. The former was the most complete cist in the cairn, and had not been previously disturbed.

The orientation of No. 8 may have been deemed inappropriate and the chamber may therefore have been permitted to fall into disorder or to remain either unfinished or unused. Another conjecture is that it may have been destroyed at a later time by those preparing for a subsequent burial. But as the mutual wall slab was oriented east and

west it seems to have been independent of No. 8 and to have been put up primarily and solely for No. 6. Thus No. 8 seems to have been added to No. 6, though for some reason not favoured eventually.

But the sequence of construction of Nos. 6 and 8 can only be guessed. If both were built at the same time and both intended as graves, as is almost certain to have been the case, why was the latter destroyed and allowed to remain unused, while the former remained intact? Why was No. 8 built precisely to the cardinal directions and No. 6 irregularly orientated?

Leaving, then, the problem of No. 8, in which no relics were detected, and its curious juxtaposition with No. 6, special attention may be directed to the superstructure, flooring, and contents of No. 6, all of which presented interesting features and permit of detailed discussion. The explorers worked down to it, and are thus able to recount connectedly the story of its construction.

The two flagstones were first of all sunk horizontally and slightly into the raised beach or natural gravel so as to form two-thirds of the area—the western section of foundations—of the cist. The four wall slabs were then set up, so as to rest upon the floor slabs and to form a neat rectangular chamber. The remaining one-third of the floor-space was paved with closely set pebbles or small boulders (in the same manner as the floor of No. 2). Interesting grave furnishings were then placed in position as detailed below. A cover-stone, 63 inches by 38 inches by $4\frac{1}{2}$ inches thick, which, like all the stones of the cairn, had been selected from some neighbouring place, was brought upon the scene. Either during its transport or whilst being set in position the coverstone got fractured across the middle. It was nevertheless used as originally intended, but the crack was plastered over tightly with a layer of yellow clay. The clay was found filling the crack, but whether it had been artificially forced into it or had subsequently found its way into the interstices by pressure of the superstructure (about to be noted) is not clear. A deposit of clay had then been carefully put all over the upper edges of the vertical wall slabs. Thus the cist and cover were deliberately sealed up, and the upper surface of the layer made uniformly horizontal, and its substantiality increased by the insertion, where space allowed, of small flat stones embedded here and there in the clay. Over this horizontal packing were laid five large flat stones all on the same level. One of these stones had been clearly placed so as to cover the line of fracture on the cover-stone. It may therefore be inferred that the fracture had existed prior to the sealing up.

At the upper north-west corner of the cist was a small hole—possibly accidentally left at the time of the building, or subsequently developed.

But the further possibility of intention must not be lightly dismissed, as cases are recorded where artificially made holes leading from sepulchral chambers to the outside have been noted and are supposed to have been made so as to permit the passage of the spirit of the deceased. Through this hole some fine sand from above had percolated slowly into the interior and accumulated in a heap with its sloping side facing south. A small beaker or "drinking-cup" urn (fig. 8) was discovered lying on its side. It had become enveloped and filled by the sand, and lay covered by an accumulation of sand 9 inches deep, with its mouth facing north, close to the east side of the cist and in the middle of that side. Mr Beckett stated he suspected some small rodent had found access to the chamber by the hole described, as he thought he saw and was able to trace the run made by the animal to a hollow near the centre of the chamber as if it had made a nest there. The beaker may have been disturbed by this intrusion.

On sifting the sand which filled the vessel a discoid bead of fine dense, hard, well-preserved, very black lignite was found. Another larger bead of the same shape, material, and quality was got close to the outside of the mouth of the vessel. Both beads are of the same type, and are $\frac{1}{30}$ inch thick, centrally perforated, the opening in either case having vertical walls. They are perfectly made discs with vertical sides (fig. 7).



Fig. 8. Beaker Urn from Cist No. 6.

A knife of pale yellow flint, made from a nodule with a thick white crust, a part of which remains, $2\frac{1}{2}$ inches long and $1\frac{3}{10}$ inch at greatest breadth, was found in the sand a few inches further south of the larger bead. The knife has two facets on one face. On the other is a single surface with a bulb of percussion.

Careful sifting disclosed a small number of minute, scarcely perceptible osseous fragments, probably not burnt. No other relics were disclosed.

Cist No. 7.—The falling away of the bank by action of the stream had recently, before excavation, dislodged the west wall slab which lay near, and had exposed the side of this little rectangular chamber—measuring internally 26 inches by 10 inches deep,—the longer axis of which lay nearly north and south. The cover-stone was still in position, turf-covered, and overlapped the walls. Rabbits entering by the open end had scraped out some of the original contents, but on the floor were a small quantity of incinerated bones and a large fragment of pottery of the middle phase of the Bronze Age.

Cist No. 9.—This chamber lay with its longer axis almost parallel to those of Cists 2, 5, and 12, and exactly parallel to that of Cist No. 10. It also lay parallel to the row of irregularly laid stones to the north-west, and to the axis of the large recumbent slab—the largest stone in the whole cairn—which lay to the west. The cist measured inside 34 inches by 20 inches and was 22 inches deep. It was covered by an irregular, oval, flattish stone 54 inches by 36 inches, and 12 inches thick (fig. 9).



Fig. 9. Cist No. 9, looking into its north corner.

At the north corner of the chamber had been placed a crouched human skeleton. The skull, with jaw fragments on either side, east and west, lay a little clear of the corner which faced south-east. To the south-west one arm bone lay flat and the other raised upon the skull. The leg bones were doubled up as if apparently under the trunk, and were found with several rib-bones partly buried in the sand.

Two implements of flint were found in the sand under the skeleton. Both pieces were uninjured by fire. The larger flint is of knife-form and bears some secondary work. It measures $2\frac{3}{4}$ inches long and was found in a position as if it had been laid in the lap of the body. The smaller, having a length of $2\frac{1}{2}$ inches, was found 6 inches from the other

implement, and its position seems to show that the body had been placed upon it, as the flint was found between the pelvic bones.

In the southmost corner of the cist a characteristically shaped food-vessel urn (fig. 10) was found, apparently quite empty, lying on its side, with its mouth facing northwards, on a thin layer of clay.

Underneath the vessel, but slightly to one side and covered by the clay layer, was a collection of burnt bones, and among them a knife-shaped implement of flint. It is $2\frac{1}{8}$ inches long, has no definite secondary working, is fire-whitened and injured. The incinerated deposit was evidently independent of, and put in before, the inhumed burial, as the layer of clay intervened; but the difference in time might be a matter of only

minutes or hours; or, on the other hand, burials may have been separated by a period of many years, in which case the cist would require to have been reopened for the second burial.

This cist is somewhat remarkable, as it involves burials both by cremation and inhumation, in very close association.

As "food-vessels" have been most frequently found associated with inhumed burials, it would seem that the pottery and flints uninjured by



Fig. 10. Food-vessel Urn from Cist No. 9.

fire formed a deposit independent to that of cremated remains and fire-injured flint relic.

Cist No. 10.—This was a roughly built somewhat misshapen rectangular chamber, its longer axis coinciding with that of Cist No. 9. It measured in the interior 36 inches by 24 inches, was 20 inches deep, and lay at the same elevation as No. 11. The disjoining of the slabs, which were all about 3 inches thick, showed that it may have been disturbed especially towards the east side, where probably the farmer, in the endeavour to enlarge his field, had done the mischief.

Mixed with the sand on the floor were many pieces of burnt bone and a flint of dark colour.

Cist No. 11.—This cist, measuring internally 38 inches by about 24 inches and 19 inches in depth, was on the same level as Cist No. 10,

and seemed to have been set slightly inside the now vanished marginal stone setting of the cairn's north-eastern side. The longer axis of the cist seemed to have nearly, if not exactly, coincided with the direction of the marginal setting, if ever one existed, at that part of the cairn.

Fragments of a pottery vessel and of burnt bones were found very near the cist to the west-south-west, as if they had been thrown out from the cist and towards the centre of the cairn. As evidence that the interference had taken place in recent times, it may be mentioned that Mr Beckett found a piece of a clay tobacco pipe among the burnt bones. The cover-stone was broken in several pieces and the south end slab was missing. The floor was set with two small flagstones. A small erect pillar-stone—38 inches high, with its breadth varying from 10 inches to 6 inches at the base, and from 8 inches to 5 inches at the top—was still in position at the south-east corner, the top surface of the stone before excavation having been flush with the surface.

Cist No. 12.—This was a small rectangular chamber which lay outside the marginal setting of the cairn, and was built of whinstone flagstones about 3 inches thick, covered by a slab of whinstone 26 inches by 14 inches by 3 inches thick. It measured inside 18 inches by 10 inches and was 16 inches deep. Its longer axis lay 14° east of due north and coincided with that of Cist No. 5 which lay some 9 feet to the south-west.

No vestiges of bones or relics could be detected within it, but it would be hazardous to conjecture that it had never been used for an interment. It had never been disturbed. A thin horizontal layer of clay was noticed 6 inches above the floor, a layer of soil intervening.

UNCISTED BURIALS.

Over the whole surface of the cairn was a layer of turf, heather, grass, and *Sedum acre*. Hairy roots had found their way into the depths of the cairn. The interior was almost entirely composed of loose stones, amongst which at various places were noticed small collections of human osseous remains. In most cases these were inhumed and not associated with any special arrangement of the stones. There were also a few isolated fragments of bones, mostly unburnt, and a few cremated. In one case was observed an arrangement of the boulders, fairly good evidence of some slight attempt at a roofing over the deposit. The stones just over several of the deposits appeared as if they had received a plastering of loamy clay. The use of clay as a plaster in some of the cist structures was perfectly clear, and it is also certain that clay was employed in connection with the uncisted burials.

Immediately around and above a skeleton (marked D on plan) was some loamy clay, apparently introduced as packing between the stones.

Near the surface the clay was absent, the stones loose and with little or no filling of soil of any kind. The stones at the intermediate level had at their points of contact small quantities of clay, occurring in least quantities when the contact points were set horizontally, in which situations the clay was least readily liable to disturbance and washing away by the intrusion of rain-water.

Skeleton D.—After the turf and mass of stones had been cleared away



Fig. 11. Inhumed Burial (D in sectional drawing) among loose stones.

from about the middle of the surviving western side of the cairn, there was disclosed an uncistied burial of an almost intact skeleton (D on plan) of a well-built individual of at least middle life, probably a female. Fig. No. 11 shows it after the soil, much of which had percolated from the surface, had been removed by using a penknife and a small hand-brush of grass. It was found 6 feet down in a crouching position. It lay on and amongst stones which rested on light-coloured coarse river sand containing small pieces of wood charcoal and fragments of fire-injured stones. With this skeleton were found some unburnt bones of a child of about 8 years, and within a few inches of the finger-bones of the larger skeleton was a small circular flint scraper with a highly

patinated, porcelain-like surface. The stones above the deposits nearest the surface of the cairn were loose and had a filling of soil. Those lowest and just about in contact with the skeleton were in a loamy clay.

The greatest care was necessary in examining this burial and securing a record of its peculiar structure and contents. In lifting the stones one by one the remaining parts of the structure, so loosely and roughly set together, were apt to fall down upon the wasted soft bones beneath them; indeed a small stone became accidentally dislodged and fell, crushing the jaw. The remains were so tender that three days' exposure in their original position to the outer air had to be allowed in order to get them sufficiently dry and hard to be handled; but many portions, especially those on the lower level, owing to dampness in the soil, were quite beyond recovery.

This skeleton, deep in the heart of the cairn, occupied a space 36 inches by 15 inches and 12 inches high. It had been laid crouched on its right side, with the head to the south and facing the east, the left arm alongside the trunk and the right arm extended out a little to the east.

A piece of deer-horn (perhaps an implement) was found vertically set between two stones 6 inches higher and 4 inches north of the pelvic bones. The body was within a three-tiered rough circular walling, very rudely set together, which converged upwards, and was bridged by three large horizontally set boulders. Of these capstones two were found in their original position, but the north end of the central cover-stone had subsided and crushed into the floor level to a depth of 6 inches the rib, vertebral and left arm-bones.

The closely adjoining deposit (C on sectional plan, fig. 3) was that of the unburnt body of a child about 6 years. This non-cisted inhumed burial was prehistoric, judging from the posture of the skeleton and the flint scraper, which had apparently been placed in the deceased's right hand. It was earlier than the early Iron Age, but not earlier than Cist No. 6. If not precisely contemporary, it is difficult to state how long it post-dated the undisturbed lower burial. It was put into the cairn some 2 feet above the cap-stones of Cist No. 6, and lay over its southern half and extended 2 feet beyond it to the south. The longer axis of the skeleton lay parallel to and coincided with that of the cist and with the supposed long axis of the cairn, as seen from the plan and section.

The coincidence in respect of the medial lines of cist, skeleton, and cairn could scarcely have been fortuitous, and point to those who deposited the skeleton being aware of the presence of the lower cist and of its bearings, and perhaps also of the main bearings of the cairn. The lie of Cist No. 6 seems to have been known and guided those who interred

skeleton D. If the burials are not contemporary, the only explanation seems to be that those who had worked down into the cairn for the burial of the skeleton exposed the cover-stones of the cist, which they did not disturb, but were guided by its bearings in their deposition of the new burial.

The child buried below skeleton D was represented by a skull only; the other osseous remains having been either wasted, or suffered disturbance, by perhaps the burrowing of a rodent.

The isolated single osseous pieces found scattered had apparently once formed part of collections of bones which had been disturbed by the intrusion of later burials. There is ground for the belief that the uncisted, almost structureless deposits are later than either the Neolithic or Bronze Ages, or at least later than the cisted burials, because they were all found on a fairly high level above the foundations of the cairn and well above the cover-stones of the cists. It is supposed that they belong to so late a time as the early Iron Age, or perhaps some of the earlier centuries of this era; but the absence of associated grave goods and pottery, with the exception of two flints noticed, points to some late prehistoric or proto-historic age. On the other hand, some of the scattered and incomplete inhumed deposits may belong to the Neolithic period and were originally contained in the chamber passage, which has quite clearly been much disturbed. Probably its contents were thrown about or extracted from the chambers at the various times when the later intrusive and cist burials were being made. As mentioned in one case of an uncisted inhumed burial in the cairn, it had slight traces of some protective arrangement, but this may have been a roughly made structure put up for sentimental reasons by the later intruders.

RELICS.

Three kinds of sepulchral pottery belonging to distinct phases of the Bronze Age were found in the cairn. If the cairn, as its oval shape and segmented passage suggest, was originally built in late Neolithic times, it must have been used as a place of burial over an unusually long period.

The food-vessel (fig. 6) taken from Cist No. 4 is in very good condition. Its rim diameter is $6\frac{9}{10}$ inches, its base diameter $3\frac{1}{2}$ inches, and its height $7\frac{1}{5}$ inches. It is decorated all over the outside surface by an impressed design of curved lines, chiefly arcs. The rim, $\frac{7}{16}$ inch thick, slopes inwards, and is impressed by a double wavy line.

In Cist No. 9 was found another food-vessel urn (fig. 10), its rim and base diameters being $6\frac{1}{5}$ inches and $3\frac{1}{2}$ inches. The rim, $\frac{1}{2}$ inch thick, slopes inwards, and is decorated by an impressed cord pattern. The height is $5\frac{1}{2}$ inches.

From Cist No. 6 was obtained a rather small neat beaker (fig. 8), its diameters at rim and base $4\frac{6}{10}$ inches and 3 inches respectively, and its height 5 inches. The rim is plain, and a small fragment has got broken from it. The interior surface is quite plain; but the outside is decorated by four zones of straight lines and chevrons.

The large cylindrical vessel (fig. 4) assigned as of late Bronze Age type, found in Cist No. 5, has already been described (*Proceedings*, xlv. p. 434).

The seven flints obtained in the different deposits have already been noted; as also two lignite beads.

In Cist No. 5 were found (as noted already) fragments of some bronze object of thin metal bearing decorative repoussé work. Owing to their broken and fire-injured condition it is difficult to make out to what class of object the fragments belonged. Perhaps they were parts of earrings, which were fixed to the lobe of the ear by pressure, being secured in position by attachment to a small cord brought over the top of the head from one earring to the other, the cord being adjusted with regard to its length by the little double perforated rectangular bone object, already noted (fig. 7), found with the fragments.

Perhaps some of these inhumed uncisted burials were originally enclosed by a more definite construction, which had suffered disturbance. If it had been a construction of wood or other perishable material it would not have been in evidence after such a lapse of time, while its decay would permit the stones to fall out of their original position.

As well as isolated human bones, intact and fragmentary, mostly unburnt, in rare cases isolated burnt fragments were encountered in the body of the cairn among the loose sand without association. A very few fragments of prehistoric pottery vessels were likewise found isolated and scattered.

The collections of human bones uncisted evidently represent much disturbed inhumed burials.

REPORT BY PROFESSOR THOMAS H. BRYCE, M.D., F.S.A.Scot.,
ON THE HUMAN REMAINS.

The parcel of bones from the cairn at Balnabraid, submitted to me for examination, comprise both burnt and unburnt bones.

The deposits of burnt bones are as follows:—

1. The deposit from Cist No. 5 represents a typical interment after cremation. The incineration has not been very thorough, as some of the bodies of the vertebræ and the heads of the long bones have

remained entire. As is common in such cases, a number of metacarpal and metatarsal bones and phalanges have been preserved whole.

The ossification of these bones is completed. It might be concluded therefore that the individual was of adult age—but a portion of the front piece of the sacrum is also preserved, which shows that consolidation of that bone was not quite complete. The conclusion therefore is that the person was over 20 but under 25 years of age.

Some of the bones show a green stain, possibly from contact with a bronze object.

2. This deposit, from Cist No. 7, is a rather small but typical one. The bones have been broken into small fragments. Some phalanges have been preserved entire. Their ossification is complete. The individual was therefore at least 20 years of age.

3. This is a very small deposit, from Cist No. 4, of very much comminuted fragments of burnt bones. None of the fragments show any distinctive characters.

4. This is a minute deposit, from Cist No. 1, of the burnt bones and teeth of a person of adult age.

5. This is a fairly large deposit, from Cist No. 2, typical in character. Incineration has not been absolute, as some of the ends of the long bones are entire and some charred and burnt through. The individual was probably of adult age.

6. This deposit, from Cist No. 9, is a mixed one. The larger part consists of burnt bones of a person of adult age. Among the burnt bones there are a number of fragments of the bones of an adult person which have not been subjected to fire. There are present portions of the thigh-bone, vertebræ, upper jaw, and skull of a young infant, all unburnt.

DEPOSITS OF UNBURNT BONES.

Examination of the various parcels of bones shows that in all there has been a mingling of the bones from two or more interments. The bones are much broken and the skeletons are very incomplete. It has been found possible to build up only two long bones, both from the same skeleton, viz. a femur and a humerus. Out of seven skulls represented by fragments more or less numerous it has not been possible to reconstruct a single specimen.

The disarray of the skeletons and the fragmentary character of the remains deprive this report of the interest it might have had in connection with the physical character of the people who buried their dead on this site. Thus the cranial characters can only be guessed at, and there are no data to warrant conclusions regarding stature.

The only statement regarding the skulls that can be ventured is that the characters of fragments of the hinder part of the skull correspond rather with those of the dolichocephalic than brachycephalic type of skull.

The single whole femur belonged to a female between 22 and 25 years of age of slender proportions. The bone measures 406 mm., which is a low figure, and indicates a stature of about 4 feet 10 inches to 5 feet.

The calculation of the stature of one individual, and that a woman, gives no indication of the general stature of the race, but such data as are provided by the fragments of skulls, combined with the shortness of this thigh-bone and the flattening of its shaft in the upper part, suggest that we have to do with representatives of the short, long-headed people first associated with the chambered cairns and late Neolithic phase of culture, but persisting in considerable numbers among the general population, especially of the west of Scotland, down to the present day.

In the absence of any special informative data regarding physical characters, it will suffice to give a catalogue of the various deposits and indicate the age and sex of the individual represented.

1. The great proportion of the bones in this deposit are those of a female between 22 and 25 years of age. The length of the femur (built up) is 406 mm. and of the humerus 272 mm. Both are slender and relatively short bones. The skull is represented by the greater part of the frontal and the parietal bone. These joined together show that the skull must have been of small size and of oval shape. A portion of a lower jaw with full complement of teeth probably belonged to this skeleton.

In addition to the parts of this female skeleton there are two fragments of a second adult skull and also a few broken bones of a child. A lower jaw in which none of the second teeth had erupted probably belonged to this skeleton. As the first permanent tooth breaks through in the sixth or seventh year the child must have been younger than this, probably—from the size of the jaw—about 4 to 5 years old.

2. This deposit consists of very much broken fragments of bones from two skeletons, one of an adult, the other of a child. From the worn surfaces of the teeth in a fragment of the jaw it may be concluded that the individual had reached at least middle life. The long bones are fairly massive and the muscular markings well defined. A portion of the hip-bone present shows characters pointing to its having been part of a female pelvis. The person must therefore have been a female of good development and fair stature. The character of the frontal bone, which is preserved, tends to confirm the judgment as to sex.

3. This consists of a few of the bones of a young child. Some of the young bones found in deposit 2 fitted with these in 2A, so that probably

EXPLORATION OF A BURIAL CAIRN, BALNABRAID, KINTYRE. 191

the interments have been mingled. This child was about eight years old, but a second child of under six years old is represented by fragments of both the upper and lower jaws, in which only the milk teeth are present.

A few bones in separate parcels found in the neighbourhood of this deposit show no distinctive features. It is probable these originally belonged to the primary interments.

4. This consists of the fragmentary remains of a skeleton of a person of full adult age. The greater part of the back portion of the skull was built up out of the fragments. The shape and slope of the vault indicate that the skull was not of the brachycephalic, but rather of the dolichocephalic type.

5. This deposit consists of some fragments of the vertebræ and long bones of an adult person or persons, and two lower jaws. In both the complement of teeth is complete and there are signs of wear on the crowns.

6. This deposit is described as being close to but distinct from 9. It consists entirely of the bones of a child of about nine years of age.

In concluding it may be remarked that this series of interments is remarkable for the large number of young children represented.