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# Journal of the Cork Historical and Archæological Society

(Sixty-eighth year of Issue)

# A Hut and Cooking Places at Drombeg, Co. Cork

By E. M. FAHY

When Somerville surveyed the Drombeg recumbent-stone circle in 1909¹ he drew attention to a second 'stone circle' standing some short distance away to the west on the marshy terrace. Close inspection of the site, in 1956, convinced us that this circle was, in fact, the ruin of an oval hut with orthostatic walls. Accordingly when the excavation of the stone circle was undertaken in 1957 operations were extended to the hut site in the hope that it and the circle might show some cultural relationship to each other.

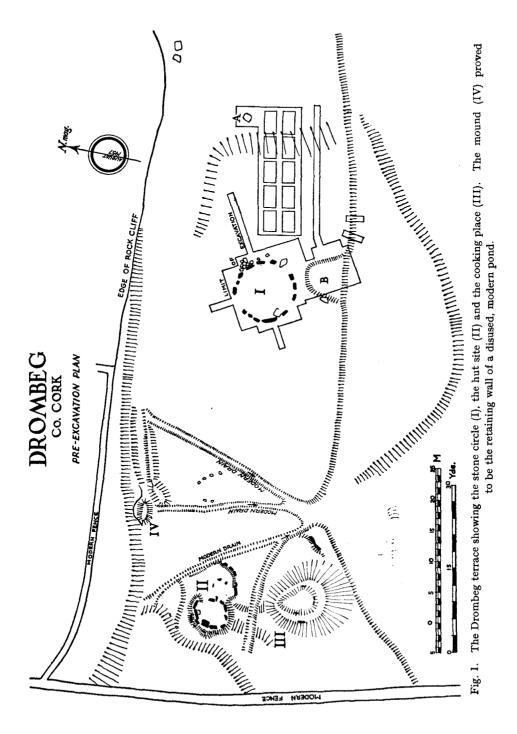
When the vegetation had been stripped from the entire Drombeg terrace an extensive fulacht fiath mound was brought to light in the vicinity of the hut and the excavations at Drombeg, originally planned for one season, had to be resumed in the following year, 1958.

When fully excavated the hut site (fig. 1, no. II) and the *fulacht fiadh* or cooking-place proved to be far more extensive than superficial indications would lead one to expect. In the area immediately to the east of the hut three successive phases of activity were clearly attested. At the lowest level a C-shaped posthole structure was revealed; this was succeeded by a hut with a centre post which was later dismantled to make way for a roasting pit with associated features.

The cooking place (fig. 1, no. III) consisted of an oval area, delimited by a bank of boulders, surrounding a stone-lined cooking pit, a hearth and a well. From the northern side of the enclosing bank a causeway of boulders curved to meet the southern side of the main hut thereby establishing an indisputable link between the sites. The stratification of the cooking place indicated three distinct phases of development, the last of which was the laying down of the causeway.

No closely datable finds were unearthed on Sites II and III but a C14 date obtained from charcoal samples from the cooking trough established the final abandonment of the cooking place at or about the end of the fifth century A.D., so that bearing in mind the stratigraphical evidence for a succession of structures on Site II it would appear that a lengthy and progressive occupation of the sites took place for some time before 500 A.D. It is possible, however, that the date from the cooking trough represents a late re-use of the site.

<sup>1</sup> J.C.H.A.S., XV (1909), 105-108.



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#### The Excavation

Before excavation both sites were richly clothed with marsh vegetation. Site II was free of bushes but Site III supported a strong growth of briars, furze and other bushes which effectively disguised the true nature of the site from the casual observer. Five contiguous standing stones forming an irregular arc on the uphill side of a flat, oval space were the principal indications of the remains of the main hut on Site II while a marshy depression (3.5m wide, 50cm deep) marked the centre of the fulacht fiadh mound, Site III.

In plan, Site II formed a figure-of-eight, the western half of which consisted of the ruins of the main hut while the eastern half contained the roasting pit, a small water-pit and hearth backings. In the centre of the figure-of-eight was a doorway with orthostatic jambs. When originally constructed, this doorway, as was evidenced by the postholes discovered at the eastern ends of the door jambs (see below), served, not the main hut to the west, but a second hut which stood on the eastern side of the site. This hut, since it preceded the main hut, will be referred to as hut I. Also in the eastern half of the eight was a C-shaped formation of postholes (P1-P8 on plan, fig. 2) which was found to underlie the other features of the site and which it would seem, formed or was part of, the primary structure erected on the site.

The main problem presented by the excavation of Site II was to decide the succession of events as evidenced by the remains of the structures on the site—two huts, a roasting pit and a C-shaped posthole shelter with associated cooking pit.

# The Posthole Structure (fig. 2, P 1 to P 8)

A C-shaped posthole structure, 4.50m long by 2.40m wide (4′9″ by 7′11″), was discovered at a depth of 40 to 50cm below the modern turf. Enclosed within the southwestern arc of the structure was an oval, unlined pit containing a fill of broken burnt stone (fig. 2, Pit 1). None of the eight postholes forming the C-shaped structure contained recognisable posthole humus but in three instances, those nearest the cooking pit, were filled with broken burnt stone while the other five contanied stony brown soil which was readily distinguishable from the surrounding yellow-brown subsoil. Two of the postholes, those on the north eastern end of the arc, were marked by packing stones. It is possible that further postholes occurred beneath the roasting pit but it was deemed undesirable to uproot that structure.

Two large postholes, P9 and P10 fig. 2, penetrated through the cooking pit (Pit 1) in the south western arc of the posthole structure. P9 which was 25cm wide and 36cm deep (10' by 14") contained a fill of stony soil and penetrated to a depth of 14cm lower than the bottom of the cooking pit. P10 which was almost as large as P9 cut through the eastern side of the cooking pit and was obviously secondary to it.

# Hut I (fig. 2, Doorway A)

The only surviving features clearly assignable to Hut I were a pair of orthostatic jambs with associated postholes (P11 and P12) and postholes 9 and 10. When first encountered, the jambs of doorway A were splayed towards the interior of Hut II and the door opening itself was blocked with large boulders (fig.3, Section W/E). Soil layers G and H which passed through the doorway were found to underlie the

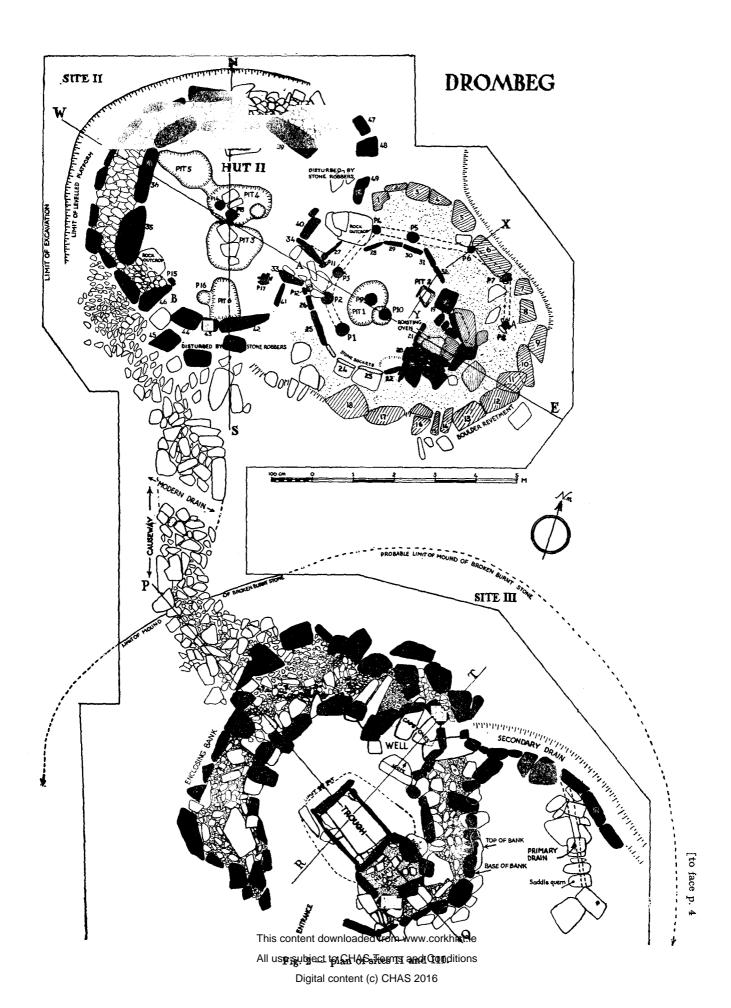
blocking and to overlie two small postholes (nos. 11 and 12) situated at the eastern ends of the door jambs. When standing as found the northern jamb of the doorway overhung posthole 12 so that it could not have accommodated a door-post. Since the door jamb could not have slipped because of the soil fill and blocking in the doorway it must have been moved into the splayed position before the soil fill and the blocking were laid down. Indeed, subsequent excavation revealed that the jamb had in fact been moved out of its original position before soil layers G and H were laid down. Be that as it may, the presence of the postholes at the eastern ends of the jambs indicates that Hut I stood to the east of the doorway. This area of gently sloping ground had been levelled up behind a reverment of boulders (Stones 9 to 18, fig. 2) to accommodate the hut while a further arc of stones (Stones 1 to 8, fig. 2) on the northern side of the site may have formed a footing for the outer face of the hut wall. The central relationship of postholes 9 and 10 to the doorway and the arcs of boulders established that these postholes carried the main roof supports of Hut I, which on the basis of this deduction must have measured almost 5m (16'5") in overall diameter.

# The Roasting Oven (fig. 2, Site II)

Before excavation the tips of two stones, (Nos. 19 and 20, fig 2) of the roasting pit protruded through the modern turf. When fully exposed the pit or oven was found to be of rectangular plan (1m by 60cm) internally and was full of broken burnt stone. The western or operations end of the oven was closed with stones and the eastern end, or back, of the structure was closed with a large boulder. As originally constructed, however, the oven was wedge shaped in plan, Im wide at its western end narrowing to 60cm at its eastern end. A frontal slab, standing in a specially dug socket (fig. 2, Stone 21 and fig. 3), partly closed the mouth of the oven. In the course of time the slab had become shattered by the heat of the fires and was replaced by small stones. Internally the oven was narrowed by the insertion of a number of stones which as found were discoloured and shattered from the effects of heat. The bottom of the pit was lined with a slab of slate on which much pulverised charcoal<sup>2</sup> rested. The northern side wall of the oven was 60cm (2') high and consisted of two long boulders one upon the other while the southern side was doubled-walled, the inner face being a slab-like boulder, 1m long (3'4"), and the outer consisting of two boulders. The interspace, 16cm wide, was filled with soil and stones as well as broken burnt stone.

Two arcs of small standing slabs (stones 22 to 32) extended from the front of the oven to the orthostats of doorway A. That these standing slabs were in position when the roasting oven was built and was in use was fully proven by the discovery of a spread of broken burnt stone and charcoal within the southern arc where the ground was discoloured from the heat of the fires. In addition broken burnt stone and charcoal overrode two fallen stones of the southern arc and extended outward over the boulder revetment to the south. The greater part of the area within the arcs of standing slabs was heavily discoloured with charcoal derived from the activity at the roasting oven and was liberally strewn with intrampled burnt stone. Postholes 1, 2, 9 and 10 and Pit 1 were sealed down beneath this layer (fig. 3, Section W/E, layer J).

 $^{2}$  Identifiable samples from the oven proved to be holly, spindle or pegwood and willow-poplar. See Appendix I.



Immediately outside the roasting oven near the northern arc of standing stones a small, slate lined sub-rectangular pit (fig. 2; Pit 2) was discovered. It was full of broken burnt stone which in this area fanned outwards from the mouth of the oven. There can be no doubt that the pit which probably served as a water container, and the roasting oven were contemporary structures. The water pit was, however, allowed to go out of use when soil layers G and H were laid down over the area but the roasting oven continued in use, its shattered frontal slab being replaced by two courses of stones, the topmost of which was supported in position by soil layers G and H (fig. 3, Section W/E). The upper surface of layer H was liberally sprinkled with charcoal and broken burnt stone derived, no doubt, from the oven, which must therefore have continued in use after layers G and H were laid down.

# Hut II (fig. 2)

Hut II was constructed on a level platform excavated out of the hillslope immediately to the west of Hut I. Before excavation, four orthostats, up to 75cm high, and one fallen slab formed an arc 5m wide (16'5") against the western or cutaway side of the site. A level, oval area, 4.60m wide (15') heavily clothed in marsh vegetation marked what subsequently proved to be the interior of the hut. When fully excavated almost two-thirds of the hut plan was established with certainty, the western half of the hut wall being preserved to its full thickness of 1.20m (4). The south-eastern arc was represented by the stumps of three orthostats (fig. 2, nos. 41-43) and a few boulders while the outer face of the north-eastern arc was indicated by three boulders, (fig. 2, nos. 46-48); otherwise, both arcs of the wall had been quarried by stone robbers. The eastern arc of Hut II was represented by the blocked up doorway of Hut I and a few of its western flanking stones. When the blocking was removed from the doorway the orthostatic jambs were found to splay towards the interior of Hut II, but in describing Hut I (above) we have pointed out that the northern jamb (fig. 2, Stone no. 34) had been moved out of its original position when it was incorporated into Hut II. As found, the doorway measured 80cm wide (2'8") on its western side and 56cm wide (1'10") on its eastern side.

A second doorway, 50cm wide, with a small, rectangular posthole (P15) by its western jamb, was discovered on the southern side of the hut where the causeway from the cooking site joined it. Almost in the centre of the floor-space two postholes. one 28cm wide and 30cm deep (11" by 12"), the other 24cm wide and 30cm deep (9½" by 12"), were discovered while two further, substantial postholes were found, one near the eastern and the other near the southern doorway. Near the central posthole (fig. 2; P13) three small slabs or paving stones were found to overlie a small, rectangular formation of stones surrounding a deposit of charcoal. The size of this structure (20 by 25cm) rules it out as a hearth yet it might have been used somewhat in the manner of a charcoal brazier. In any event it was dispensed with when the paving stones were laid down. Immediately beneath the central area of the hut there were two irregular pits (fig. 2, Pits 3 and 4) both of which were full of soft yellowbrown soil. The centre post, P13, and the second posthole, P14, were both inserted into the fill of Pit 4. Connected with the latter pit was a third, pear shaped pit, again full of soil, on the surface of which was a spread of pulverised charcoal—perhaps the remains of a single fire but no more.

In the southern arc of the hut was a U-shaped pit (fig. 2, Pit 6), 1m long, 0.75m wide and 15cm deep which was full of broken burnt stone to floor level. Heaped above the pit was a 12cm thick layer of broken burnt stone and charcoal. The fill of the pit would suggest a cooking pit interpretation but it seems more probable that the pit may have been used as a sink hole to draw water off the floor of the hut.

The excavated evidence shows that while the western half of the hut wall was composed of a rubble and earth fill between a double row of orthostats, the outer face of the eastern side was revetted with boulders, some of which were found in situ. The roof was supported by a central post, or two placed close together. Without increasing the height of the western wall and using a 3m (9'9") high centre post, ample head room could have been provided within the greater area of the interior of the hut.

#### The Causeway (fig. 2)

Before excavation there were no superficial signs of the causeway, but on finding what appeared to be excessive quantities of stones and boulders to the south of Hut II the excavation was extended southward in the direction of Site III to reveal a causeway of boulders over 1m wide (3'4") and 8m long extending from Hut II to Site III, the cooking place. At its northern end the causeway, in common with the ruin of Hut II, had been largely destroyed by stone robbers; however, much broken stone was found in and on the causeway at that point. It would seem that this refuse must have come from the roasting oven on Site II. Almost mid-way in its length the causeway was cut through by a modern drain. At its southern end the causeway rested on a thin grey layer, perhaps an old turf line, which in turn overlay a depth of 25cm of broken burnt stone (fig. 3, Section P/Q)associated with Site III, the cooking place. At this point too the causeway was found to abut the outer revetment of the bank which enclosed the cooking site.

# The Cooking Place, Site III (fig. 1 and fig. 2)

Before excavation the cooking place appeared, after clearance of vegetation, as an extensive mound with a concave central area, on the southern fringe of the Drombeg terrace. In spite of the extent of the mound, 17m (56') from north to south and 12m (39'6") from east to west, it appeared to be relatively insignificant, its maximum height above the surrounding ground to the east and west being not more than 56cm. (22"). The maximum depth of the central hollow was 62cm (25').

Close inspection of the mound revealed traces of thirteen stone slabs in a discontinuous, horseshoe-shaped formation surrounding the central hollow while to the west, the tips of two orthostats were visible, so that on a preliminary plan the monument could well be mistaken for the ruins of a substantial, oval hut. The excavation was laid out on the usual quadrant system with 50cm bridges and 3.00m by 2.50m excavation plots. A depth of 38cm (15") of peaty mud overlay the central area of the site and beneath this an average depth of 80cm (32") of debris was encountered over the operations level. The greatest depth of broken burnt stone, 1.40m (4"7"), lay outside and to the south of the enclosing bank. Since the ground fell away on that side of the site much of the dump must have slid downhill at an early date.

While it was not practicable to excavate the full extent of the mound of broken burnt stone, an area of some 200 square metres (235 sq.yds) of the site was fully excavated to old ground level. During the course of the work it was possible to establish, by measurement of the excavation plots, that not less than 130 cubic metres (164c.yds) of broken burnt stone lay on the site.

When fully excavated the cooking place was found to consist of a horseshoe-shaped drystone enclosing bank revetted on its inner and outer faces with large boulders; a central slab lined cooking pit; a U-shaped hearth and a large spring well with an associated overflow drainage channel. The latter feature was secondary to an earlier covered drain which had become choked with broken burnt stone and silt at an early stage of the development of the site.

# The Enclosing Bank (fig. 2, Site III)

The enclosing bank was not a primary feature of the cooking site, but had been laid down and subsequently added to as occassion arose, after the site had been some time in use. In its final form the bank varied from 0.80m to 2.30m (2'8" to 7'7") in width and averaged about 1m (3'4") in height; the well was incorporated into its north-eastern arc and the entrance, or perhaps wind-gap, was to the south. The Ushaped setting of boulders which formed the hearth abutted against and had been incorporated into the south-eastern extremity of the enclosing bank. Practically every boulder of the bank revetments lay on an accumulation of broken burnt stone. This fact was especially noticeable immediately behind the hearth where the outer revetment stood on a depth of 44cm (17") of hard packed stones and charcoal (fig. 3, section P/Q) while at other points around the bank successive courses of reverment material were found to lie not on their fellows but on higher levels of the dump. It was evident therefore that not only was the bank a secondary feature but its height was increased from time to time in order to hold back the ever growing mound of broken burnt stone. With the exception of the grey layer beneath the causeway no turf lines were encountered in the mound and though we have referred to that layer as a turf line it may have been laid down as a soil spread or turf foundation for the causeway.

#### The Cooking Trough (figs. 2 and 3)

The tips of the vertical side slabs of the cooking pit were encountered at a depth of 75cm (30") beneath modern ground level. The trough was almost rectangular in plan and its long axis lay NW-SE. Measurements taken along its central axes gave its dimensions as 1.5 by Im (4'11" by 3'4"). The maximum depth of water which the trough would hold was 56cm (22"). The long sides of the trough were composed of slate slabs, two on the south and one on the north. The northern slab fell short of the required length by 10cm (4") and a vertical, sandstone slab trimmed to the required width had been skillfully inserted into the gap. The short sides, or ends, of the trough were each made of a single sandstone slab while the floor area was largely taken up by a single, finely quarried slab of slate 1.40m long by 82cm wide (4'7" by 2'9") which sloped gently towards the south eastern end of the trough

outside of which stood the hearth. The area of the trough floor not covered by the slate slab was carefully paved with suitable pieces of slate.

Many large stones were found resting at steep angles in the fine mud which lay in the upper level of the trough (fig. 3, Section P/Q). The lower ends of these stones were embedded in broken burnt stone which overlay a depth of  $4\text{cm}\ (1\frac{3}{4}'')$  of burnt stone chips and much charcoal resting on the floor of the trough. Apart from the large stones and mud in the upper level of the trough the rest of the fill could be regarded as the refuse of the last cooking operation on the site.

Excavation in the vicinity of the trough showed that the pit dug to receive it measured 2.85m by 2.10m (9'4" by 6'11"). The fill of the pit consisted of a mixture of broken burnt stone and many large, unburnt stones with some soil and much black mud. Broken burnt stone was also found beneath the floor-slab of the trough, so that it was evident that quantities of broken burnt stone were available on Site III before the trough was set up.

#### The Hearth (figs. 2 and 3)

The stone built hearth extended the full width of the eastern end of the cooking trough and the boulders comprising its walls were discoloured and shattered by heat. The hearth-floor had been paved and these stones too showed the effects of intense heat. Originally the hearth was enclosed on three sides, north, east and south by boulders, but the back, or east side, had been increased in height when it was incorporated into the surrounding bank so that, as found it measured Im (3'4") high. The western side of the hearth opened on to the eastern side of the trough the end stone of which was also discoloured by heat. The floor of the hearth was, however, 10cm (4") lower than the top of the trough so that the end stone of the trough formed a barrier against the ashes which would otherwise have been knocked into the water while it was being charged with hot stones during a cooking operation.

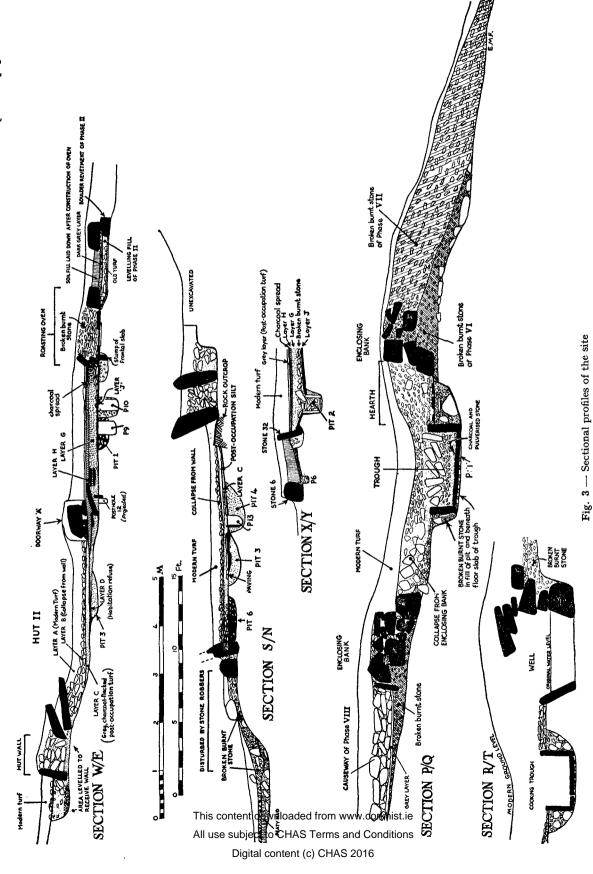
The most common fuel used on the site appears to have been the wood of poplar or willow together with hazel, oak, alder and buckthorn.<sup>3</sup>

#### The Well (figs. 2 and 3)

Apart from one or two stones which had fallen at an early date, the well was structurally sound when excavated. Its roof slabs lay just below the modern turf and its bottom was encountered 60cm (2') below the operations level of the cooking site. The overall height of the structure was 1.60m (5'3") and it measured 1.25 by 1.60m (4'11" by 5'3") at water level. An overflow outlet in the back wall of the well kept the water level 10cm (4") below the floor level of the site.

The well was U-shaped in plan and its walls were built of rough, angular boulders placed haphazardly one upon the other without any real attempt at building in the accepted sense of the word. The roof consisted of four large slabs, one of which had fallen, and the back wall of the well had, in places, been roughly corbelled inwards to support them (fig. 3, Section R/T). The main support of the well structure was, however, a substantial pillar stone, 1.10m high and 30cm square (3'7" by 12") placed

<sup>&</sup>lt;sup>3</sup> See Appendix I.



on the southern side of the front of the well. Were it not for this stone the pressure of the enclosing bank and of the dump of broken burnt stone would have brought about the collapse of the structure. The ground in front of the well was buttressed with a large, stone slab and a boulder standing on edge so that soil could not collapse into the well.

When found the well structure was full of cream coloured, gritless mud of very fine consistency which had built up to within 10cm (4'') of the underside of the roof slabs; the collapsed roof slab and other boulders from the bank had formed a retaining 'wall' across the open side of the well. The only finds made within the well were a few hazel nuts which lay beneath the mud. On top of the southern side-wall of the well and beneath an accumulation of broken burnt stone, a perforated slate slab was found (fig. 4, a). The hour-glass boring, 6cm ( $2\frac{1}{2}''$ ) wide, in the slab showed no signs of polishing or other wear and its purpose must remain conjectural.

# The Primary and Secondary Drains (fig. 2, Site III)

Outside the well and extending a few metres east of the enclosing bank two interesting features were brought to light beneath the dump of broken burnt stone; the remains of a covered, primary drain from the well, and a secondary open drain revetted on its southern side with a line of boulders. Almost half the length of the primary drain had been destroyed in the construction of the secondary open channel.

More than 2.50m (8'3") of the primary drain was preserved almost intact. It consisted of a narrow, (15 to 20cm wide, 25 to 30cm deep), channel between a double line of boulders carefully roofed over with flat slabs, one of which was found to be a saddle quern (fig. 4c). The existing portion of the drain lay N/S, that is downhill, and must originally have curved westward to meet the overflow outlet of the well. The drain was constructed *in* the basal layer of the dump and confirms the fact that it, the well and the enclosing bank postdate the primary activity on the site.

In the course of time the primary drain became silted up beneath the mound of broken burnt stone. The well water, deprived of its outlet, must then have over-flowed around the cooking place and the users of the site were forced to dig the second drain. A revetment of boulders was placed against the southern side of the drain where the dump was constantly being added to in the area behind the hearth. The drain was not roofed over and could be readily cleaned out when necessary. During the course of the excavation great trouble had been experienced from ground water flooding within the cooking site and it was not controlled until the overflow outlet from the well and its associated drain had been discovered and cleared.

#### **Boiling Experiments**

In all, three experiments were conducted on the cooking place in an effort to establish the efficiency of hot stones in boiling a given quantity of water. A measured quantity of seventy gallons (318 litres) of cold water, taken from the well, was placed in the cooking trough. Tree branches and other medium sized sticks were carefully arranged on the hearth and fired. Further sticks were then arranged in crisscross layers, interspersed with pieces of sandstone gathered from the surrounding

hillside, until the hearth, or fireplace, was filled to the top of its back wall. The fire was then allowed to burn without disturbance for nearly three hours and a cairn of red hot stones gradually formed itself in the centre of the hearth as the fire burned down. Two men equipped with long, straight sticks stood one on each side of the trough and working together poked and pushed the red hot stones over the lip of the trough one by one. Care was taken frequently to dip the ends of the sticks into the water so that they charred rather than burned away during the course of the work. The hot stones were, of course, carefully distributed about the bottom of the trough so that the entire body of water received an even amount of heat.

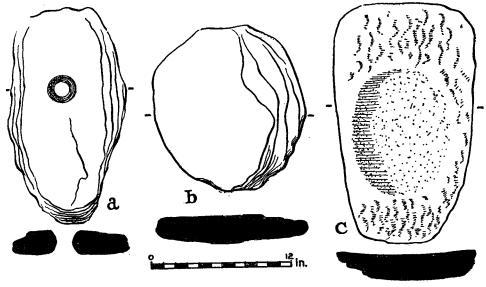


Fig. 4-Stone Objects

In the course of eighteen minutes the water in the trough was vigorously boiling. A further twenty-five gallons (113.5 litres) of cold water was gradually added to the trough, bucket by bucketful, and the heat of the stones in the trough was so great that without any further addition of stones the entire ninety-five gallons of water continued to boil. After  $2\frac{3}{4}$  hours had elapsed the water was found to be well above bathing temperature. The water level in the trough was then noted and the stones were subsequently removed. The volume of stone involved in the experiment was calculated on the basis of the water displacement and found to be 17.55 gallons (.079 cubic metres or 79 litres) that is a ratio of stone to water of 1:5.

Subsequent experiments showed that the speed at which the contents of the trough could be boiled largely depended on the efficiency of the firing of the stones and the speed at which they could be fed to the water. In our most successful experiment we boiled seventy-five gallons of water in 15 minutes.

#### THE FINDS

#### The Holed Stone (fig. 4, a)

This small slab was found beneath broken burnt stone on the bank at the southern side of the well. There can be no doubt of its association with the site. It measures 48cm (19") long, 25cm (10") wide and is 4cm ( $1\frac{1}{2}$ ") thick. The hour-glass boring which is 6cm ( $2\frac{1}{2}$ ") wide at the mouth and narrows to 4cm ( $1\frac{1}{2}$ ") inside shows no sign of polishing or abrasion from use.

# The Saddle Quern (fig. 4, c)

The saddle quern, which was found used as a covering stone over the primary drain, measures 53 cm (21") long, 32 cm (13") wide and 5 cm (2") thick. Its working surface is shallowly dished and smoothed over an area measuring 30 cm (12") by 20 cm (8").

# Stone Disc (fig. 4, b)

This roughly shaped disc of soft shale measuring  $36 \text{cm} (14\frac{1}{2})$  in diameter and  $4 \text{cm} (1\frac{3}{2})$  thick was found in the enclosing bank on the eastern side of the site.

#### SUMMARY

In describing the structures on Sites II and III reference has been made to various stratigraphical features which enabled us to differentiate between one phase of activity and another on the sites and these phases may be summarised as follows:

#### Phase I: The C-Shaped Posthole Shelter (fig. 2, P1 to P8).

The eight postholes comprising this feature underlay the other features of the eastern area of Site II. Three of its postholes, those nearest the simple, unlined cooking pit, contained broken burnt stone when found while the remaining postholes contained brown soil. The cooking pit was also full of broken burnt stone. The postholes were not concentric with the centre post of Hut I (Phase II, below) and two of them obstructed the doorway of that hut (Fig. 2, P2 and P3) so that the postholes could not have belonged to Hut I and must be regarded as part of a separate structure—the posthole shelter.

#### Phase II: Hut I (fig. 2, Doorway A and P9, 10, 11 and 12)

That Hut I succeeded the posthole shelter is evident from the fact that its centre post penetrated into and through the floor of the Phase I cooking pit (fig. 3, Section W/E). That Hut I occupied the eastern area of Site II is established by the occurrence of the postholes, which would have carried the door, at the eastern ends of the orthostatic door jambs (fig. 2, Stones 33 and 34). Since the centre postholes and those at the doorway were full of soil in the case of the former and of broken burnt stone in the latter it would appear that the posts were uprooted and the hut deliberately demolished.

# Phase III: The Roasting Oven (fig. 2; fig. 3, Sections P/Q and R/T and Pl. II)

That the roasting oven and southern hearth backing (fig. 2, Stones 22-26) were in use after Hut I had been demolished is clear from the fact that charcoal flecks and chips of broken burnt stone from the oven and hearth sealed down the centre postholes (P9 and 10) of Hut I. A mound of broken burnt stone and pulverised charcoal lay within the arc of the southern hearth backing and overrode two of its fallen stones. In addition refuse from the cooking pit overlay the ground outside the southern hearth backing and also intermingled with the causeway of Phase VIII. Phase III and Phase IV were contemporary (see below).

#### Phase IV: Hut II (fig. 2; fig. 3, Sections W/E, S/N and X/Y.)

After Hut I had been dismantled its doorway was incorporated into Hut II and in the process, the position of the northern jamb was altered so that the doorway splayed inwards to the interior of Hut II, (page 5 above). Hut II therefore post-dated Hut I and as we have seen, the roasting oven also succeeded Hut I so that it is reasonable to presume that Hut II and the roasting oven were in contemporary use.

After some time a soil layer (layer G) was introduced into the area in front of the roasting oven. This layer extended through the eastern doorway of Hut II and underlay habitation refuse (fig. 3, Section W/E, layer D) which occurred in the vicinity of that doorway. A number of stones was thrown down between, and in front of, the door jambs and one stone in the soil layer rested directly above the southern posthole of the Phase II doorway (fig. 2, Doorway A), establishing beyond all doubt that Hut I had been abandoned before Layer G was laid down. Layer H which occurred on top of Layer G consisted of brown soil and extended into the eastern doorway where it filled a slight but distinct hollow (fig. 3) which fanned out into the interior of the hut. This hollow was consistent with the normal ground wear associated with continued traffic through the doorway so that it was again clear that doorway A was in use with Hut II. Finally our assumption that Hut II and the roasting oven were in contemporary use was proven correct by the fact that the frontal stones of the oven were supported in position by layers G and H (fig. 3, Section W/E) and that an extensive spread of pulverised charcoal from the roasting oven occurred on the surface of Layer H (fig. 3, Section W/E); i.e., the oven continued in use after the introduction of the soil layers.

#### Phase V: The Blocking of the Eastern Doorway of Hut II

The eastern doorway of Hut II was blocked with boulders which rested directly on Layer H without any intermediate turf-line. It would seem that in the penultimate stage of the occupation of Hut II the roasting oven was allowed to go out of use and that the eastern doorway was then blocked up.

# Phase VI: The Earliest Activity on Site III (fig. 3, Section, P/Q.)

The presence of broken burnt stone beneath the floor slab of the cooking trough on Site III suggests that this trough may have been a replacement for an earlier one;

alternatively the burnt stone derived from the roasting oven or from the Phase I cooking pit. In any event the stone lined trough, the hearth and the basal layer of the mound, on which the enclosing bank rested on Site III must be taken to constitute Phase VI.

# Phase VII: Site III (figs. 2 and 3)

The enclosing bank, the stone built well, the primary and secondary drains, both of which were inserted into the Phase VI broken burnt stone, and the fully developed mound of broken burnt stone are assignable to Phase VII.

# Phase VIII: The Gauseway (fig. 2, and fig. 3, Section P/Q)

The causeway, overlying the Phase VI dump and abutting against the Phase VII enclosing bank established satisfactorily by its association with Hut II that this hut, the roasting oven and the cooking trough were in contemporary use. And it is probable that the construction of the well and enclosing bank on Site III were undertaken when the users of the Drombeg sites decided to construct Hut II during Phases III and IV.

#### CONCLUSIONS

The simple cooking pit and shelter of Phase I are consistent with the first temporary occupation of Site II. The construction and later demolition of Hut I and the earliest phase of Site III may have been contemporary and would together comprise an intermediate stage of development of the overall site. The erection of Hut II and the roasting oven together with the elaboration of Site III and the subsequent laying down of the causeway show the entire site in its fully developed form, while the blocking of the eastern doorway of Hut II and the implied abandonment of the roasting oven, represent a reduction of activity on the site. Finally, the presence of large stones, too large to have slipped in from the surrounding bank, in the cooking trough suggests a deliberate filling of the trough at the time of abandonment.

#### DISCUSSION

The excavations at Drombeg revealed an interesting complex of monuments ranging from a C-shaped posthole shelter with an unlined cooking pit to a large stone hut with associated roasting oven, causeway and elaborate cooking place.

In recent years six cooking places have been excavated in Co. Cork<sup>4</sup> and while each produced ample evidence of various intensities of activity, none revealed closely

<sup>4</sup>O'Kelly, M. J: J.R.S.A.I., LXXXIV, (1954), 105-155, gives excavation reports for Bally-vourney I and II and Killeens I, II and III with description of cooking experiments and a full discussion on the archaeological and literary background of Irish cooking places. Fahy, E.M.: J.C.H.A.S., LXIII, (1957), 71-72 describes a small cooking place at Mashanaglass, Co. Cork.

datable archaeological finds. The main results of the excavations were to reveal four types of cooking troughs, various sizes of dumps of broken burnt stone, to establish the method of cooking on the sites and to prove that in some instances at least, wooden huts were built nearby, e.g., at Ballyvourney I and II. Two of the sites, Ballyvourney I and Killens I, were dated to the bronze age by pollen analysis and C14 tests respectively.

The interpretation of the sites as temporary, seasonal hunting encampments has been accepted on a threefold basis; firstly the absence of domestic refuse; secondly the temporary nature of the associated huts and finally on the basis of tradition, the early literature and certain references which occur in the Ancient Irish laws.

None of the sites hitherto excavated compares with Drombeg in any but the essential features of a cooking place—a mound of broken burnt stone and one or more cooking pits. Furthermore, the structures at Drombeg, especially the hut and the cooking trough, are of a permanent rather than a temporary nature which argues for an interpretation other than that of a hunting encampment. Indeed the gradual development and elaboration of the Drombeg sites, without apparent pause, suggests that their users were possessed of a purposeful outlook which envisaged a prolonged, though perhaps periodic, use of the site.

The main features which distinguish Drombeg from the other cooking places are the stone hut as opposed to wooden huts; the stone-lined cooking trough as opposed to troughs of wooden planks, logs and wooden dug-outs; the stone-built canopied well; the large, confined hearth or fireplace and the stone-built enclosing bank, none of which have been discovered elsewhere as yet.

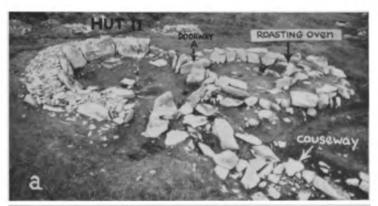
Despite the permanent nature of the Drombeg structures it must remain a matter of conjecture as to whether the site was occupied constantly or periodically. Be that as it may, the cooking facilities provided at Drombeg greatly exceeded the requirements of the number of perosns who could have occupied the hut at any one time and it is evident that others, perhaps hunters or those who foregathered at the nearby circle, were catered for as the occasion arose.

Had the Drombeg hut produced finds consistent with ordinary domestic occupation we would unhesitatingly regard it as a dwelling rather than a temporary shelter. Yet other stone built huts, e.g., the rectangular hut discovered in 1950 at Carrigillihy,<sup>5</sup> though unquestionably a dwelling, was barren of finds and contained little habitation refuse, so that the absence of finds from the Drombeg hut was not an unusual occurrance. Indeed, it is probable that the saddle quern found roofing the drain on the cooking place (page 9), the holed stone and the stone disc found near the well all originated from the hut and should properly be referable to it. No finds of a domestic nature have been made on the other cooking places excavated in Co. Cork. The Drombeg excavation failed to produce any evidence of successive occupations of the hut, nor could the duration of occupation be established.

The extent of the mound of broken burnt stone has a direct bearing on the intensity of activity at a cooking place and the volume of the mound at Drombeg, 130 cubic metres, must represent a considerable number of cookings. It has been established elsewhere that one cooking required a volume of stone equivalent to two-thirds the volume of the cooking trough. At Drombeg we conducted experiments which

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    O'Kelly, M.J: J.C.H.A.S., LVI (1951), 69-86.
    O'Kelly, M.J: J.R.S.A.I., LXXXIV (1954), 117-123.
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[pl. I







- (a) Site II from the south.
- (b) Sites I, II and III from the west.
- (c) Site III from the south-west.

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a



- (a) Roasting oven and water pit, Site II.
- (b) Cooking trough, hearth and well, site III.

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showed that a given quantity of hot stones could boil five times its volume of water and keep it hot for  $2\frac{3}{4}$  hours, and while we did not carry out an actual cooking experiment, it would seem that, with sufficiently heated stones something less than two-thirds, perhaps half, of the volume of the trough would be adequate for such a cooking. On this basis the Drombeg mound would represent some 300 cookings at a minimum, while a calculation based on the figure established at Ballyvourney I would result in 232 cookings. Allowing, however, for the possibility of the re-use of some stone, the loss of broken burnt stone on the downhill side of the Drombeg site, the efficiency of the pre-heating of the stones and the intervals between the cooking, we are faced with a quartet of imponderables which if established, could expand the use of the site from an absolute minimum of perhaps one year to a maximum of several decades or more.

Two C14 datings were established on the Drombeg cooking place; one from beneath the mound, lay between 109 and 349 A.D., and the other from the cooking trough, varied from 368 to 608 A.D. The maximum variation between the dates is 500 years while the minimum variation is 19 years and the gap between the central dates is 259 years. While it is unlikely that the site was in use for 500 years it is possible that it was in intermittent use for several decades; but there can be no finality in the matter.

The presence of the hut and cooking place within 50 metres of the Drombeg recumbent-stone circle can of itself be regarded as coincidental, but a second excavation which we have since completed at Bohonagh, Co. Cork, has brought to light a rectangular post-hole hut within a few metres of another stone circle so that the possibility of an association between huts and stone circles now arises.

Neither at Bohonagh nor at Drombeg were finds made which could be used to relate the huts to the circles, but at Drombeg we can at least consider the results of the C14 tests carried out on charcoal samples from the circle and the cooking place. The sample from the burial at the circle was dated to B.C. 13 + or — 140 years and the sample from beneath the mound at the cooking place was dated to A.D. 229 + or —120 years. On the basis of the central datings the stone circle pre-dates the earliest phase of Site III, the cooking place, by 242 years, but the margin of error is such that the upper-most date of the burial, 127 A.D., and the earliest date of the cooking place, 109 A.D., actually overlap. Be that as it may, and bearing in mind that the cooking place was not necessarily the earliest structure on Sites II or III, it would seem that there is a possibility that the hut and cooking places at Drombeg were used, if not by those who initially erected the stone circle, at least by those who frequented the circle in later times.

Such an interpretation of the Drombeg complex of monuments would readily account for the permanent nature of the structures there as opposed to the flimsy huts and less elaborate layout of the cooking places excavated elsewhere in Co. Cork, and if our hypothesis, insecure as it is, be admitted for the sake of discussion we can visualise the periodic utilisation of the cooking place as coinciding with the frequency of the ceremonies conducted at the stone circle.

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<sup>7</sup> O'Kelly, M.J: J.R.S.A.I., LXXXIV, (1954), 117-123.
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<sup>&</sup>lt;sup>8</sup> Excavated in 1959. Report pending.

<sup>&</sup>lt;sup>9</sup> Fahy: J.C.H.A.S., LXIV, (1959), 27.

#### CONSERVATION

Hut II: Fallen orthostats were re-erected. The surviving area of the wall was capped with a layer of small stones similar to those contained in the body of the wall. Where the wall had been destroyed by stone robbers in the eastern arc of the hut its position was marked with small boulders and stones. The interior of the hut was gravelled with broken burnt stone to a depth of six inches.

The Roasting Oven: The structural stones of the oven were not disturbed during excavation. The shattered frontal slab was replaced with a suitable stone. The broken burnt stone found in the oven was replaced in it and the fallen hearth backings in the southern arc were re-erected. The area between the hearth backings was gravelled with broken burnt stone.

The Causeway: Stones which had fallen off the causeway in early times and which were found scattered beside it, were replaced.

The Cooking Place: The enclosing bank of the cooking place remains largely undisturbed and stones which had been excavated off were replaced in their correct positions. The hearth also remains undisturbed except for its paved floor which was replaced after excavation. Interstices in its back wall were filled with spalls where it seemed that there was danger of collapse. The cooking trough has been replaced exactly as found and two of the roofing slabs of the well which had slid off were re-set in position. The walls of the well were treated with spalls where necessary and its frontal slab, which was found on the floor of the well was replaced in position. The interior of the cooking place was gravelled with broken burnt stone and the entire mound of broken burnt stone was again piled up around the outside of the enclosing bank. Finally the monuments were treated with sodium chlorate to inhibit the growth of vegetation.

#### **ACKNOWLEDGEMENTS**

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# Appendix I

Report on charcoal samples from Sites II and III at Drombeg, Co. Cork.

Hut II: All six samples examined were of Salix-Populus (Willow-Poplar). The Roasting Oven: Six samples examined:—2 of ? Sambucus (Elder); 2 of Ilex (Holly) and 2 of Salix-Populus (Willow-Poplar). Samples from the Mound of Broken Burnt Stone on Site III: Seventy-six samples examined:—28 of Salix-Populus (Willow-Poplar); 31 of Corylus (Hazel); 12 of Quercus (Oak) and 5 of Alnus (Alder) The Cooking Trough on Site III: Thirty-four samples examined:—26 of Salix-Populus (Willow-Poplar) and 8 of Corylus (Hazel)

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# Appendix II

Trinity College, Dublin.

Radio-carbon dates from Site III, Drombeg, Co. Cork.

Sample 1: From beneath the Mound of broken burnt stone: 1730 + or - 120

years (before the present).

Sample 2: From the bottom of the cooking trough: 1471 + or -- 120 years

(before the present).

W. A. Watts I. R. McAuley