REPORT ON THE EIGHTH SEASON OF THE TRE'R CEIRI CONSERVATION PROJECT APRIL TO SEPTEMBER 1996

PART 1: TEXT

YMDDIRIEDOLAETH ARCHAEOLEGOL GWYNEDD GWYNEDD ARCHAEOLOGICAL TRUST

REPORT ON THE EIGHTH SEASON OF THE TRE'R CEIRI CONSERVATION PROJECT APRIL TO SEPTEMBER 1996

Prepared for Cyngor Dosbarth Dwyfor by D. Hopewell

PART 1: TEXT

GWYNEDD ARCHAEOLOGICAL TRUST REPORT NO. 246

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RHAGARWEINIAD

Disgrifiwyd Tre'r Ceiri (SH373446) yn aml fel un o'r bryngaerydd sydd wedi cael ei chadw orau yn Ynysoedd Prydain. Saif 485m uwchlaw'r môr ar y mwyaf dwyreiniol o dri chopa'r Eifl, ym mhenrhyn Llyn. Mae'r gaer ddwy hectar (Ffig. 1) wedi'i hamgylchu â wal gerrig sych anferth, 2.3 i 3.0m o drwch. Yn anarferol, oherwydd fod y safle mor anhygyrch a bod digonedd o gerrig i gael ar y copa, ychydig iawn o'r gwaith maen sydd wedi'i glirio oddi ar y safle er mwyn ei ail-ddefnyddio. Mae'r gwrthglawdd wedi goroesi yn agos i'w uchder gwreiddiol o 3.5 metr mewn mannau, gyda'r rhannau gorau yn cynnal gwrthglawdd wal gerrig sych. Saif wal amddiffynnol allanol arall i'r gogledd-orllewin i'r gaer. Ceir dwy brif fynedfa drwy'r gwrthglawdd mewnol, i'r de-orllewin ac i'r gogledd-orllewin o'r gaer gyda bylchau ychwanegol syml yn y gwrthglawdd yn y gogledd, y gorllewin a'r de-ddwyrain. Caiff y gwrthglawdd ei gario dros gilborth y gogledd gan nifer o gapanau drysau carreg. Ymddengys mai'r fynedfa yn y gogledd-orllewin yw'r brif fynefa i'r gaer gyda thramwyfa 15m o hyd yn arwain at lwybr wedi'i derasu a phorth arall drwy'r wal amddiffynnol allanol. Mae tu mewn y gaer yn cynnwys olion tua 150 o gytiau cerrig sych a mannau caeedig sydd yn wahanol iawn o ran maint a siâp, o gytiau crwn syml i adeiladau afreolaidd a phetryal. Credir i'r gaer gael ei sefydlu rywbryd yn ystod y mil blynyddoedd 1af CC ac mae amryw o gloddiadau wedi dangos fod pobl yn byw yn y cytiau hyd at y 4edd ganrif OC.

Mae's afle ar hyn o bryd yn denu oddeutu 7,000 o ymwelwyr y flwyddyn ac mae hyn wedi golygu bod rhai llecynnau o fewn y gaer wedi cael eu herydu'n ddrwg. Ym 1989, mewn ymateb i'r ffaith fod y safle yn dal i ddirywio, sefydlwyd project cadwraeth Tre'r Ceiri gan Gyngor Dosbarth Dwyfor, gyda chymorth ariannol oddi wrth Cadw a Chyngor Sir Gwynedd. Contractiwyd tîm o dri saer maen i gadarnhau'r waliau drwy drwsio rhai oedd wedi disgyn a sefydlogi gwaith maen simsan. Goruchwyliwyd a chofnodwyd eu gwaith yn fanwl gan Ymddiriedolaeth Archaeolegol Gwynedd. Ar ddiwedd tymor 1995 trosglwyddwyd gweinyddiad y project i'r awdurdod unedol newydd, Cyngor Gwynedd. Rhoddwyd cymorth ariannol unwaith eto gan Cadw.

Gwnaethpwyd gwaith cadwraethol ar ran fawr o'r gwrthglawdd a thros hanner cant o gytiau yn ystod saith mlynedd cyntaf y project. Daeth llawer o wybodaeth i'r amlwyg ynghylch strwythur ac dilyniant amser y safle yn ystod y broses gadwraethol. Tymor 1996 oedd y cyntaf i ganolbwyntio'n gyfangwbl ar gadwraeth y cytiau. Dynodwyd y 57 cwt mewn bwa yn hanner de-orllewinol y safle (gw. Ffig. 1) ar gyfer gwaith cadwraethol yn ystod y tymor hwn. O'r rhain, roedd angen gwaith ar 35, roedd 14 wedi'u gostwng bron i lefel y llawr ac yn sefydlog ac roedd gwaith cadwraethol wedi cael ei wneud ar 9 mewn tymhorau blaenorol ac nid oedd angen gwaith ychwanegol arnynt. Gwnaethpwyd gwaith cadarnhau ar gyfanswm o 176 a oedd wedi disgyn. Roedd maint y gwaith cadwraethol yn amrywio o ychwanegu ychydig gerrig at wal i lawer iawn o waith ail adeiladu mewn cwt a oedd wedi cael ei ddinistrio'n bur ddiweddar. Yn wreiddiol cafwyd peth amheuaeth ynghylch faint o'r cytiau allai gael eu sefydlogi'n llwyddiannus. Mae gwaith y tymor hwn wedi sefydlu y gellir daw'r rhan fwyaf o'r rhai sydd wedi disgyn heb fawr o darfu arnynt. Mae hyn wedi ychwanegu llawer at sefydlogrwydd y cytiau. Mae'r cytiau lle gwnaethpwyd gwaith cadwraethol yn awr wedi'u diffinio'n eglur a gall y sawl sy'n ymweld â'r safle werthfawrogi'n well ffurf y cytiau a gobeithio ddefnyddio'r mynedfeydd yn lle dringo dros y waliau. Bellach mae modd gweld y cytiau a'u deall fel rhan o'r heneb, a dylent fod yn fwy diogel rhag cael eu difrodi gan ymwelwyr nad oedd yn sylweddoli o'r blaen mai cytiau oeddynt. Cyflawnwyd hyn heb darfu ar unrhyw waith maen pwysig oedd yn ei le nac ar unrhyw olion archaeolegol.

Yn ychwanegol at wella'r safle'i hun, mae gwaith y tymor hwn wedi ychwanegu at ein gwybodaeth o gyfnodau a strwythurau'r cytiau. Yn fwyaf arwyddocaol, dangoswyd fod llawer o'r cytiau petryal a hanner petryal 'cefn wrth gefn' yn cytiau crwn oedd wedi cael eu his-rannu a'u haddasu. Mae dilyniant strwythurol yn dechrau ymddangos: Ymddengys mai'r strwythurau cynharaf oedd y tai crwn 6m i 8m ar draws. Cafodd nifer helaeth o'r rhain eu his-rannu yn nes ymlaen i ffurfio cytiau llai a oedd bron â bod yn betryal o ran ffurf. Ychwanegwyd strwythurau petryal eraill at ymyl y tai crwn gwreiddiol gan ffurfio felly grwpiau cysylltiedig o gytiau sydd bellach yn nodwedd o'r safle. Mewn rhai achosion codwyd y gwaith maen ychwanegol o flaen gwaith maen a oedd wedi disgyn, gan awgrymu nad oedd y cytiau gwreiddiol yn cael eu defnyddio yr adeg honno. Dyma'r dystiolaeth gyntaf, er nad yw'n derfynol eto, sydd gennym nad oedd rhannau o'r safle, os nad y cyfan, yn cael ei ddefnyddio'n ddi-dor drwy'r cyfnod dan sylw. Yn anffodus, ni chafwyd tysiolaeth i ddyddio'r safle ac felly ni wyddom pryd ddigwyddodd y newidiadau hyn ac a ydynt yn dangos i'r safle gael ei adael yn llwyr a'i ail gyfaneddu neu iddo newid yn raddol dan ddylanwad ffactorau amgylcheddol neu gymdeithasol.

INTRODUCTION

Tre'r Ceiri (SH373446) has often been described as one of the best preserved hillforts in the British Isles. It

stands at a height of 485m O.D. on the easternmost of the three peaks of Yr Eifl, on the Llŷn Peninsula. The two hectare fort (Fig. 1) is bounded by a massive, 2.3 to 3.0m thick, dry-stone wall. Unusually, due to the inaccessibility of the site and the abundance of stone on the peak very little masonry has been cleared from the site for re-use. The rampart has survived close to its original height of 3.5m in places, the best preserved portions retaining a dry-stone rampart. A further outer defensive wall stands to the north-west of the fort. There are two defended entrances through the inner rampart, at the south-west and north-west of the fort with additional simple gaps in the rampart at the north, west and south-east. The rampart is carried over the north 'postern' by several stone lintels. The north-west entrance appears to be the main entrance into the fort with a 15m long passage leading to a terraced pathway and a further gateway through the outer defensive wall. The interior of the fort contains the remains of about 150 dry-stone huts and enclosures exhibiting a great variation in size and shape, ranging from simple round huts to irregular and rectangular structures.

A number of excavations have been carried out on the site; in 1903 S. Baring-Gould and R. Burnard excavated 32 huts. In 1906 H. Hughes produced the first accurate plan of the fort excavated 32 huts and examined the south-west entrance (Hughes, 1906). Further excavations were carried out in 1939 by G. Bersu, C. A. Gresham and W. J. Hemp, who examined five huts and a portion of the inner face of the rampart (Anon, *ca.* 1939). The south-eastern 'postern', and an additional 10 huts were excavated by A. H. A. Hogg in 1956. The excavations produced finds from later in the fort's history, demonstrating that the huts were used up to the 4th Century A.D. Descriptive surveys of Tre'r Ceiri were carried out in 1946 by W. E. Griffiths and in 1978 by K. Dallimore. Further plans of the site were produced by R.C.A.H.M.W. in 1960 and Plowman Craven and Associates in 1980.

This spectacular site has been attracting large numbers of visitors for at least 100 years. Complaints about visitor damage were made by the Cambrian Archaeological Association as long ago as 1894 (Cambrian Archaeological Association, 1895) and erosion has become a major problem. Increasing concern about the deterioration of the remains prompted Cyngor Dosbarth Dwyfor, in conjunction with Cadw: Welsh Historic Monuments and Gwynedd County Council, to embark in 1989 on a conservation project to consolidate the site. The project ran for an initial five years. Gwynedd Archaeological Trust was commissioned to provide archaeological supervision and to record all works as they progressed. A management plan was produced at the end of the fifth season including a survey of all unconserved areas in the fort, recommendations for a further, concluding, five years' work and a long-term management strategy. Funding was subsequently agreed by Cyngor Dosbarth Dwyfor, Cadw and Gwynedd County Council for a further five year programme which commenced in 1994. Local government reorganisation in 1996 led to the formation of a new unitary authority, Gwynedd Council, who took over the management of the project from C.D.D. again with financial help from Cadw. The eighth season of the project began in late April 1996, work continuing on site until early September.

STAFF AND SUPERVISION

Works were conducted by Mr T. Edwards, Mr K. Jones and Mr I. Jones of T.I.R. stonemasons, Penrhyndeudraeth, under the supervision of the writer. Monthly site meetings held in order to monitor the progress of the project and to arrange the work programmes were attended by the above stonemasons, the writer, Miss C. Vint or Ms J. Jackson of Gwynedd Council, Dr M. Yates and Mr J. Hilling of Cadw and Mr D. Longley of G.A.T.

PROGRESS IN THE EIGHTH SEASON

The eighth season was the first to concentrate wholly on the huts. The arc of 57 huts in the south-west half of the fort (see Fig. 1) was designated for conservation during this season. Of these, 35 required consolidation work, 14 had been reduced to close to ground level and were stable and 9 had been conserved in previous seasons and required no more work. The weather during the working season was drier and colder than usual and very little time was lost as a result of severe conditions.

RECORDING METHODS

The huts destined for conservation were surveyed with a total station as the existing plans have been shown to be inaccurate. The plans were then printed out and fine detail was added by hand. It was necessary to adopt a fairly flexible approach to the photographic recording as the limited space inside the huts placed some constraints on the techniques that could be used. Where possible, photographs of standing masonry were taken using a levelled camera with the film plane parallel to the wall face using a normal 28mm lens. A 28mm shift lens was used to

correct the verticals where a straight on shot could not be taken. A detailed written and photographic record was kept of the works as they progressed, supplemented with measured drawings where photographs could not show enough detail or demonstrate relationships between features clearly. All photographic records were taken on monochrome and colour prints, supplemented with colour transparencies for lecture purposes. At the end of the season the negatives were catalogued and stored in standard archive conditions. The Sharp PC-3000 hand held computer that was purchased at the beginning of last season in order to allow the entering of photographic records onto a database on site was irreparably damaged by the damp conditions on site and paper records were again used. The records were then added to the database at the end of the season.

DETAILS OF WORKS COMPLETED

Details follow of all conservation works completed during the eighth season. Works conducted on the huts can be located by reference to Fig.1 (RCAHM, 1960) and detailed location plans, Figs. 2, 8, 14, 18 and 21. As the works were predominantly recorded photographically, it is recommended that the relevant Plates in Part 2 be consulted alongside the text.

At the end of the season the edges of the collapses and any disturbed masonry were marked with discreet 10mm diameter drill holes. In addition to this, polypropylene cord was placed at the lowest point of disturbance in the wall core and at any other relevant points in order to indicate the extent of clearance undertaken.

HUT 24

This is an approximately circular hut with an internal diameter of between 3.5 and 4.0m. The simple entrance faces south-west. The hut was in reasonably good condition with a major collapse in the north-eastern wall. It had been excavated in 1903 by Baring-Gould and Burnard who reported that 'a few fragments of bone' were found (Baring-Gould and Burnard, 1904). Hughes unpublished plan of *c*. 1906 shows a break in the north-eastern wall (Fig. 3). The RCAHM. plan (Fig. 4) shows the facing of the southern wall of the hut as being continuous with that of hut 82.

Collapse 24f (Fig. 2)

The north side of the entrance passage is 2.0m in length. The inner 1.6m of this was standing to a height of 1.1m and was stable apart from a few stones on the wall top (Plate 1) The loose stones were reset and are indicated on Plate 2. The facing at the outside of the passage was partially collapsed. It appeared to have slipped towards the outside of the passage but the stones were tied together by one long stretcher (stone A, Plate 1). The outer edge of this facing was not supported so several large stones were added to the end of the passage (Plate 3). These were placed in an irregular fashion as the line of the face was not known at this point.

Collapse 24e (Fig. 2)

The 2.7m length of facing to the north-east of the entrance was basically sound, standing to a maximum height of 1.2m. It was however under threat due to the loss of stone from collapse 24g (see below). The top of the north-east end of the facing was loose (Plate 4). This was cleared of displaced core and stabilised by the addition of the three stones indicated on Plate 5.







Fig. 3 The central north-western group of huts (Hughes ca 1906)



Fig. 4 The northern half of the area conserved in the eighth season (RCAHM 1960)



Fig. 5 - scale 1:200 - The central north-western group of huts after conservation.

Collapse 24d (Fig. 2)

This was the 3.0m wide area of collapse recorded on Hughes plan (*c* 1906). No facing was visible and the jumbled stone was unstable. There had been some recent erosion and the masonry to either side of the collapse was not well supported (Plates 6 and 7). It was decided to clear some of the loose stone in order to try to find the line of the wall. It soon became clear however that the base of the wall had not survived (Plate 8). There were four stones that appeared to indicate the line of the wall. These can be seen to the right of the ranging rod on Plate 8. Careful examination however showed that the stones beneath the possible facing were jumbled and sloping forwards. It seems that the wall had suffered a catastrophic failure from its base. One long stretcher at the right of the collapse may have been caused by the undermining of the wall by 19th century treasure hunters. It should also be noted that there was no trace of the facing shown linking huts 24 and 82 on the RCAHM plan. As the line of the wall could not be traced, the cleared stone was used to build an irregular but stable artificial collapse (Plate 9), thus supporting the wall to the south-east and stabilising the area of erosion.

Collapse 24c (Fig. 2)

The intact facing to the south-west of 24d was stable up to a maximum height of 1.4m but was not well supported at the left of the collapse where the height of the wall dropped towards collapse 24d. There was also a large void beneath a long flat stone (A on Plate 10) at the left of the collapse. Two large stones at the right of the collapse (B and C, Plate 10) were protruding 1m into the hut. These stones are an integral part of the wall and appeared to be above the original floor level so it must be assumed that they protruded into the hut when it was occupied. They do not however fulfil any obvious function. The total width of the collapse was 2.0m. Stone was added to the left side of the collapse in order to stabilise both the *in situ* facing and the core above it. This was integrated with the artificially constructed collapse in 24e. Several stones were also added to the wall top, the new masonry is shown on Plate 11. The void at the base of the collapse was not packed as the stone above it was well supported and it has been shown in previous seasons that the act of wedging stones into a void can sometimes dislodge otherwise stable masonry.

Collapse 24b (Fig. 2)

The main source of instability in this collapse was a void along the base of the wall (Plates 12 and 13). There was a low area in the hut floor in front of the void. The hut appears to have been excavated to below floor level and hence to below the base of the wall. It is not known if this occurred during the official excavation in 1903 or during more recent treasure hunting. All but 0.4m of the collapse was supported by long headers that were held in place by the weight of stone on their inner ends within the wall. The top of the void did not necessarily reflect the original floor level as it is probable that unsupported stones had fallen out of the bottom of the facing. The void was, on average, less than 0.2m deep making effective packing difficult. It was possible to remove a small amount of loose core that had fallen into the voids but any further removal of stone would have compromised the stability of the wall. The low area in the hut floor was filled with stone, this helped to mask the pinning in the base of the wall. Several stones were added to the wall top in order to stabilise it. No *in situ* masonry was disturbed. Plates 14 and 15 show the new masonry on the wall top and in the voids in the base of the wall.

Collapse 24a (Fig. 2)

The south side of the entrance was stable apart from the wall top (Plate 16). This was cleared of loose stone and the existing masonry was locked into position by the addition of three stones (Plate 17).

Collapse 24h (Fig. 2)

The outer face of the southern quadrant of the hut was standing to a height of between 1.2m and 0.4m. This is unusual as the majority of the huts have floor levels well below ground level and consequently have very low outer faces. In this case only the north-east end of the hut is cut into the slope. This length of facing was stable apart from a 1.7m wide dip in the top of the face shown between the central scales on Plate 18. A small amount of core had spilled forwards into the collapse. This was cleared and the dip was filled with the new masonry shown on Plate 19.

Collapse 24g (Fig. 2)

The outer face of the north-west side of the hut could not be traced but stone was eroding from this area and creating instability in the inner face of the hut (collapse 24e). This area of erosion was at the top of a steep slope above hut 25 and was stabilised during the conservation of collapse 25b (see below).

HUT 82

This is a small unexcavated structure situated immediately to the east of hut 24. Only the southern and east-north-eastern walls were visible. The line of the rest of the hut was suggested by a low area in the scree. Its original dimensions were probably about $3m \times 2m$. Griffiths (1946) describes the structure as 'a tiny circular, hut with an internal diameter of 6ft. [1.8m]' with facing standing to a height of 1.4m. at the north-east. Hughes

(c.1906) also shows a round hut albeit with no facing at the west. The RCAHM plan depicts a subrectangular structure with the facing of the south wall continuous with that of hut 24. Careful examination of hut 82 at the beginning of the season revealed the details shown on Fig. 1. The surviving corner of the hut was decidedly square and the facing could be traced along the slightly curving eastern wall for 3m. This length of facing was bounded at the north and south by large upright stones. A rough face revetting the scree could be followed for about 2m, running to the north-east, from the end of the above. This at least shows the south-eastern half of the hut was square. The rest is open to conjecture. There were two points of weakness in the surviving masonry; collapses 82a and 82b.

Collapse 82a (Fig. 2)

A large edge-set stone in the face (stone A, Plate 20) was tilted forwards at an angle of about 30°. It had however fallen to a point where it was firmly locked in position. The resetting of the stone would have entailed the removal of all of the remaining facing in this wall. The pattern of lichen growth on the front of the stone suggested that there had been, until recently, stones in front of the slab. As this hut is away from the path and rarely visited it was decided to support the slab with stones firmly wedged in front of it. A void beneath the large orthostat in the corner of the hut was packed with several stones. The various packing and supporting stones plus a number of others added during the stabilisation of collapse 24d are shown on Plate 21. It should also be noted that no trace of the facing, shown on the RCAHM plan, linking huts 82 and 24 was found. One large stone on roughly the correct alignment was present but there was collapse above and below this and it could not have been original facing.

Collapse 82b (Fig. 2)

There was a serious collapse in the centre of the eastern wall. The height of the facing dropped steeply from 0.9m in the corner of the hut to 0.4m in the centre of the collapse, leaving 1.5m of unsupported scree crowned by a section of the roughly piled wall that meanders through this group of huts (Plate 22). There had been some recent erosion here and there was a danger that heavy falls of stone would occur if this was allowed to continue. The collapse was therefore filled with up to 0.6m of solidly built masonry (Plate 23). The scree above this was stabilised using the techniques developed on collapse 25b (see above).

HUT 25

Hut 25 is a small D shaped hut standing next to the footpath running along the north-west of the fort. The inner face is well defined but low. The outer face, which can only be traced at the north-west of the hut, and much of the wall top are grassed over. The hut was excavated in 1903 by Baring-Gould and Burnard. Their report is as follows:

25. A perforated pebble (? natural perforation), and a piece of much corroded iron. A small semi-circular hut, low walls entrance uncertain.

The entrance was however identified by Hughes (see Fig. 6) as being in the centre of the curving north-western wall where it is still visible beneath the vegetation. There has been no significant deterioration of the hut since Griffiths survey of 1946.

Collapse 25c (Fig. 2)

The 4.5 m of facing between the entrance and the eastern corner of the hut was standing to a height of between 0.5m and 0.7m (Plate 24). The top of the wall was partially overgrown with grass, heather and billberry bushes which have stabilised some of the masonry. The facing immediately to the north-west of the entrance contained a large void beneath one large slab and a number of smaller, very unstable, stones. Careful examination showed that the smaller stones had been dislodged from the facing below. These were cleared and no attempt was made to put them back in their original order as they were unsuitable for the construction of a strong face and had already been displaced from the wall. The void beneath the large stone was packed and masonry was added where the semi-collapsed facing had been cleared (Plate 25). The rest of the collapse (Plates 26 and 27) was stabilised by the addition of stone to the wall top (Plate 28).

Collapse 25b (Fig. 2)

The south-eastern wall consisted of a 2.7m length of overhanging facing beneath a steep and unstable rubble slope (Plates 29,30 and 31). The erosion of the rubble slope was causing instability in the outer face of hut 24. It was difficult to assess the state of the wall beneath the overhang as it had slipped forward by up to 0.7m forming a deep void. It was decided to leave the overhanging stones *in situ* as their removal would have further destabilised the rubble slope. Several stones were therefore placed within the void to provide some additional support. These are not visible on the post-conservation photograph. Preliminary investigations of the slope above the hut showed that the underlying stone was, for the most part, stable. The unstable top layer of stones was reset, using some as vertical pins to provide points of stability and then setting the rest in an irregular but compact fashion. This produced a random looking slope but with very little movement between the stones. Stone was added to the top of the slope in order to support the north- western wall of hut 24. Plate 31 shows the slope before stabilisation and Plate 32 shows it after the work had been carried out. The marked stones indicate the bottom edge of the stabilised area. The top of the south-western wall of the hut was overgrown by a compact mat of vegetation and was secure so no further action was taken.

HUT 26

The report on the excavation of this hut in 1903 is as follows; 'Yielded an iron nail. Entrance uncertain; wall 5 ft. [1.5m] high.'Griffiths (1946) states the following; 'A good hut of irregular outline, roughly oval, 15 ft. x 10 ft. [4.6m x 3.0m] internally. The floor is 3 ft. [0.9m] below the general ground level. The wall is 5 ft. 6 ins. [1.7m] thick; it has a poor outer face, but a good inner face 4 ft. 6 ins. [1.4m] high. On the W is an entrance 2 ft. [0.6m] wide, deliberately blocked.' Dallimore (1978) records that it is in good condition with well defined walls up to 1.25m - 1.75m in height. He also recorded 'spill from the east wall'. Hughes, curiously, shows two entrances into this hut (Hughes *ca* 1906 and 1907, Figs. 3 and 5), the second entrance being in the south-eastern wall. The earlier, unpublished plan has a faint pencil line across this 'entrance' suggesting that he may have been unsure of it.

When the hut was surveyed at the beginning of the 1996 season there was no sign of the second entrance but there was large void in the wall at this point. Further details are included below (collapse 26e). There were a number of collapses in the hut walls suggesting that there has been some damage since Dallimore's survey.

Collapse 26a (Fig. 2)

The corner of the hut is marked by an edge set stone, to the left of this was a 1.4m wide collapse (Plate 33). This consisted of a face set back 0.4m from the line of the inner face of the hut. The inner face of the hut had probably continued across the collapse, in front of the set back face until quite recently. The stones were not weathered and there was some differential weathering on the edge set stone suggesting that the facing had once overlapped the edge of this. There was also a 0.7m length of semi-collapsed facing standing above a long slab (stone A. Plate 33). The slab was protruding from the line of the wall by about 0.2m and was loose. The semi-collapsed facing standing on the slab was too unstable and jumbled to save and was cleared. The slab was pushed back into the face and several stones were added where the semi-collapsed facing had been lost. It was noted that the facing within the wall did not continue beyond the area exposed by the collapse. This may indicate that it is a feature of the core and was never exposed as part of the wall. It does however seem unlikely that the core was laid in a way that would preclude the use of stones which would allow the face to be tied into the rest of the wall, as is clearly

the case here. As it was not possible to draw any definite conclusions about the above masonry it was made stable by the addition of stones to the wall top but no attempt was made to extend the facing across the collapse. A small void at the base of the edge set stone was packed. The result of the above works is shown on Plate 34.

Collapse 26g (Fig. 2)

The facing to the left of the edge set stone in the northern corner of the hut was untidy but sound for 2.4m (Plate 35). The wall had survived to a height of 0.8m although the upper courses had been lost allowing loose core to spill forwards. This was stabilised by the addition of 0.4m of new masonry (Plate 36).

Collapse 26f (Fig. 2)

This was the major collapse eastern wall noted by Dallimore in 1978. The face had been lost or obscured for 0.9m; large amounts of stone had spilled down the slope from the scree above making it difficult to interpret the remains (Plate 37). The south-eastern corner of the hut appeared to have collapsed, leaving some masonry standing off line. A heap of stone extended across the hut some of which had come from this collapse; the rest was spoil from a hole in front of the southern wall. Rubble was cleared from 26g in order to attempt to find the line of the wall and the cause of the collapse. The results are shown on Plate 38. The stones in the face immediately to the left of the collapse were shown to be *in situ* bedrock which could be seen to continue across the collapse behind the line of the wall. This shows that the facing to the right of the collapse is probably on line and that the hut was never rectangular, the bedrock having forced the original builders to construct an asymmetrical south-eastern end of the hut. The basal course could not be traced for 1.0m. It could be assumed however that wall ran between the edge of the previously exposed bedrock and the surviving facing. This also corresponds well with Hughes plan (*ca*, 1906) New masonry was added along this line up to a height of 1.2m. There was still some instability in the meandering wall standing above the hut. The conservation of this is described below. A void was packed in the base of the wall at the right of the collapse. Plate 39 shows the collapse after conservation.

Collapse 26e (Fig. 2)

A treasure hunter hole had been dug in the hut floor in front of the south-eastern wall. This had resulted in the formation of a deep void in the base of the wall as the bottom of the face had collapsed into the hole. There was up to 1.0m of intact facing above this. This void corresponds to Hughes' second entrance but there seems to be no reason to interpret it as such.

Tipped forward slab A (Plate 40) was supported first as it was the most obvious point of weakness. A basal course was then added across the rest of the void allowing core to be added behind the facing. The rest of the void was then packed and the dip in the hut floor was filled. The new masonry is shown on Plate 41.

Collapse 26d (Fig. 2)

Several stones were added to the wall top in order to stabilise it. No *in situ* masonry was disturbed (see Plates 42 and 43).

Collapse 26c (Fig. 2)

The entrance to the hut was hidden by a mass of collapsed masonry (Plate 44). This was loose and was beginning to erode into the hut. Griffiths had stated that the entrance had been deliberately blocked. It was decided to clear the obviously recently displaced stone from the collapse in order to assess its stability and structure. Several possible blocking stones were revealed after initial clearance (Plate 45). They were not entirely convincing and it was necessary to remove the stones in order to provide stable support for the entrance. This showed that the stones were sitting on random collapse and were almost certainly headers that had fallen from the wall above. Plate 46 shows the entrance after clearance. The south-east side of the entrance was well defined with facing standing to a height of 0.3m. The north-west side was untidy and collapsed. The inner corner as seen on plates 45 and 46 was probably not the original corner but just the last remaining piece of facing. No facing stones could be traced on this side of the entrance passage. Some stone was put back into the passage in a similar arrangement to that which had been cleared. Several courses of stone were added to the inner south-east side of the passage in order to stabilise the wall beside the entrance (Plate 47). The approximate line of north-west side of entrance was

indicated with irregularly piled stone. No facing was built, as the original line had not been found. Plate 48 shows the outside of the entrance after conservation, three large stones have been added to the top of the outer face in order to support the core.

Collapse 26b (Fig. 2)

The facing in the north-west corner of the hut was very irregular and was presumably partially collapsed (Plates 49 and 50). It had however settled to a point of stability and only the upper courses were loose. Several stones were added to the wall top; these are shown on Plates 51 and 52.

HUT 23

The hut was excavated by Baring-Gould and Burnard (1904) who reported the following:

Fragments of a bone comb, 1 1/4 ins. wide, the teeth 3/8 ins long. It has originally been strengthened on one or both faces with a cross-bar riveted on with iron pins, the bar itself of which fragments remain, being ornamented with circles containing dots. Entrance facing north-west: wall 5 ft. [1.5m] high.

Griffiths (1946) describes this hut as follows;

A good large rectangular hut. 19 ft. x 9 ft. $[5.8m \times 2.7m]$ internally. The floor is 3ft. below the general ground level. The walls are thick (averaging 6 ft. [1.8m]); their outer faces are ruined; but their inner faces stand 4 ft. [1.2m] high. An entrance 2 ft. [0.6m] wide on the west has been deliberately blocked. There are faint traces of a cross-wall about 4 ft. [1.2m] thick running out into the hut from the E wall.

Hughes' (*ca.* 1906) plan and the RCAHM (1960) plan both depict a hut with dimensions described as above and with an entrance in the centre of the western wall although no cross wall was shown. When the hut was planned at the beginning of the eighth season its dimensions were 6.6m x 3.0m, (i.e. 0.8m longer than the previous descriptions) with the entrance towards the southern end of the western wall. The northern wall was almost totally collapsed although the north-eastern corner was clearly visible. It is possible that this wall had collapsed before any of the above plans or surveys were produced. The edge of the fallen masonry roughly corresponds with the position of the wall on the early surveys and the corner may have been recently revealed as a result of the ongoing erosion of the north wall. This does not however explain the position of the entrance on the RCAHM plan which is portrayed as being closer to the north end of the hut. As the entrance is very well defined this must be seen as an error. Dallimore (1978) recorded that the north wall, the centre of the west wall and the south-west corner of the hut were collapsed. The entrance was also obscured. There has been little change since this survey although the presence of unweathered stone in the collapse in the north wall indicates some recent erosion.

Collapse 23a (Fig. 2)

The lower part of this 2.6m length of facing comprised very tidy masonry, built to a good face and standing to a maximum height of 1.2m. Above this was up to 0.5m of roughly piled stone (Plate 53). The lower part of the wall is a good example of relatively undisturbed facing. The very irregular masonry in many huts is probably a result of subsidence and settling over the past two millennia, examples such as this show that the original builders were capable of a high standard of workmanship. This length of facing, by virtue of the contrast between the upper and lower wall also illustrates an observation made by Hogg (1960):

It should be noted that the present condition of the huts, and what at first sight seems to be their very remarkable state of preservation, is usually the result of excavations, either those made by Harold Hughes or others which have never been recorded. It is evident from close inspection that the earlier excavators normally cleared the huts to well below floor level and built up stones removed from the interior on to the top of the walls.

The piled stone on top of the original face on 23a presumably represents the spoil removed from the interior of

the hut, the original facing however is still in a very good state of preservation. Hogg's statement may be valid in a few areas of the fort but he somewhat overstates his case. Piled clearance can be seen on top of many, but not all of the hut walls on the site but in the majority of cases this does not form a significant part of the masonry.

The piled stone on the wall top was generally stable although there was an area of collapse at the edge of the entrance. This was cleared of loose stone and the new masonry shown on Plate 54 was added (see also collapse 23i). Several stones were also reset on the wall top.

Collapse 23c (Fig. 2)

The northern wall and the north-western corner of the hut had been reduced to a rubble slope (Plate 55). The north-eastern corner was well defined with 0.7m of low facing surviving in the northern wall. The loose stone was cleared from the collapse in order to try and locate the north-eastern corner (Plate 56). This revealed two large blocks of stone one of which was resting on bedrock. It was not possible to locate the corner of the hut as the bedrock appears to intersect a line extrapolated from the end of the facing on the west side of the hut to the existing facing at the north-east corner. The large slabs appeared to have been levered off the bedrock but there was no evidence to show how they had been incorporated in the wall. The large slab between the scales on Plate 56 was slightly reset and the cleared stone built back into the area of collapse in an irregular fashion using the technique used elsewhere in the fort (Plate 57).

Collapse 23d (Fig. 2)

The northern end of eastern wall consisted of stable facing standing to a height of 0.5m, with 0.3m of loose rubble standing above this (Plate 58). The loose stone was cleared and replaced with the masonry shown on Plate 59. The total width of the collapse was 1.7m.

Collapse 23e (Fig. 2)

There was a serious collapse in the centre of the wall between huts 23 and 24 (Plate 60). The face had collapsed down to ground level and the resulting stone slope was very unstable.

The rubble was cleared from the collapse and the result is shown on Plate 61. Great care was taken not to disturb the facing on the other side of the wall. The facing appeared to have collapsed from its base. Several off line slabs can be seen beneath the scale on Plate 61; these were left *in situ* as they formed a good base for new masonry. There was also no trace of the dividing wall identified by Griffiths (1946) but it is possible that he confused the collapsing masonry at this point with a division in the hut. Alternatively; the collapse may have been caused by the loss of a dividing wall and the off line slabs in the centre of the collapse may represent the end of it. The appearance of the off line slabs does not support the latter hypothesis but as excavation of the hut floor is beyond the remit of this project they were not disturbed. New facing was added along the projected line of the wall to a height of 1.1m (Plate 62).

Collapse 23g (Fig. 2)

There was a collapse in the southern wall of the hut close to the south-east corner (Plate 63). The wall to either side of the collapse was standing to a height of 1.0m. A 0.9m length of facing had fallen forward in to the hut having failed low down in the wall. The facing in the corner was very loose; this was examined and pinned where necessary before clearance was undertaken. Stones A and B are marked on the Plates 63 and 65 as reference points. The loose stone was cleared from the collapse (Plate 64) showing that the wall had failed from its base. The line of the wall could be extrapolated from the surviving masonry so the rubble was used to build a new face (Plate 65). Stone B could not be supported in the face during clearance and was therefore removed. It was replaced in the face very close to its original position.

Collapse 23h (Fig. 2)

There was a further collapse in the southern wall 0.3m to the east of 23g. This consisted of a jumble of stones in the upper facing which were spilling forwards into the hut (Plate 66). This displaced stone was cleared and the resulting 1.1m wide and 0.5 m deep dip in the face was filled with new facing (Plate 67).

Collapse 23i (Fig. 2)

The north side of the entrance was well defined, the corner standing to a height of 0.8m. The south side had collapsed and the passage was full of jumbled rubble (Plate 68). This was definitely not deliberately placed blocking as stated by Griffiths (1946). The loose stone was cleared from the south side of the entrance and the inner end of the passage. There initially appeared to be no surviving facing on this side of the passage but further clearance, undertaken in order to insert a pinning stone in the collapse, revealed the remains of the corner of the passage (Plate 29). One long stone (Stone A) was visible but two or three slightly displaced courses could be seen beneath it showing that the entrance was 0.7m wide. There had clearly been a serious collapse in the base of the wall, towards the outer end of the passage and the facing was lost apart from at the inner end. Stone A was sloping forwards so a small additional stone was placed beneath the end of it to provide a level base for new masonry. A new inner corner of the passage was built, up to a height of 0.5m (Plate 70). The facing was continued within the passage for less than a metre thus reflecting the collapsed nature of the original masonry and the lack of information about the position of the outer corner of the passage. The line of the outer passage was suggested by the placement of several large stones acting as a revetments to the core above. Masonry was also added to the wall top on the north side of the passage (see also collapse 23a, above). The new masonry is indicated on Plate 71. The entrance is now clearly defined and much more stable and it is hoped that visitors will use it in preference to climbing over the walls.

HUT 22

This is a small rectangular hut with dimensions of $4.4m \ge 2.4m$. The entrance is in the south wall and is 0.6m wide with a 1.5m long passage. The hut was excavated by Baring-Gould and Burnard in 1904 who reported no finds but recorded 'a recess in the wall, covered by a lintel, forming a cupboard.' This was marked on Hughes' plan (*ca.* 1906) as being at the south end of the western wall. A void could be seen at this point at the beginning of the season and is further discussed below as part of collapse 22b. Griffiths recorded a collapse in the east wall and Dallimore noted that the north (presumably north-eastern) corner had been undermined by treasure hunters.

Collapse 22a (Fig. 2)

The north side of the entrance passage was partially collapsed. The outer end was reasonably stable but the inner was on the point of collapse and had been rather ineffectually supported by a pile of stones that can be seen just to the left of the right hand scale on Plate 72. This support did not appear to be of any great antiquity as the stones were only partly lichen encrusted. The point of weakness in the wall was stone A (Plate 72) which was wedge shaped and had moved forward to form a 0.2m overhang. Stones B and C had moved with it. Stones B and C along with associated core and small packing stones were cleared from the face. Stone A was pushed back into line with the face, tilted slightly back and core was packed around it. Stone B was reset and stone C was replaced about 0.1m to the left of its original position as the shape of the wall top had changed. Various additional packing stones were then added to the face; the new masonry is shown on Plate 243.26.

Collapse 22b (Fig. 2)

This 1.9m wide collapse includes the 'cupboard' feature identified by Baring-Gould and Burnard. The extent of the collapse is indicated on Plate 74. The recess that was identified in the wall is presumably the void marked V on Plate 74 covered by a lintel presumably stone A. When examined before conservation, this stretch of wall was extremely unstable. Stone A was resting on a pile of small stones (possibly collapsed core) at the left and a block of stone supported on loose core at the right. This type of feature is quite common in drystone walls and is formed when a long stretcher, supported at both ends, stands above loosely packed smaller stones. The smaller stones have a tendency to fall out of the face as they are not held in place by the weight of the stone above thus forming a void with a 'lintel'. This was probably the case here but detailed records from 1904 do not exist and a genuine feature may have been present. The wall was in too poor a condition by 1996 to do anything other than speculate. It was eventually decided that the removal of stone A would destabilise the wall to an unacceptable degree. The void was therefore cleared of loose core and packed with the stones shown on Plate 75. This can only be described as a compromise but it does ensure the survival of this length of wall and all the new masonry is clearly marked. Core and facing was packed beneath stone B during the above process. It should be noted that there was a great similarity between the voids beneath stones A and B. The void beneath stone B had formed by the same process as described above except that the stone was held in position by the weight of the core within the wall. The large slab adjacent to stone B, stone C, was causing further instability in the wall and was cleared and replaced with strongly built new masonry.

Collapse 22c (Fig. 2)

The wall top of the remaining 1.7m of the western wall was scattered with displaced masonry (Plate 76). This loose stone was used to stabilise the wall top (Plate 77).

Collapse 22d (Fig. 2)

There was an old treasure hunter hack in the north-western corner of the hut. This had been recorded by Dallimore in 1978. A small void (V, Plate 78) had opened in the base of the wall but there had been no further subsidence. The hole was filled with stones thus giving support to the base of the wall. Elsewhere, eight stones were added to the wall top at the right of the collapse in order to support the scree above the hut (Plate 79).

Collapse 22e (Fig. 2)

The collapse recorded by Griffiths in 1946 had deteriorated into a 2.8m wide rubble slope (Plate 80). There was a high percentage of unweathered stone in the collapse indicating that there had been recent erosion. The collapse has probably been used by visitors as a point of access to the hut.

The rubble was cleared from the line of the wall (Plate 81). The north-east corner of the hut was well defined but the facing had been completely lost for 2.0m beyond this point. As there was surviving facing at both ends of the collapse it was decided to use the cleared stone to build a new face across it. Several unusually large blocks of stone, up to 1.0m in length, which had presumably fallen from the original face were used in this construction. This produced a very stable length of facing that was a maximum of 1.0m in height (Plate 82). This stabilised the scree and closed off this point of access to the hut.

Collapse 22f (Fig. 2)

The remainder of the eastern wall was sound apart from a small dip in the top of the facing (Plate 83). Three stones were added to this in order to support the core (Plate 84).

Collapse 22g (Fig. 2)

The facing in the south wall, adjacent to the entrance, was delicately balanced on one 0.9m long stretcher (stone B, Plate 85). It appeared that stone B had slipped off the end of stone H which was a stretcher in the entrance passage. This had moved the upper face forwards by 0.1m and had tipped it to one side. Stones A and F had therefore slipped along stone B.

It was decided to reset the stones in the corner of the passage. Stones A and F were taken from the wall. Stones C D and E were held in position while stone B was lifted back on to the end of stone H. Stones A and F were then reset in what was presumably their original positions (Plate 86).

Collapse 22h (Fig. 2)

There had been significant erosion to the stone slope along the east side of the entrance passage. Occasional facing stones could be seen beneath the rubble along the line of the wall. This is indicated by the horizontal scale on Plate 87. A small amount of spilled stone was cleared from the facing showing that several courses were present. The additional masonry shown on Plate 88 was added, thus defining and stabilising the eastern side of the entrance.

HUT 21

Hut 21 was excavated by Hughes in 1906 (Hughes, 1907). He recovered several 'pot boilers' and four small pebbles. His plan of the hut (Fig. 6) shows a sub-circular structure with an entrance on the south-west. Griffiths described the hut, in his survey of 1946, as having an internal diameter of 22 ft. (6.7m) with inner facing standing to a height of between 2 ft. (0.6m) and 4 ft. (1.2m) on all sides apart from the south where only the footings remained. Dallimore recorded serious collapses in both the western and eastern walls.

The most noticeable feature of the hut at the beginning of the 1996 season was a 5.5m wide collapse in the eastern wall encompassing almost a third of the circumference of the hut. Walls elsewhere were low but generally stable. It appears that there has been a gradual deterioration of this hut over the last 90 years possibly as a result of its proximity to the main footpath through the site.



Fig. 6 The central area of Tre'r Ceiri (Hughes 1907)

Collapse 21d (Fig. 2)

This collapse was photographed in four sections which are shown on Plates 89 to 92. This includes a 1.4m length of facing which is integral to the collapse, bringing its total length to 6.9m. A 5.5m length of the wall had been reduced to a rubble slope which showed signs of much recent erosion. The facing at the south-west end of the collapse consisted of an unstable overhang which rapidly deteriorated into collapse showing that the wall had fallen forwards from its base. The loose stone was cleared from the expected line of the wall but no definite facing was found. The five stones, shown close to the scale in the foreground of Plate 93, formed a good alignment. This could normally be considered as evidence for the basal course of the wall. In this case however they seemed to be a little too high up and were in the region of 1m in front of the expected line of the wall. There were only small randomly aligned stones beneath them and the most likely explanation for their positioning was indicated by the collapsing facing at the south-west of 21d where the overhanging facing had fallen forwards while retaining some stones in a rough alignment.

As no definite facing could be identified for over 5m it was decided to replace the cleared stone in the form of a built collapse. It had been noticed that there was a high proportion of small stones in the collapsed material; this could have been a contributory factor in the cause of the collapse although the wall had probably been undermined by excavators or treasure hunters. Several large stones were imported into the hut from the scree to act as anchor points for the rebuilt collapse as there were not enough in the clearance. The aligned stones were left *in situ*. The result is shown on Plate 94. The end of the overhanging facing was stabilised by the addition of piled stone and locked into place with a large V shaped stone (A on Plate 95) that was placed over the top of the wall.

Collapse 21e (Fig. 2)

This was a low area in the wall which contained a few loose stones. Three stones were added which are shown on the post-conservation photograph; Plate 96.

Collapse 21f (Fig. 2)

The wall had been reduced to ground level over a length of 3.0m. This area probably contains the entrance but was partially grassed over and stable. No action was taken here.

Collapse 21a (Fig. 2)

A 4.5m length of low facing, typically 0.7m in height (Plates 97, 98 and 99), was stabilised by resetting stones on the wall top (Plates 100 and 101). One small dip in the facing, shown on the left of Plate 98, was filled with new masonry.

Collapse 21b (Fig. 2)

A 1.2m length of the upper part of the facing had recently collapsed at this point (Plate 102). The stones lying in front of the collapse were completely unweathered. These stones were used to construct new facing across the collapse (Plate 103).

Collapse 21c (Fig. 2)

This 1.4m length of facing was standing to a height of 1.1m (Plate 104). It was threatened by collapses 21b and 21d to either side. Plate 105 shows 21c after conservation; it is supported on the south-east by the irregularly built slope of 21d. The wall top was graded down to the conserved 21b by the addition of four stones to the wall top.

HUT 19

Hut 19 was excavated by Baring-Gould and Burnard (1904) who reported the following.

A few fragments of bone and a lump of much-corroded iron. The northern portion of the wall of this hut was much better built than usual, probably because of its comparative isolation. Owing to ruin of wall, entrance could not be located. As wall stood it was 4 ft. high.

Hughes' unpublished plan of *ca.* 1906 shows a roughly oval hut with a faint pencil addition to the south-east wall. Griffiths (1946) reported a 'good oval hut, 17 ft. 6 ins. x 12 ft. $[5.3m \times 3.6m]$ internally' with a 'carefully built inner face 3ft. [0.9m] high. He also noted a 'ruined entrance of indeterminate width' on the south. Dallimore (1978) recorded 'spill on south wall'.

The pre-conservation survey carried out at the beginning of the current season shows a D shaped hut with dimensions of 6.0m x 4.0m. The south-eastern wall was badly ruined and the area around the entrance had been reduced to ground level.

Collapse 19a (Fig. 2)

The 5.5m of facing on the north and west of the hut shown on Plates 106 and 107 and on the left of Plate 108 was mostly stable having been built to a good face from large blocks of stone. There was some instability at the southern end of the collapse where the height of the wall dropped sharply from 0.8m to ground level. This was stabilised by the resetting of fallen masonry and the addition of a few stones (see Plate 109). Several stones had been lost from the wall top at the centre of the collapse. There were the remains of a recent fire in the centre of the hut, several stones had been used to form a small hearth and these may have been taken from the wall top. Several stones were added to the wall in order to retain the core (Plate 110). One small pinning stone was added to the wall at the far right of the collapse (Plate 111).

Collapse 19b (Fig. 2)

A 1m length of facing had fallen down to ground level (Plate 108). The resulting collapse was destabilising the facing to either side of it. Plate 112 shows the 19b after clearance. There was no initial indication of the cause of the failure in the wall but a large slab found at the bottom of the fallen stone in front of the collapse could originally have been an edge set stone in the face. The stone could not however be set in to the facing without

dismantling original masonry so the collapse was conserved by the addition of facing in the style of the surrounding wall (Plate 111).

Collapse 19c (Fig. 2)

The north-eastern wall of the hut was sound requiring the addition of only four stones to the wall top (see Plates 113 and 114).



Collapse 19d (Fig. 2)

There had been a serious collapse in the south-east wall of the hut. A considerable amount of stone had spilled forwards into the hut and the facing appeared to have slipped forwards at the ends of the collapse (Plates 115 and 116). The loose stone was cleared from the collapse revealing an unexpected alignment of basal courses (Fig. 7). There was found to be an out turn in the wall which ran in a straight line for 2.6m before

turning through 75° to rejoin with the previously visible south-east wall (Plates 117 and 118). The height of the facing varied between 0.1m and 0.4m and there was a well defined north-western corner. The only reference to this line of the wall is the tentative pencil mark on Hughes' unpublished plan. The original excavators, Baring-Gould and Burnard, presumably uncovered this facing and it would seem that Hughes was also aware of it. It must have then been covered by loose stone. There is no obvious reason why the face should follow this path but after careful examination of the wall it must be concluded that the inner face did not run parallel to the outer. Two other factors, in addition to the newly uncovered facing suggest this. Firstly, the outer face consists almost entirely of headers in excess of 0.7m in length. This would leave a maximum of 0.4m for the construction of an inner face if its line was parallel to the outer face. This was therefore not enough space to construct an inner face along this line. Secondly, there was too great a volume of rubble in the collapse to have come from a thin wall. The information necessary for the interpretation of this feature appears to have been lost. The area to the south-west of this is very denuded and if it were to be excavated could provide some answers.

As this wall consists of one continuous face and contained the appropriate amount of core to fill the outturn it seemed safe to assume that it originally stood as one face. New masonry was therefore added to the newly uncovered facing up to a height of 0.6m principally in order to support the outer face of the hut (Plates 119 and 120).

Collapse 19e (Fig. 2)

Several stones were added to the top of the end of the south-eastern wall in order to grade the wall down to ground level (see far right of Plate 120)

Collapse 19f (Fig. 2)

No facing was visible across the 3m gap between 19e and 19a (Plate 121). The end of 19a was unsupported so a small amount of rubble was cleared in order to trace the base of the wall (Plate 122). One long stone was revealed that appeared to have fallen from the wall but no *in situ* facing remained at this level. A number of irregularly placed stones were added in order to support 19a. The new masonry is indicated on Plate 123.

Collapse 19g (Fig. 2)

Two stones were added to the top of the outer face of the hut (see post-conservation Plate 124)

HUTS 83,84,85,91 93 and 94

These huts were visible either as scatters of stone or as low walls of piled stone requiring no conservation.

HUTS 17 and 18

These huts represent two halves of one subdivided roundhouse and were thus both conserved at the same time. Both huts were excavated by Baring-Gould and Burnard (1904). The reports from both huts were identical; 'some pebbles only; in a ruinous condition'. Fig. 8 shows the results of the pre-conservation survey carried out at the beginning of this season. The internal diameter of the original roundhouse was 6.0m. This was divided by a 1.0m wide wall that was offset somewhat to the north-west of the hut. The entrance to the original roundhouse was at the south-west and there was a clearly defined entrance through the south-west half of the dividing wall. The hut walls were generally low, standing to a maximum height of 0.8m, but well defined. There was a collapse in the north-east wall and the north-eastern end of the dividing wall was covered by a well established mat of vegetation.



Fig. 8 - scale 1:200 - The central south-eastern group of huts before conservation.



Fig. 9 The central south-eastern group of huts (Hughes ca 1906)



Fig. 10 - scale 1:200 - The central south-eastern group of huts after conservation.

The earlier surveys and plans agree on the overall dimensions and form of the huts but differ on the details of the entrance through the dividing wall. Hughes (*ca. 1906*) shows a break in the north-east end of the wall while the RCAHM plan has a break in the south-east end. Neither Griffiths (1946) or Dallimore (1978) mention the entrance. It was clearly visible 1.0m from the south-west end of the dividing wall when the hut was examined at the beginning of the present season. There was no obvious explanation for the discrepancies in the previous reports.

Collapses 17a, 17e and 18a. The entrance through the dividing wall. (Fig. 8)

Plate 125 shows a general view of this feature taken from the inside of hut 18. Facing standing to a maximum height of 0.6m, could be traced on both sides of the passage. The south-east end of the passage was blocked by fallen stones. The facing in hut 17 to the south-west of the passage (17a) could be traced for 2m and was, despite its jumbled appearance, stable (Plate 126). The loose stone was cleared from around the entrance allowing the extent of its survival to be better assessed. Plate 127 shows the area after clearance. The facing on the south-west side of the passage (18a) was well defined at the south-east end but only the base of the wall had survived towards the north-west (Plate 128). The interior of hut 17 was full of turfed over stone and this end of the passage could not be seen. The *in situ* facing was stable so the collapse was cleared of fallen stone and new facing constructed up to a height of 0.8m (Plate 129). This also supported the masonry in collapse 17a (Plate 130).

The north-east side of the passage was less stable, several stones were marked and these are shown on Plates 131 and 132. One long stone (A) ran along the length of the passage. This appeared to have slipped off the base of the wall (B). Stones C and D were loose facing stones and E was a single stone that was balanced on top of the others. Stones C, D and E were taken from the wall and stone A was lifted onto the base of the wall. Stones C and D were reset close to their original positions. Stone E was turned through 90° and reset on the wall top. A number of other stones were added behind stone E thus producing a stable structure (Plate 133).

Collapse 18g (Fig. 8)

The south-west end of hut 18 was full of grassed over stone and the facing did not rise above this (Plate 134). There was however some loose stone and this was stabilised by the addition of the slabs indicated on Plate 135.

Collapse 18b (Fig. 8)

There was a greater depth of facing exposed in the hut as the level of the interior dropped. This 1.5m length of facing (Plate 136) was consolidated by the addition of the three stones marked on Plate 137.

Collapse 18c (Fig. 8)

Stone had spilled into the interior of the hut from this 2.0m wide collapse (Plate 138). There was no visible facing and there had been some recent erosion. The collapse was cleared and a rough basal course was found (Plate 139). New masonry was added to this, bringing the height of the face up to 0.8m (Plate 140).

Collapses 18d, 18e, 17b and 17c (Fig. 8)

There was an area of collapse in hut 18 immediately adjacent to the dividing wall (Plate 141). This side of the hut appeared to be more square than the opposite end. The fallen stone was cleared and a well preserved face was uncovered that was set back from the expected line of the wall (Plate 142). This facing could be traced for 1.5m and was the wall of the original roundhouse. The amount and orientation of the stones that had been removed from the collapse suggested that there had originally been facing in front the surviving masonry. The end of the dividing wall had collapsed and it was not clear if it had extended as far as the roundhouse wall. The stones at the base of the collapse at this point, while not being definite headers, were running into the line of the dividing wall, elsewhere in the collapse they were random. This suggests that the dividing wall may have continued as far as the roundhouse wall. It was decided to clear collapses 17b and 17c at this point as the there appeared to have been similar structures in the corresponding part of hut 17. The end of this (Plate 143) which was definitely not on the line therefore of the original roundhouse wall (17b). The final 0.5m of this length of facing (17c) had collapsed (Plate 144). Both 17b and 17c were obscured by fallen stone. This was cleared from the collapse revealing a few facing stones on the line of the original roundhouse wall, 0.9m behind 17b (Plate 145). This facing was largely

collapsed, even when it was supported by intact masonry in front of it, suggesting that it may have collapsed before the additional facing was built. The dividing wall could also be seen to continue as far as the original roundhouse wall. An outline plan of this area was produced (Fig. 11) showing the relationship between the various components ie the phase 1 roundhouse was divided by a 1m wide wall with an entrance close to its south-west end. Short lengths of facing were then added in order to square off the north-eastern ends of the resulting, phase 2, semicircular structures. The phase 1 roundhouse may have been partially collapsed before the additional structures were added as it is unlikely that facing that is already within a wall would collapse. This may indicate a period of abandonment.

The line of the lost facing across 18e could not be accurately determined so the material cleared from the collapse was reinstated in an irregular fashion. Several stones were added to the original roundhouse wall at the north-west end of the collapse (Plate 146). The rest was hidden and protected by the reinstated material. Collapses 17b and 17c were stabilised by the addition of new facing above the surviving facing at the base of 17c. The base of the wall had slipped forward slightly at this point so the facing above it was stepped back to compensate. The phase 1 facing was hidden by the reinstated core. The new masonry is indicated on Plate 147.



Fig. 11 Huts 17 and 18 after clearance

Collapse 17d (Fig. 8)

The remaining 5.5 m length of facing in hut 17 was irregular but mainly stable (148, 149 and 150). There was some instability in the wall as it graded down to ground level at the south-west. The unstable stones were removed and the facing was supported by the addition of several large headers. Elsewhere the wall top was stabilised by the addition of the stones shown on Plates 151 and 152).

HUT 95

The main pathway from the south-west entrance to the cairn runs through the centre of this hut. It has not suffered from any recent erosion as most of the walls and the interior of the hut are grassed over and the turf has not yet been broken through. Some facing has however survived at the north-west of the hut. This consists of part of the outer face of hut 17 and a short length of facing abutting it. This is one area that will have to be carefully considered during the management of the footpaths as the hut has not been excavated and erosion to the interior could damage *in situ* deposits.

Collapse 95a (Fig. 8)

This 1.7m length of facing was standing to a maximum height of 0.8m (Plate 153). The south-western end was somewhat loose and unsupported as the wall fell to ground level at this point. Several stones were added to the end of the wall in order to grade the facing down more gently (Plate 154). The large slab at the left of Plate 153 was used in this procedure.

Collapse 95b (Fig. 8)

The wall had collapsed down to ground level for 1.1m where the inner face of hut 95 abuts the outer face of hut 17 (Plate 155). The fallen stone was cleared but no *in situ* masonry could be seen at this level. It was safe to assume that the facing continued straight across the collapse so a length of new masonry was built across it (Plate 156).

Collapse 95c (Fig. 8)

The remaining 3.0m length of masonry was low and untidy (Plate 157). There was however only one point of instability, where a number of stones had been lost from the face. The displaced core was cleared and several stones were added to the wall (Plate 158).

HUT 16

Baring-Gould and Burnard (1904) reported on the excavation of this hut thus: 'Two small pieces of black pottery ; in a ruinous condition'. Hughes (*ca. 1906*) depicts the hut as being approximately oval in shape with no entrance. Fig. 8 shows the pre-conservation plan produced at the beginning of the present season. The north and west walls were well preserved standing to a height of 1.1m. The southern wall which divides the hut from hut 16 was badly collapsed and unstable. The eastern end of the hut may have contained the entrance but there was no surviving masonry.

Collapse 16a (Fig. 8)

The eastern end of the hut had been reduced to a steep partially grassed over stony slope (Plate 159). As this was being used as the entrance to the hut by visitors any loose stones were pinned. The additional stones are shown on Plate 160.

Collapse 16b (Fig. 8)

The eastern half of the southern wall consisted of large jumbled stones which indicated the line of the wall (Plates 161, 162 and 163). This was reasonably stable apart from a small area in the centre of the wall (centre right on Plate 162) which included several unweathered stones which had obviously been placed on the wall recently. The unstable stone was cleared (Plate 164) and a rough alignment of stone could be seen to run across the collapse. The unweathered stone from the wall top was used to fill the gap in the facing (Plate 165). The rest of 16b was

examined and was found to be stable. Many of the stones were long enough to extend right through the wall thus tying the semi-collapsed masonry together.

Collapse 16c (Fig. 8)

The western wall of the hut was stable, standing to a height of 0.9m. Only one small stone was added to the wall top and this is shown on the post-conservation photograph; Plate 166.

Collapse 16d (Fig. 8)

The northern wall was also stable apart from a few loose stones on the wall top. Six stones were added at this point; these are indicated on Plate 167.

HUT 15

There were no finds recovered from this hut when it was excavated in 1904. The hut was described as being 'in a ruinous condition' (Baring-Gould and Burnard, 1904). Hughes (*ca*. 1906) depicts a subcircular hut with a break in the facing at the east. Griffiths recorded facing in the south of the hut standing to a height of 6 ft. (1.8m). Dallimore noted small collapses in the east and south walls in 1978. When examined at the beginning of the present season there had been several changes to the hut. The eastern wall was mainly grassed over and stable and there were areas of collapse in both the northern and western walls. The maximum height of surviving facing was 1.5m.

Collapse 15a (Fig. 8)

The southern wall of the hut was stable apart from a loose area in the wall top at its eastern end (Plates 168 and 169). This was consolidated by the addition of the three stones indicated on Plate 170.

Collapse 15b (Fig. 8)

The facing beyond 15a could still be traced for about 0.4m before being obscured by fallen stone, a lot of which was unweathered indicating that there had been recent damage (Plates 171 and 172). The obviously collapsed stone was removed from 15b revealing a similar two phase construction to that identified in huts 17 and 18 (above). The facing continued from 15a describing an arc before being lost behind the end of the northern wall (Plates 173 and 174). This was obviously part of the wall of an earlier roundhouse with an internal diameter of 6m, which had been subdivided. Traces of an additional end wall could be seen at the north side of the collapse. Stone A marks the end of the surviving facing and is marked on Plates 172, 173, 174 and 176 as a point of reference. This facing could not be traced across the hut but the equivalent end wall in hut 16 (Collapse 16c) was well preserved and illustrates the original form of the phase 2 building.

The original roundhouse wall was stable up to a maximum height of 0.6m although there was an additional 0.2m of loose stone standing above the face. This was cleared and replaced with the new facing indicated on Plates 175 and 176. The rest of the stone that had been cleared from the collapse was reinstated thus burying most of the newly revealed facing which was below the current ground level. The remains of the end wall were supported by the addition of one large block of stone beside stone A. The block above stone A could not be adequately supported without the addition of new facing. This was not possible because the line of the wall had not been found so the stone was left in place even though it is likely that it will be dislodged from the wall.

Collapses 15c and 15d (Fig. 8)

The dividing wall between huts 15 and 16 consisted of very irregular masonry which was stable apart from a small area in the wall top (Plate 177). The loose stones were cleared and replaced with the three new stones shown on Plate 178.

HUT 79

There have been no official excavations in this hut. Dallimore however recorded several treasure hunter hacks in

the floor in 1978. The interior of the hut is now covered in grass and heather and is very uneven. The hut is roughly circular with an arc of surviving facing at the south. Elsewhere the walls have been reduced to piled stone. Hughes (ca.1906) only recorded facing in the southern half of the hut so these collapses must have occurred in excess of 90 years ago. As the hut had not been excavated it was felt that it was better to not disturb what amounted to little more than piles of stone. Collapses 79 a,b,c,f,g and h were therefore left unconserved.

Collapses 79d and 79e

This 7.0m length of facing survived to a height of 1.0m and was generally stable (Plates 179, 180 and 181). The north-east end of the wall was poorly supported as it stepped down from a height of 0.8m to ground level. There was also a hole in the hut floor in front of the facing at this point. The hole was filled and the supporting masonry shown on Plate 182 was added. This consisted of heavy stones which in addition to stabilising the facing to the right revetted the loose scree slope above the hut. The wall tops were stabilised in the usual way; the additional facing stones are indicated on Plates 182, 183 and 184.



Fig. 12 Plan of huts 5 to 14 inclusive (Hughes in Baring-Gould and Burnard, 1904)

This hut is subrectangular with internal dimensions of $6.2m \ge 3.0$. It was excavated by Baring-Gould and Burnard (1904) and their report is as follows;

'In the north corner a bronze triskele and a large ribbed melon-shaped broken bead of blue-glazed porcellanic paste were found. Entrance faces west; wall 5ft. [1.52m] high.'

A detailed plan of some of the huts along the south-eastern side of Tre'r Ceiri, drawn by Harold Hughes, was published as part of Baring-Gould and Burnard's excavation report (Fig. 12). This showed a second entrance or break in the south-eastern wall of the hut. The edge of the break in the wall was drawn with a broken line indicating that facing could not be traced through it. A slight inturn and a change in the character of the facing is all that can presently be seen at this point (see below, collapse 8b).

Griffiths recorded a hut of 'irregular outline', with an inner face standing on average 4 ft. [1.2m] in height and reaching 6 ft. [1.8m] in the east corner. He also noted that 'on the SW is a very good entrance, 2 ft. [0.6m] wide, with sides 3 ft. [0.9m] high built of carefully laid long stones. In the entrance are traces of steps leading down into the hut'. The height of the walls appears to have decreased somewhat since 1946. The current height of the facing in the eastern corner is 1.2m but there is not enough fallen stone below the wall to suggest that 0.6m of facing has been lost.

Dallimore (1978) recorded small collapses in both the north-eastern and north-western walls. Only the collapse in the north-eastern wall seems to have deteriorated significantly since 1978.

Collapses 8b and 8c (Fig. 8).

The area around the second 'entrance' into the hut as shown by Hughes (Baring-Gould and Burnard 1904) was carefully examined. Plate 185 shows the relevant facing; the scales are at the edges of the putative entrance. The facing can be seen to be set back slightly and to be of a more blocky construction. There were however no straight joints visible. It is quite possible that this feature is a blocked entrance from early in the hut's history. This could however only be proved by the dismantling of the feature itself and this would not fall under the remit of a conservation project. Just to the left of the above and in front of the north-west wall was a pile of weathered stone (Plate 186), this was presumably the collapse in the north western wall referred to by Dallimore. It did not however appear to be a typical collapse as the facing of the north-west wall of the hut could be seen to continue behind the jumbled stone. As there was no obvious explanation for this and the pile of stone was not threatening the stability of anything no action was taken here. The possible blocked entrance was also stable and was therefore not conserved.

Collapse 8d (Fig. 8)

The rest of the north-west wall of the hut was stabilised by the addition of two stones to the wall top. These are shown on the post-conservation photograph (Plate 87).

Collapse 8e (Fig. 8)

This was a serious 2.0m wide collapse in the north-eastern wall (Plate 188). The high proportion of unweathered stone that was visible suggests that there had been recent erosion to the resulting stone slope. There was also a small section of facing at the south-east end of the collapse consisting of uncharacteristically small stones that was only slightly weathered. This was obviously a modern addition and was on the point of collapse. This facing and the fallen stone were cleared from the collapse. Plate 189 shows 8e after clearance. No basal course had survived and only a jumble of small stones was visible along the line of the wall. This did provide however a good base for the new masonry that was used to fill the gap in the facing. This was built up to a height of 1.0m and is shown on Plate 190.

Collapse 8f (Fig. 8)

The facing between 8e and the corner of the hut was standing up to a height of 1.2m (Plate 191). There was a void at the base of the wall. The facing above this was not well supported so the nine stones shown on Plate 192 were packed into the cavity. Three headers were also added to the wall top.

Collapse 8g (Fig. 8)

There was a 1.0m wide dip in the upper facing in the east wall (Plate 193). Intact facing had survived up to a height of 0.7m but unsupported core was standing 0.4m above it and was beginning to spill forwards into the hut. The displaced core was cleared from the collapse and the dip in the facing was filled with stones recovered from the floor of the hut (Plate 194). It was noted that there was a straight joint in the wall at the southern end of 8g.

Collapse 8f (Fig. 8)

This was a 2.6m length of slightly curving facing which is part of the outer face of hut 10. Straight joints were recorded at both ends of the facing where 8i and 8g abutted it (Plates 195 and 196) showing that hut 8 is later than hut 10. We have no detailed dating evidence but the outline of hut 8 suggests that it was built in an irregular shape to accommodate an already existing structure and that the two huts were not built as one phase. This facing was stable up to a height of 0.8m at the edge of the collapse falling to 0.6m close to the western end. Above this was a jumble of stone where the top of the facing had been lost and core material had fallen from above. This was cleared an the collapse was stabilised by the addition of up to 0.3m of new masonry as indicated on Plate 197.

Collapse 8i (Fig. 8)

The south-eastern side of the entrance was well defined with facing standing to a height of 0.9m at the inner corner of the passage (Plate 198) and falling to 0.6m in the centre of the passageway. The inner and outer ends were faced with large edge set slabs (Plates 199 and 200). There was a large amount of jumbled stone on the wall top above the *in situ* facing. It could not be determined whether this was a result of collapse or of the pilling of stone on the wall by the excavators. Stone A (Plate 201), which was on the top of the intact facing at the inside of the entrance, was very loose and was supported by the addition of one stone to the facing. The rubble on top of the wall was reset in a regular fashion thus raising the height of the facing to 1.0m (Plate 201).

The outer face of the hut, beyond the entrance, had been reduced to a rubble slope (Plate 202). The erosion here was threatening the stability of the wall behind it. No original masonry had survived here so the slope was stabilised by building irregular masonry that did not form a face (Plate 203).

Collapse 8a (Fig. 8)

The north-west side of the entrance passage was unusually well preserved with stable facing standing up to a height of 0.7m (Plate 204) and continuing around the outside of the hut for 1.0m. There had been a fall of stone from the top of the inner face of the hut just to the north-west of the entrance and this was causing some instability (Plate 205). The wall tops were loose and stone was spilling forwards particularly above the inner face of the hut. The loose stone was cleared and was used to construct between 0.1 and 0.3m of new facing above the *in situ* masonry (Plates 206 and 207).

HUT 7

Hut 7 was one of the best preserved and most visually striking huts on Tre'r Ceiri. It was a round hut with an internal diameter of 5m. The inner face was standing to a height of 1.5m in the eastern half of the hut and is built to a good face. The entrance was on the west and was partially collapsed. There was one serious collapse in the facing, in the south-west quadrant of the hut. The hut was excavated by Baring-Gould and Burnard (1904);

Here another spindle-whorl was found ; also two iron objects, one about 3 ins long, the other a crescent-shaped piece, both much corroded. Some more small fragments of bone were observed. Entrance faces west, 4 ft. [1.2m] wide ; height of wall $5\frac{1}{2}$ ft. [1.7m]. A fine circular hut, with a sheet of rocks at east.'

Griffiths (1946) again recorded slabs set across the entrance passage to form steps. There was no sign of these slabs when the entrance was examined during conservation and it is therefore probable that there has been some disturbance to this area since 1946. Dallimore (1978) recorded a treasure hunter hack in the centre of the hut, damage to the entrance and the beginning of the collapse in the southern wall.

Collapses 7e, 7f and 7g (Fig. 8).

The facing on the south side of the entrance had largely collapsed (Plate 208). The inner face of the hut, adjacent to the entrance (7e and 7f) was also in a very poor condition (Plates 209 and 210). The semi-collapsed facing was not very secure so some action was necessary. The entrance appeared to be about 1.0m wide. This corresponds with Hughes plan but is unusual in that the majority of huts have entrances in the region of 0.6m wide. The line of the masonry was poorly defined and it was possible that it was a feature created by an alignment of fallen headers (cf. collapse 26c, above). Some of the fallen stone was cleared from the floor of the passage. This revealed four courses of flat stones beneath the semi-collapsed facing along with a recognisable inner corner to the passage (Plate 211). The upper part of the face had fallen back into the wall perhaps as a result of a collapse in the outer face and the subsequent loss of support for a very large stone in the passage wall. This stone (A on Plate 211) was at least 1.0m in length and had tipped backwards taking the rest of the upper face with it. It had however reached a point of stability and was immovable. The semi-collapsed facing in the passage was stabilised by the insertion of 5 pinning stones into the wall and the addition of one stone to the top of it (Plate 212). The unstable inner face of the hut (7e and 7f) was stabilised by the addition of up to 0.4m of facing to the existing masonry (Plate 213). There was a void in the base of the wall that had been formed by the displacement of a thin upright stone (B Plates 210 and 211) from the facing. This stone had fallen forward and could be seen to fit exactly into the void. Several smaller stones were pinned into the back of the void and the upright was reset. This was kept in place by a slight lip on the underneath of the slab above.

Collapse 7a (Fig. 8)

The base of the facing on the north side of the entrance was still intact, standing to a height of 0.3m (Plate 214). As this was lower than the wall to the north and was therefore causing some instability 0.4m of new facing was added (Plate 215). Several large blocks of stone were also added to the outer face of the hut in order to retain the core (Plate 216).

Collapse 7b (Fig. 8)

The 2.5m length of facing adjacent the entrance was basically stable (Plate 217). The stones indicated on Plate 218 were added to the top of the face in order to lock the stones on the edge of the wall together.

Collapse 7c (Fig. 8)

This 6.6m length of masonry was unusually well preserved, standing to a height of between 1.2m and 1.5m. There is no evidence of any addition to the top of the wall by the excavators of the hut. There was a small amount of instability in the wall at the north end of the collapse where there was a 1.0m high edge set stone incorporated in the facing (Plate 219). There was a slight dip in the wall top at this point which was filled with three stones (Plate 220). There was also a void in the base of the wall that was packed with three stones. The rest of 7c was sound apart from a few minor instabilities in the wall top. Seven stones were added in order to lock the upper course in place and no *in situ* masonry was disturbed. The additional stones are indicated on post conservation Plates 221 and 222.

Collapse 7d (Fig. 8)

There was a 2.0m wide collapse in the southern wall of the hut and several large stones were lying in the interior of the hut (Plate 223). The fallen masonry was cleared revealing a large void in the facing and a roughly triangular orthostat 1.1m in length standing on its thin end (Plate 224). The orthostat was standing about 0.4m behind the line of the face. There was no obvious explanation for this unusual and rather unstable arrangement of stones although it is possible that there had been an additional upright in the face in front of the orthostat. It was decided to construct a new face across the void and in front of the orthostat. The facing above the void was in a state of partial collapse but as this may have been holding the orthostat in place it was left *in situ*. Several experimental attempts were made at building a face across the collapse. The main limiting factor was that it was not possible to tie the facing in front of the orthostat into the wall in a conventional manner. An attempt was made to use an additional edge set stone in the face but it could not be secured without serious disturbance of the *in situ* masonry. The facing shown on Plate 225 was constructed; the stones on the right of the collapse are long headers which tie this side of the facing into the wall. The stones in front of the orthostat form a skin wall and are mostly tied into the headers at the right or run deep into the right hand side of the wall. The facing does not blend into the rest of the hut as well as usual because of the constraints on stone selection. The original facing would

presumably also have been anomalous as similar problems would have occurred during the construction of the wall.

HUT 11

This hut was excavated by Baring-Gould and Burnard (1904) who reported the following:

A little charcoal only was seen in the floor of this hut. Entrance faces south-west, 4 ft. [1.2m] wide; wall ruined. Griffiths and Dallimore both record well preserved facing at the west of the hut. Griffiths also suggests that the entrance was deliberately blocked.

Fig. 8 shows the hut at the beginning of the present season, the walls could be traced but were little more than short lengths of facing linked by areas of collapse. The hut was rectangular with internal dimensions of $3m \times 5m$. The ruined entrance was still visible in the south-west corner.

Collapse 11g (Fig. 8)

The northern end of the western wall, adjacent to the entrance, had collapsed (Plate 226). The fallen stone was cleared and it could be seen that the wall had collapsed from its base. In all 1.3 m of the basal course was missing (Plate 227). The stone from the collapse was used to close up the gap in the facing (Plate 228). One large block of stone was set on edge in the bottom of the wall in order to allow the stone masons to familiarise themselves with this style of building. No edge set stones had previously been used in the conservation of the collapses but it is probable that there had been some in the original facing.

Collapse 11h

There was a 1.1m length of surviving facing in the west wall to the north of 11g. This was stable and no further action was taken.

Collapse 11i

This collapse encompasses the entire 3.0m length of the northern wall (Plate 229). The wall had been reduced to a rubble slope which was eroding fast due to the presence of a well established footpath leading to hut 7. The rubble was cleared from the line of the wall revealing rather jumbled basal courses across the whole of the collapse. Unfortunately there was a severe discontinuity in the centre of the face (Post conservation Fig. 10 and Plate 230). The facing in the western half of 11i was well defined and standing up to 0.5m in height although it gradually became more irregular towards the centre. The centre of the collapse was marked by a long header that appeared to have fallen forwards. There was a further length of low facing along the eastern half of the collapse, the line of which was 0.6m in front of the line of that in the north. This could have slipped forward in its entirety but the headers were all level and there were several courses of masonry. The stones that had been cleared from the collapse were used to add up to 0.5m of facing to the western end of the wall (Plate 231). As there was not enough evidence to determine the line of the wall at the eastern end, the stone was used to build an irregular buttress above the surviving facing (Plate 232).

Collapses 11a and 11b (Fig. 8)

The southern end of the eastern wall had collapsed (11b) leaving the loose facing at the northern end unsupported. The facing at the northern end, 11a, was standing to a maximum height of 0.9m. Collapse 11a is shown on Plate 233 and collapse 11b on 234. The fallen stone was cleared from 11b revealing two lines of facing. Plate 235 shows the collapse after clearance. Stone A was part of the basal course in the corner of the hut. A further line of facing (B) could be seen within the collapse, 0.6m behind A. An outline plan was produced (see post-conservation plan; Fig 11) and another probable stretch of facing within the wall was identified. From this we can see the now familiar outline of a subdivided round house with blocking walls adjacent to the dividing wall (cf. huts 17 and 18, 15 and 16, and 13 and 14). It was not possible to undertake any more clearance without risking a further major collapse therefore a new face was built across the collapse using the cleared stone (Plate 236).

Collapse 11c (Fig. 8)

The eastern end of the northern wall was better preserved than it originally appeared to be (Plate 237), as the facing in the corner of the hut had been obscured by spill from collapse 11b. This 2.4m length of facing was stabilised by the addition of stones to the wall top (Plate 238)

Collapse 11d (Fig. 8)

The facing towards the entrance in the northern wall was badly collapsed (Plates 239 and 240). The corner of the entrance was however just visible as a pile of semi collapsed stone. This can be seen below stone X on Plate 240. The stone within the passage was obviously collapse and not deliberate blocking as stated by Griffiths (1946). The stones were oriented in the usual 'fallen deck of cards' arrangement common in collapsed masonry. The stone was cleared from the collapse and the surviving basal course and corner of the entrance were uncovered (Plate 241). Facing had also survived on both sides of the entrance passage. As there was still no sign of deliberate blocking, the rest of the fallen stone was removed from the passage (Plate 242). It was hoped that opening the passage up would encourage visitors to use it in preference to climbing over the walls.

A new corner to the entrance was constructed above the surviving basal course (Plate 243). The facing on either side of the entrance was stabilised by the addition of stones to the wall top (Plates 244 and 245) and to the outside of the entrance on the west. In addition to this some stone was reinstated on the floor of the passage to produce a gently sloping passage floor.

HUT 12

This small, $3.5m \ge 1.5m$ suboval hut is the other half of the subdivided roundhouse described above in the report on hut 11. It was excavated by Baring-Gould and Burnard (1904) who reported thus; 'A small piece of the rim of a pot and a little charcoal. Entrance faces north-west; wall 5 ft. [1.5m].' Griffiths (1946) recorded 1.7m high carefully constructed facing on the south of the hut and a possible low blocking wall across an original entrance at the west. This entrance was also shown on Hughes' plan *ca*. 1906.

Collapses 12e and 12a (Fig. 8)

The dividing wall between the two halves of the roundhouse was largely collapsed on this side. The western end (12e, Plate 246) was marked by a rubble slope and the eastern end (12a, Plate 247) by semi-collapsed facing 0.8 m in height. The fallen stone was cleared from the collapse revealing surviving facing at the west, standing up to 0.3m in height (Plate 248). There had been a slippage in the centre of the wall causing a slight discontinuity in the facing between 12e and 12a. New facing was added to the top of 12e. The bulge in the wall was incorporated into the rest of the facing as the off line facing at the end of 12a could not be dismantled without causing a large amount of damage. The consolidated collapse is shown on Plate 249.

Collapse 12b (Fig. 8)

The eastern wall of the hut was stable apart from a few loose stones in the wall top. These were locked in place by the addition of two heavy stones to the wall top (Plate 250).

Collapse 12c (Fig. 8)

The southern wall was well preserved although there was a slight dip in the facing at the western end. The eastern 1.8 m is shown between the scales on post-conservation Plate 251. The western end was partially obscured by fallen stone from collapse 12d (Plate 252). The facing here was 0.5m high and stone was eroding from the scree ground surface above the hut. Up to 0.4m of new masonry was added to the low facing (Plate 253).

Collapse 12d (Fig. 8)

The western wall was obscured by fallen stone and was partially grassed over (Plate 254). The collapse was cleared revealing the lower courses of the wall and the corner of the entrance. The entrance passage was full of overgrown jumbled stone the edge of which was marked by stone X on Plate 255. An additional 0.4m of facing was added to the surviving wall and this is shown on Plate 256. The entrance passageway was not cleared as the

south-eastern end showing that this wall was already lost in 1904. He also showed a small stub of wall projecting from the north eastern side of the hut. This was not visible at the beginning of the present season. Griffiths 1946 recorded good facing on the north and south sides of the hut and 'traces of entrances of indeterminate width' on both the west and east'. No entrances were visible when the hut was surveyed at the beginning of the present season.

Collapse 14a (Fig. 8)

The eastern end of the hut had been reduced to a shallow rubble slope which was partially covered in vegetation. This was moderately stable and there was no exposed masonry so no further action was taken. There is a large amount of stone in this end of the hut perhaps indicating that the end of the hut was blocked and infilled in a similar manner to the other subdivided roundhouses.

Collapse 14b (Fig. 8)

The southern wall of the hut was quite well preserved standing to a height of between 0.5 and 1.0m. The upper courses were however very uneven and there were several small dips in the facing Plates 273, 274 and 275. There was also some instability where the facing graded down to ground level at the eastern end of 14b. The dips in the facing were filled with stone taken from the floor of the hut and several large blocks of stone were added to the eastern of the wall in order to grade it down more gradually. The new masonry is shown on Plates 276, 277 and 278.

Collapse 14c (Fig. 8)

The western end of the southern wall was low and collapsed as it graded down from the better preserved facing to the east (Plate 279). This was stabilised by the addition of a large slab and several small packing stones, these are indicated on the right of Plate 278.

Collapse 14d (Fig. 8)

The north-western wall had been reduced to ground level (Plate 280). There were a few stones that were not well seated in the surrounding rubble. These stones were reset and during this process two lengths of basal course were located in the rubble. One length of facing could be seen as an alignment of stones which was largely hidden by jumbled stone. It could however be traced for 1.5m and was a continuation of the curving southern wall which was part of the original roundhouse. The line of this facing is shown on Fig 11. No further action was taken here as the feature was below the present ground level and was supported by the surrounding stones. Another alignment of stones could be seen, again at ground level, representing a blocking wall across the end of the hut. This abutted the dividing wall with hut 13 and follows the pattern of the end blocking wall seen in the other subdivided huts. This blocking wall suggests that the entrance was elsewhere in the hut although the facing is not well enough defined to allow any definite conclusions to be drawn. One stone was reset in order to stop any large scale movement in the facing This is the unweathered stone beneath the scale on Plate 281.

Collapse 14e (Fig. 8)

The northern wall of the hut was largely collapsed at its western end (Plate 282). The small amount of facing that could be seen was very unstable. The fallen stone was cleared from the collapse. Plate 283 shows the area after clearance, stone A is marked as a reference point. Up to three courses of masonry had survived beneath the collapse showing that the dividing wall curved around to form the outer face of hut 13. Additional facing was added above this in order to retain the core (Plates 284 and 285). The outer face of hut 13 appears to follow the line of the original roundhouse. There was no obvious joint between this facing and the dividing wall suggesting that both were constructed at the same time. This implies extensive rebuilding or remodelling of the phase 1 roundhouse as opposed to the simple addition of a dividing wall and associated structures.

Collapses 14f and 14g (Fig. 8)

The facing of the north wall could be traced for 1.7m to the east of 14e (Plates 286 and 287). The east end of the facing turned out into the interior of the hut although it was not clear if this was a result of slippage or if it was the original line of the wall. There was no intact masonry visible beyond this (14g) and there was some erosion of loose stone. Some of the rubble was cleared from the outurning wall and 14g but no further facing was uncovered (Plate 288). There was however a large amount of collapsed stone which appeared to have slipped down the slope as opposed to, from along the line of the wall projected across 14g. This suggests that the outurning facing may represent the correct line of the wall and that the hut was smaller than previously thought. There is however

facing within it was supported by the fallen stone. There was also no problem with visitors climbing over the hut walls to gain access to the hut as the entrance was already well defined.

HUT 13

Huts 13 and 14 appear to be yet another subdivide roundhouse. Hut 13 was excavated by Baring-Gould and Burnard (1904) who wrote; 'Some small fragments of thin red pottery, slightly ornamented. Also a tiny blue bead of glass. Entrance faces north ; wall 6ft. [1.8m] high.' Hughes does not show an entrance on his plan of *ca*.1906 but the RCAHM plan (1960) depicts it in the north-western wall. Griffiths (1946) records 1.8m high facing 'of careful construction' in the north wall. Dallimore (1978) also records that the north side of the hut is very well preserved with facing up to 2.0m. He also recorded collapses in the west and east along with some treasure hunter activity.

There has obviously been serious damage to this hut since any of the above was written. There was no facing in the hut standing to above 1.4m at the beginning of the present season and the majority was below 1.0m. There was a severe collapse in the east of the hut and the whole of the southern wall was semi-collapsed.

Collapse 13a (Fig. 8)

The northern wall was sound up to a height of 1.4m at its western end (Plates 257 and 258) although it was not supported as the height of the wall fell towards collapse 13f (see below). There was a dip in the facing at the eastern end (Plate 259) that was filled with several stones (Plate 260). The northern wall was basically stable but it appeared to have slumped sometime in the past as most of the slabs at the western end of the wall were tilted sideways.

Collapse 13b (Fig. 8)

There was a large spill of stone in the eastern end of the hut (Plate 261). This was cleared revealing facing across all but 0.8m of the collapse. There was bedrock 0.7m behind the line of the face (B on Plate 262). The line of the wall could be extrapolated from the surviving facing so the new masonry shown on Plate 263 was constructed in order to retain the unstable core. Stone A is marked on the relevant plates as a reference point.

Collapses 13c and 13d. (Fig. 8)

The southern wall of the hut was jumbled and unstable (Plates 264, 265 and 266). The lower courses had slumped forwards, probably as a result of the base of the wall being undermined. Dallimore recorded some treasure hunter activity in 1978 and it is likely that the excavations in the hut floor were continued to below the level of the base of the wall thus causing the basal courses to slump. The upper facing was stable in some places and on the point of collapse in others. The loosest stone was cleared and reset and several voids were packed. The wall is now as stable as it is possible to make it without clearance to ground level where it is unlikely that an intact basal course would be found. The re-set and additional masonry is indicated on Plates 267 and 268. No action was taken in the area shown on Plate 266.

Collapse 13e (Fig. 8)

There was an area of collapse in the western wall. The facing was jumbled but had mainly stayed within the wall (Plate 269). This may correspond to the entrance shown on the RCAHM plan (1960) but the masonry was badly collapsed and no detail was visible. A few of the loose stones in the top of the facing were reset or replaced (Plate 270).

Collapse 13f (Fig. 8)

A rough 'entrance' to the hut had become established at the west end of the northern wall (Plate 271). This was probably an area of erosion and not the original entrance. It was possible to stabilise the wall eroded ends of the wall to either side by the addition of a few stones so the dip in the wall was left as a point of access to the hut. The additional stone was added in an irregular fashion and can be seen on Plate 272.

HUT 14

Baring-Gould and Burnard (1904) produced the following report on the excavation of this hut; 'A piece of corroded iron, with a perforated wing or projection (? remains of a strike-a-light). Entrance faces north ; wall 5 ft. [1.5m] high.' Hughes' plan in the 1904 excavation report shows an oval hut with a break in the wall at the

nothing that supports this hypothesis on the other side of the hut so the form of the later phase or phases of the hut will remain open to debate unless proven by excavation. The stone that had been cleared from 14g was reinstated in an irregular but stable manner and a few stones were added to the outturned facing. The slope above this was graded up gently using irregularly laid stones (Plate 289).

HUT 5

Hut 5 was excavated by Baring-Gould and Burnard (1904) who reported the following:

Yielded a spindle-whorl, pieces of ox teeth, and some charcoal. Entrance faces west, and is 4 ft. [1.22m] wide ; has two protecting horns of walling, 13 ft. [4.0m] long.

Hughes' plan in the above report shows a complete roundhouse with a long entrance passage. Griffiths described the hut in 1946;

A fine hut, roughly circular with an internal diameter of about 16 ft. [4.9m]. The floor is 5 ft. [1.5m] below the general ground level. the wall is well constructed but is overlaid on the E by tumbled scree. It is 6 ft. [1.8m] thick, with very low outer faces but inner faces standing 3 ft. [1.4m] high. On the west is a very fine entrance passage 2ft. [0.6m] wide, the sides constructed of large long slabs laid carefully together, and standing 5 ft. [1.5m] high. This passage is 14 ft. [4.3m] long, the hut wall to either side curving out to form the sides of the passage.

Dallimore however presents a somewhat different picture in 1978;

North wall well preserved. North side of entrance collapsed but south side very well preserved. Rest of walls collapsed but otherwise clearly definable. Height of walls 1.0 to 1.50m. Damaged by treasure hunters.



Fig. 13 - scale 1:200 - Huts 5,6,74 and 44 before conservation.



Fig. 14 Huts 5,6,74 and 44 (Hughes ca 1906)



Fig. 15 The southern half of the area conserved in the eighth season (RCAHM 1960)



Fig. 16 - scale 1:200 - Huts 5,6,74 and 44 after conservation.

The hut was surveyed at the beginning of the present season and it could be seen that the deterioration recorded by Dallimore had continued. About 50% of the internal facing of the hut had collapsed making it difficult to trace the line of the wall. Most of the facing that remained was semi-collapsed and unstable. There was a large hole in the centre of the hut that was emphasised by the large amounts of stone spilling forwards from the collapse. The walls had obviously been undermined by treasure hunters and possibly to a certain extent by the early excavators resulting in large areas of collapse and the reduction of a 'fine hut' (Griffiths, 1946) to little more than a rubble filled hollow. There were two possible courses of action that could be taken during the conservation of this hut. In many cases a poorly preserved hut such as this would be stabilised with the minimum of disturbance as most of the masonry would have been either destroyed or buried. In this case however the stone slopes overlying the line of the wall were still eroding thus threatening any buried facing. Several short lengths of possible facing could be seen within the rubble suggesting that there was enough information to allow new walling to be built. The hut was also close to the main footpath through the fort and it was felt that a well defined hut in this position would be instructive to the casual visitor who would perhaps treat an easily understandable structure with more respect than a pile of rubble. It was therefore decided to attempt to consolidate the hut by clearing the fallen stone and adding new masonry. This was somewhat beyond the normal extent of the conservation project but as this was all recent damage and there were good plans of the original hut it was felt to be acceptable.

Collapses 5a and 5b (Fig. 13)

The inner end of the north side of the entrance passage had collapsed leaving a very unstable 3m wide rubble slope (Plates 290 and 291). The rubble was cleared from the line of the wall revealing an extant corner and a short length of inner facing (Plates 292 and 293). The corner stone was sitting on a jumble of small loose stones but appeared to be in its original position according to Hughes plan (in Baring-Gould and Burnard, 1904). The stone was tipped back and the small stones beneath it packed more securely. The stone was then replaced in its original position. Stone A was not on line and could not be stabilised so it was reset upside down in order to accommodate a large and immovable stone protruding from the passage floor. Three stones, D E and F, in the short length of surviving inner face to the north-east of the corner were marked, as they were loose but in situ. Unfortunately at this point there was a large fall of stone from above the area being worked on. A 2m length of semi-collapsed facing slid down the slope facing was lost as far as far as the long stretcher C on Plate 297. Stone C was recovered and reset during the consolidation of 5c but the rest of the facing had not been marked and consisted of a high proportion of collapse and could not be replaced. Plate 294 shows collapses 5b and 5c after clearance of the fallen stone. There was an extant basal course across the majority of the collapses allowing the line of the wall to be traced. New masonry was added to 5a and 5b before 5c (see below) was consolidated. Stones D, E and F had survived the rock fall but could not be built on as they were too unstable. They were removed and reset in their original positions with some additional packing. A new corner and inner end of the entrance passage were constructed, facing was added up to a height of 1.0m in order to retain the core (Plates 295 and 296).

Collapse 5c (Fig. 13)

The void to the right of stone C (Plate 297) was packed and the rest of the stone that had fallen during the conservation of 6c was cleared. Plate 298 shows the area after clearance, the base of the wall had survived and was partially obscured by peat that had been washed down from above. New facing was added up to height of 1.0m (Plate 298). Facing had survived to the east of this up to a height of 1.0 for 1.3m before falling to ground level and collapse 5d. A small void in the facing (V on Plate 300) was packed. Stone was added to the eastern end of the collapse during the conservation of 5d. The new masonry is shown on Plate 301.

Collapses 5d and 5e (Fig. 13)

The eastern wall of the hut had been reduced to a steep rubble slope. In all, 3.8m of facing was either collapsed or buried (Plates 302 and 303) although some possible facing stones were still visible beneath the collapse. The rubble was cleared from the line of the wall (Plates 304 and 305). A 1.2m length of facing had survived in the centre of the area of collapse. This was well defined and was standing to a maximum height of 0.4m. The facing was completely lost for 0.7m to the north of this and for 1.0m to the south. There was however enough surviving facing to allow the line of the wall to be projected the collapse so the new facing shown on Plates 306 and 307 was constructed.

Collapse 5f (Fig. 13)

Some untidy facing could be seen standing above the level of the collapse. This can be seen at the right of Plate 303 and at the left of Plate 308. Beyond this was a further 1,6m length of featureless collapse. The loose stone was cleared revealing facing across the whole of 5f. The facing at the north-east of the collapse was standing to a height of 0.9m although its base was below the current ground level (Plate 309). This facing consisted of smaller than usual stones and had slumped to one side presumably because of the lack of support. The base of the wall could be traced across the rest of the collapse (Plate 310) but had only survived to a height of one or two courses. New facing was added above the low part of the facing and tied into the standing wall at the north-east (Plates 307 and 311).

Collapses 5g and 5h (Fig. 13)

The wall between 5f and the corner of the entrance was in a poor condition but could be easily traced (Plates 312 and 313). A 1.0m length of untidy facing, 0.7m in height, was standing at the east of the collapse. The wall beyond this had collapsed down to its basal course before rising again to a height of 0.5m at the corner of the entrance (collapse 5i). The loose stone was cleared from the collapse and the dip in the facing was filled with the new masonry shown on Plate 314.

Collapse 5i (Fig. 13)

The south-west side of the entrance passage was well preserved with facing standing to a height of between 0.8m to 1.0m for most of its length (Plate 315 and 316). The inner corner of the passage was low and the wall top consisted of a pile of loose stones. The stones were cleared and were used, with some additions, to add 0.4m of masonry to the stable facing beneath (317). There was a void about half way up the facing close to the outer end of the passage. This was packed with the stones indicated on Plate 319. A number of stones were also added to the wall top.

HUT 6

Baring-Gould and Burnard's report on the excavation of this hut is as follows;

Here a combined adze and hammer, of much corroded iron, was found a little above the true floor of the hut. Also on the floor part of an iron blade ; some small fragments of bone and ox teeth. Entrance faces west, $3\frac{1}{2}$ ft. [1.1m] wide. This has a shelter wall 10 ft. long, trending north. Walls very ruined.

Hughes' accompanying plan shows the south-eastern half of the hut as collapse. Griffiths recorded a good entrance in 1946 but Dallimore recorded that the indention in the south-west wall, presumably the inner corner of the entrance, had been knocked out by treasure hunters. The hut, at the beginning of the present season, was very similar in appearance to hut 5; a high proportion of the walls were collapsed and stone was spilling into the interior of the hut. The extended south-western side of he entrance could still be traced but the north-eastern side was largely collapsed.

Collapses 6a and 6b (Fig. 13)

The line of the north-eastern side of the entrance could be traced in places but the outer end (6a) had been reduced to a rubble slope (Plate 319). The inner corner (6b) was visible but largely collapsed (Plate 320). The collapse was cleared from the expected line of the wall in the outer end of the passage but no definite facing was identified. Plate 321 shows this area after clearance; scales 1 and 2 represent the expected line of the face, (i.e. parallel to the opposite side). A further alignment of stones could be seen running across the passage Fig. 16. It was not clear if these stones were in their original position as they were somewhat irregular but they could represent an earlier alignment of the entrance (see 6k). There were several large stones in rough alignment beneath scale 1 which presumably are the collapsed remains of the latest phase of the entrance. At this point the collapse at the inner end of the passage (6b) was cleared (Plate 322) revealing a 1.1m length of facing marking the corner of the passage. As the facing in the outer end of the passage floor was left *in situ* and was reburied. The line of the facing marked by scale 1 was stabilised by the construction of a stable but irregular slope. Several courses of masonry were added to the surviving facing at the inner corner of the entrance in order to retain the wall core (Plate 323).

Collapses 6c and 6d (Fig. 13)

The lower courses of the masonry immediately to the north-east of the entrance (6c) were intact up to a maximum height of 0.3m (Plate 324). Beyond this was a 1.0m length of collapse (6d) where any surviving facing was obscured by stones (Plate 325). The loose stone was cleared revealing an intact basal course (Plate 326). New masonry was added to the surviving facing across collapses 6c and 6d bringing the total height of the wall to 0.6m (Plate 327).

Collapse 6e (Fig. 13)

This is the 1.2m length of low facing between the scales on Plate 328. This was constructed from large heavy slabs and was sound. There was however unsupported core above it so approximately 0.2m of new facing was added to the top of the wall (Plate 331, left hand side).

Collapse 6f (Fig. 13)

The wall had collapsed down to ground level here leaving unsupported scree which was eroding into the interior of the hut (Plate 329). This was cleared (Plate 330) and a possible basal course was revealed. This consisted of one large flat slab which was not in line with the facing to either side and which may have slipped forward. The face in this area was very jumbled making it impossible to project the line of the wall with any accuracy. The loose scree behind the line of the wall was retained with an irregular construction of stone that was battered back into the slope following a similar pattern to the construction of previous built collapses (Plate 331).

Collapse 6g (Fig. 13)

This was a 1.2m length of very unstable, slumped facing bounded by serious collapses 6f and 6h. The facing was standing to a height of 1.0m and appeared to have slumped sideways towards collapse 6f. There was a void beneath the facing which may have been a result of excavation below the base of the wall. The little that remained of the lower wall did suggest that some of this facing was still on line. The stones were marked as the facing was extremely unstable (Plate 332). The voids at the base of the wall were carefully packed; this added greatly to the stability of the facing above. The south side of the wall was supported when stone was added during the consolidation of 6h. Only one marked stone was disturbed; stone O was reset, close to its original position, with an additional pinning stone. The conserved facing is shown on Plate 333.

Collapse 6h (Fig. 13)

This was a 2.5m wide serious collapse in the south-east quadrant of the hut. Hughes showed a collapse here on his plan accompanying Baring-Gould and Burnard's excavation report. Plate 334 shows the collapse before conservation. There was some unweathered stone showing that there had been recent erosion. A large boulder (stone X) was precariously balanced at the top of the rubble slope. This was pinned and a limited clearance of the collapse was undertaken (Plate 335). It soon became clear however that there was no surviving facing close to the present ground level and that any attempt to find the bottom of the wall, which would have entailed digging down in excess of 0.5m into the scree, would result in severe destabilisation of the slope. It was therefore decided to consolidate 6h by the construction of a stabilised slope using the stone cleared from the collapse. It was obvious that large boulder X was in danger of falling into the hut, so in the interests of safety it was pushed down the slope at which point it broke into three pieces. The largest piece (Y, Plate 336) was used as an anchoring point for the slope above. The slope was stabilised by using large stones to build an irregular 'collapse', the result is shown on Plate 336.

Collapse 6i (Fig. 13)

There was a 2.2m length of facing beyond 6h that was well defined. This was standing to a height of between 0.6m and 1.0m and was sound apart from the upper courses which were jumbled and loose in places (Plates 334 and 337). Stone was added to the lower parts of the wall at both sides of the collapse in order to retain the core (Plate 338).

Collapse 6j (Fig. 13)

This collapse corresponds to the south-west corner of the entrance, as shown on Hughes' plan, which Dallimore records as having been destroyed by treasure hunters. Pre-conservation Plate 339 shows an unstable rubble slope; there were no visible remains of the corner. The loose stone was cleared revealing an intact basal course (Plate 340). This allowed a new corner to be built (Plate 341 and 342) thus adding considerably to the definition of the hut walls. It was noticed, during these works, that an intact face was running through the extended passage wall to the north-west of 6j (Fig. 16, Plate 343). This, when viewed with the basal course tentatively identified in the passage floor (see collapses 6a and 6b, above), shows that the entrance had been remodelled and that the long extended south-westerly wall was a later addition. This may well have been added to give some protection from the prevailing south-westerly winds

Collapse 6k (Fig. 13)

A 1.2m length of facing had survived at the inner end of the additional flanking wall (Plate 344). The lower part of the wall was intact but the upper courses were falling forward. The displaced upper courses were removed

from the wall and used along with some additional stones to raise the height of the wall to a height of 0.8m (Plate 345).

Collapse 61 (Fig. 13)

There was a collapse in the centre of the flanking wall (Plate 346). When the stone obscuring the wall was cleared it could be seen that the base of the wall had survived. The dip in the facing was filled with the new masonry indicated on Plate 347.

Collapses 6m and 6n (Fig. 13)

The end of the flanking wall was low but well defined. A short length of facing survived up to a height of 0.5m close to the outer corner of the wall (Plate 348) but the end had fallen to a height of 0.2m (Plate 349). It could be seen from this that the wall was square ended. A new face was built above the surviving facing to the same height as the wall to the south-east. The stone just to the right of the left hand scale on Plate 349 was reset upside down. The new masonry can be seen on Plates 347 and 350.

Collapse 60 (Fig. 13)

The outer face of the flanking wall could be traced for 2.1m (Plates 351 and 352). Beyond this, the line of the wall could be traced as a low stone bank. The surviving wall was standing to a maximum height of 0.9m. New masonry was added to the north end of the wall during the conservation of 6n; this can be seen on Plate 353. Several stones were added to the south end of 60 in order to grade the wall down to the level of the collapsed facing (Plate 354).

HUTS 74 and 74A

Hut 74 was roughly D shaped with internal dimensions of 4.2m x 3.4m. There was an entrance on the northwest side. Hut 74 was one half of a subdivided roundhouse; a further, much ruined D shaped hut (74A) can be traced to the south. This was not included on Hughes' plan of the site and the RCAHM plan depicts 74 as a small subcircular hut with an internal diameter of 4m. Hut 74A was first shown on the Plowman-Craven plan (but not numbered). Fig. 13 shows the huts before conservation. The original roundhouse had an internal diameter of 6.2m. The dividing wall could be seen to abut the roundhouse wall and the remains of a blocking wall was identified in the eastern end of hut 74. The walls of both structures were low and ruined, rarely standing above ground level, so only limited conservation was necessary in hut 74. The masonry in hut 74A was either low or covered by a protecting layer of rubble so no works were conducted here. Neither of the huts have been excavated

Collapse 74a (Fig. 13)

A short length of 0.5m high facing had survived at the north-east of the hut (Plate 355, right hand side). This was a little unstable and two stones were added to provide support to the western end of the facing (Plate 356). The facing appeared to continue to the east but it was largely obscured by the collapse associated with the blocking wall (74b and 74c)

Collapses 74b, 74c and 74d (Fig. 13)

A length of semi-collapsed facing could be seen to run diagonally across the eastern end of the hut (Plates 355 and 357). It could be seen to run in front of the surviving roundhouse wall but was too badly collapsed to determine its original line. The facing shown on Plate 357 was on the point of collapse. One stone on the left was reset and three further stones were added (Plate 358).

Collapse 74e (Fig. 13)

The facing in the south-eastern corner of the hut had been exposed by a 0.7m deep hole in the floor of the hut. The wall was standing to a height of 1.0m (Plate 359) showing that the interior of the hut is filled with stone and

that there are potentially undisturbed deposits present. The wall to the north of this was collapsed and the upper course in the corner was loose. Several large slabs were therefore added in order to stabilise the wall top (Plate 360).

Collapse 74f (Fig. 13)

The dividing wall between the two huts was low and there were several loose stones on the wall top at the eastern end (Plate 361). Several stones were reset and two larger stones were added to support the facing in the south-eastern corner Plate 362. One further stone was reset at the western end of the wall (Plate 363).

Collapse 74g (Fig. 13)

The entrance was visible as a dip in the north western wall with some surviving facing surviving on both sides. There had been some recent disturbance here and one large unweathered slab was lying in the passageway (Plate 364). A small amount of loose stone was cleared from the passage floor and the wall tops. The central part of the north-east side of the passage was well defined with facing surviving to a height of 0.4m most of which was below the level of the current passage floor (Plate 365). The inner corner appeared to have collapsed. As this area was reasonably stable and the hut had not been excavated there was no further clearance. The large slab from the floor of the entrance passage and several other stones were used to stabilise the top of the north-east side of the passage (Plate 366). The south-west side of the passage was secure and facing could be seen below ground level indicating that the entrance was 0.8m wide. No further action was taken here.



Fig. 17 - scale 1:200 - Huts centred around sub-divided roundhouse 53/89/90 before conservation.



Fig. 18 Huts centred around subdivided roundhouse 53/89/90 (Hughes ca 1906)

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Fig. 19 - scale 1:200 - Huts centred around sub-divided roundhouse 53/89/90 after conservation.

HUT 44

This small sub-rectangular hut has not been excavated. The walls were generally low and either grassed over or marked by jumbled stone. Some facing had survived at the south-west and north-west ends of the hut.

Collapse 44a (Fig. 17)

The facing in the corner of the hut was visible as there was a hole in the floor at this point (Plate 367). This indicates that the hut is full of stone, which may be protecting intact archaeological deposits. The facing was stable apart from a few displaced stones in the wall top. Several stones were reset and some stones were added to the top of the stable facing (Plate 369).

Collapses 44b and 44c (Fig. 17)

The rest of the south-western end of the hut consisted of surviving facing standing to a maximum height of 0.2m (Plate 369). Several stones were reset on the wall top; these are indicated on Plate 370.

Collapse 44d (Fig. 17)

A 2.0m length of the north-east wall was standing to a maximum height of 0.8m. The north-west end of this facing was partially collapsed and very loose (Plate 371). Four stones were reset in a stable arrangement and are indicated on Plate 372.

HUT 40

This small (4.0m x 2.5m), subrectangular hut was unexcavated. The southern wall was stable and constructed from large orthostats. The north-eastern and south-western walls had survived up to a height of 0.8m but being constructed from smaller stones were less stable. The northern wall and north-western corner had been reduced to ground level. Griffiths recorded an entrance here and this is shown on the RCAHM plan. This was however not visible at the beginning of the present season.

Collapse 40a (Fig. 17)

There was an area of instability at the south-eastern end of the north-eastern wall. The facing was standing to a height of 0.8m but there was a void at the base of the wall and one stone had been displaced on the wall top (stone A, Plate 373). Stone A was pushed back into alignment with the rest of t6he wall and core was packed behind it. The void was packed with three stones; the new masonry is indicated on Plate 250.16.

Collapse 40b (Fig. 17)

The wall turned to the south at the south-eastern end of 40a to form the 1.3 m long eastern wall. The lower part of this facing was stable but one large slab was balanced precariously on the wall top (Plate 375). This was supported by two additional pinning stones. The wall top directly to the south of this was stabilised by the addition of two large slabs and two smaller pinning stones (Plate 376).

Collapse 40c (Fig. 17)

The last part of the surviving facing on the south-western side of the hut was marked by a 1.0m log stretcher on the wall top, stone had eroded from beneath this leaving the north-western end unsupported and the 0.8m length of facing beneath it on the point of collapse. This stretcher was supported by the addition of three small pinning stones. The protruding end of the stone was supported by the resetting of one long header (A, Plate 377) from the wall below and a large slab (B, Plate 377) from the wall top (Plate 378).

HUT 39

This is shown as a small oval hollow on Hughes' plan and was described by Griffiths as follows;

A tiny pear-shaped hollow between Huts 88, 89 and 40. Its floor is about 2 ft. 6ins. [0.8m] below the general ground level, but it is choked with fallen stones. the inner faces of the wall are 2 ft. [0.6m] high. There is an entrance about 2 ft. [0.6m] wide on the NW.

The hut was not fully excavated but Hogg examined the south-east end of the hut in 1956 (Hogg, 1960). The following was reported;

The junction of 39 and 88 with the roundhouse was examined in some detail. The end and sides of 39 were formed of large blocks or slabs set on edge. Removal of the two at the E. end exposed, behind a fill of small rubble, the original outer face of the round house, and this could be traced behind the thicker masonry forming the E. end of 88. In the Plate 379, the original masonry extends to the top of the scale. That above is rubble built up by the earlier excavators.

The round-house wall was well preserved, but had clearly begun to bulge towards collapse before the erection of 39 and 88.'

When it was examined at the beginning of the present season it was obvious that there had been some deterioration since Griffiths' report in 1946 although the change in appearance may be, in part, a result of Hogg's excavations. The north-western end had been reduced to level, featureless rubble. The wall at the south-eastern end of the hut was visible only as a rubble slope apart from a short length of facing in the south-western wall. Plate 380 shows a general view of the hut facing the south-western wall (39c). The rubble slope to the left of this is collapse 39b and the slope beneath the photographer is 39a.

Collapse 39a (Fig. 17)

This rubble slope was the remains of the collapsed facing and was unstable. Several stones were reset at the top of the collapse and these are indicated on Plate 381.

Collapse 39b (Fig. 17)

This collapse was also unstable and the facing recorded by Hogg was not visible. Some fallen stone was cleared from the line of the wall revealing the facing shown on Plate 382. This is the outer face of the large subdivided roundhouse 89/90/53 as revealed by Hogg. It appears that he did not reinstate the edge set stones shown on the RCAHM plan. Several large slabs could be seen leaning against the roundhouse wall which are presumably a continuation of the skin wall in front of it. Several stones, shown on Plate 383, were added to the top of the surviving facing and some stone was reinstated at the base of the wall. As the uprights removed by Hogg had been lost no attempt was made to continue the face across this part of the hut. Some additional work may be needed here however and this hut will be reexamined during the ninth season.

Collapse 39c (Fig. 17)

This facing consisted of one large immovable orthostat and some smaller somewhat displaced facing stones. This was stable and no action was taken.

HUT 88

This hut was excavated by Baring-Gould and Burnard who reported the following: 'Blank. Entrance north-west; in a ruinous condition; wall 4 ft. [1.22m] high'. Griffiths recorded good inner faces to the walls, standing to a height of 1.1m, apart from at the north. The hut has deteriorated since then and only occasional facing stones can now be seen; the rest of the wall has been reduced to generally unstable piled stone. Only two areas were considered for conservation as the majority of the hut was very badly damaged and there was no surviving masonry to stabilise. Hogg examined the junction between this hut and hut 89 but there is no record of how much stone was removed. He did not record any facing at the south-west of the hut although the roundhouse wall (89/90/53) could be traced about 1.0m behind the expected line of the facing.

Collapse 88a (Fig. 17)

There was a very loose area in the southern wall that was beginning to erode and threaten the stability of facing in hut 89 (Plate 384). The loose stone was cleared but no facing was visible. The stones were reinstated in a stable but irregular fashion (Plate 385)

Collapse 88b (Fig. 17)

The dividing wall between hut 88 and hut 36/87 appeared to have been undermined and was very unstable although still traceable. An attempt was made to pin the masonry but the stones in the face were very loose and could not be stabilised. The wall was therefore left *in situ* as the base had apparently been lost making it unlikely that this collapse could be stabilised.

HUT 36

This was a small irregular hut that had been added to the end of Hut 87. Both Hughes and Griffiths record the hut

as being circular with a probable entrance on the south-west. Griffiths also records a further entrance leading to hut 87 which he states is clearly visible and 1.4m wide. The RCAHM plan shows a rectangular hut with no division between it and hut 89. Some works were carried out in this hut in the first year of the conservation project (Boyle 1990). Stone was removed from the south-west entrance passage but no further work was carried out here and works were concentrated in hut 87 to the south-east.

The hut is now in too poor a condition to allow the line of the northern wall to be traced. The south-eastern side of the entrance at the northern end of the hut was well preserved if a little unstable. The dividing wall and possible entrance between huts 36 and 87 was visible as a stub of masonry on the south west and some half buried stone running across the hut. A small amount of stone had been lost from this feature since it was photographed in season one of this project. There was no corresponding stub of wall on the opposite side of the hut suggesting that there had either been an entrance here or that masonry had been lost from a straight joint. A straight joint in the wall close to the surviving corner in the hut shows that hut 36 was built on to the earlier hut 87 and that the dividing wall was also part of hut 87. It is not unreasonable to suggest however that there was an entrance in the dividing wall as the entrance at the south-east of hut 87 as shown by Hughes could not be found by either Hogg or Boyle.

Collapse 36a (Fig. 17)

The stub of the dividing wall consisted of stones protruding into the hut many of which were on the point of falling out (Plate 386). The loose stones were removed from the wall and replaced in a more stable but still irregular fashion (Plate 387). The out-turning masonry was left in place at the bottom of the wall.

Collapse 36b (Fig. 17)

The wall top around the south-eastern side of the south-western entrance and in the entrance passage itself was loose (Plates 388 and 389). This was stabilised by the addition of five heavy stones (Plates 390 and 391).

Collapse 36c (Fig. 17)

Several stones were added to a slight dip in the outer face of the hut (Plate 392).

HUTS 89,90 and 53

These huts are the result of the subdivision of a 8.0m diameter roundhouse. A considerable amount of works have already been carried out on these huts; 89 and 90 were excavated by Baring-Gould and Burnard and an iron implement 'like a bill-hook' was recovered from 89. Hughes' plan (*ca* 1906) depicts three compartments but only shows a connection between 53 and 89. Hut 89 is shown as being roughly D shaped and the south-eastern wall of hut 90 is not traced. It appears that these huts were not recognised as being subdivisions of a larger roundhouse at this time. The shape of the north-eastern ends of huts 89 and 90 does suggest the presence of facing, blocking off the ends of the subdivisions as in huts 17 and 18 etc.

The hut was further investigated by Hogg in 1956. The report on hut 89 is as follows.

On re-examination, it was found that the shape of the compartment had been falsified by erecting a wall across the middle and filling the space north of it with rubble from the excavations. Removal of this enabled the original wall to be traced for its complete circuit, except for a length of about 6 ft. on the N. where the face had been built on and against the scree, which had slipped. An irregularity in plan on the W. was apparently the result of a mistake in setting out. It was corrected at a higher level, by corbelling over the upper courses.

Hogg gives no reasons for supposing that the additional wall was a product of the earlier excavations. Indeed the evidence from this year's conservation work would suggest that this was an original blocking wall and that Hughes' plan was correct. Hogg also suggests that the subdivision was part of the original construction as he could not trace the original roundhouse facing behind the door jamb in hut 90. He supports this with evidence from his excavations in subdivided hut 61 which showed that there was no straight joint between the dividing wall and the roundhouse wall suggesting that the division was built at the same time as the roundhouse. This is probably not the case however as the flattened side of the roundhouse at the junction between the dividing wall

and the hut wall suggests later blocking. This area will be further investigated during the conservation work in the 10th season.

Plate 393 shows 89 before the 1958 excavations; this may well represent the correct shape of the hut, the roundhouse with its distinctive Y shaped division being a product of selective clearance by the excavators.

Further work was carried out in the huts during the first season of the Tre'r Ceiri conservation project when much of the roundhouse wall was stabilised. Two problematic areas were left unconserved. The south-eastern wall of hut 90 was seen to present a particular challenge and the Y shaped partition was very unstable and it was suggested that parts of it would have to be rebuilt from scratch (Boyle 1990).

Collapse 89a (Fig. 17)

The north-eastern leg of the Y shaped division was defined mainly by roughly piled stone up to a maximum height of 0.9m although occasional more definite facing stones could be seen beneath the rubble (Plates 394 and 395). There was a lot of unweathered stone on the wall top and more significantly lying in front of the wall. This was the product of erosion caused by visitors many of whom deviate from the main path through the fort and walk through hut 89 before climbing over the rear wall in order to continue their journey to the cairn. This problem has increased recently due to ground erosion in front of hut 3 which has made the path to hut 89 as prominent as the main path. It is expected that this path will be temporarily blocked at the beginning of next season to allow the vegetation to regenerate. The addition of way markers and further visitor information boards should also lessen the erosion to the 89/90/53 group of huts.

Some loose very loose stone was cleared from the top of the wall and the collapse was cleared from in front of the facing (Plates 396 and 397). The large stone on top of the wall behind the left hand scale on Plate 396 is was placed on the wall during clearance and is not original). The base of the wall that had previously been obscured by tumble was well defined with somewhat irregular facing standing to a height of 0.5m. The facing indicated on Plates 398 and 399 was added to the *in situ* wall in order to stabilise the loose masonry and to present an obstacle to visitors using this collapse as an exit from the hut.

Collapse 89b (Fig. 17)

Plate 400 shows collapse 89b before conservation. the base of the wall appeared to have slipped forwards and the facing, which consisted of small stones was very loose. This facing was examined in detail and two major points of weakness were identified. Most obvious was the lack of masonry at the end of the wall. Stone was added to this in order to support 89b (see 89c). The other main point of weakness was the bulge in the centre of the collapse (x on Plate 400). The stones here were very loose but the surrounding masonry seemed to have settled to a point of some stability. Two pinning stones were inserted into a small void in the wall and hammered into place (Plate 401). A piece of wood was used as a cushion between stone and hammer. Several other stones were loose in the facing and these were also carefully knocked back into the wall.

Collapse 89c (Fig. 17)

The end of the wall which forms one side of the passage between huts 53 and 89 had been reduced to its lower courses (Plate 402). The displaced core and loose stone was cleared from the collapse revealing low but intact masonry. This can be seen on Plate 403 although the two large stones above the scale have been slightly reset in during the clearance process. About 0.5m of new masonry was added to the wall base (Plate 404) giving the wall a similar appearance to that in 1956 (see Plate 393, foreground).

Collapse 89d (Fig. 17)

The doorjamb opposite 89c which had been rebuilt in the first season had partially collapsed. No original masonry was lost. Several stones were reset in a more stable arrangement. The result is shown on Plate 405.

Collapses 53a and 53b (Fig. 17)

Collapse 53a (Plate 406) refers to the southern side of the western leg of the Y shaped division and 53b (Plate 407) the western side of the southern leg. The facing in both sides was low and rather loose falling from a height

of 1.0m at the centre to ground level at the end of the walls. The main point of instability was a hole in the hut floor at the junction between 53a and 53b. The facing above the hole had begun to slump and several stones had fallen from the base of the wall. The hole was infilled and the fallen stones were carefully cleared from the base of the wall leaving a 0.3 m x 0.3 m void in the facing. This was packed with seven stones. The remainder of 53a was stabilised by the addition of stone to the top and end of the wall (Plate 408). No *in situ* stone was moved. Collapse 53b was stabilised in a similar fashion; $0.3 \text{ m of heavy slabs were added to the wall top thus stabilising the$ *in situ*masonry beneath (Plate 409). See also collapse 90a.

Collapse 90a (Fig. 17)

The end of the southern leg of the Y shaped division had collapsed down to ground level (Plate 410). The base of the wall was however intact. New masonry was added to the top of this (Plate 411) and to the top of the wall behind it (53b and 90b) in order to support the higher part of the partition.

Collapse 90b (Fig. 17)

Plate 412 shows the eastern face of the southern leg of the Y. This was obviously rather jumbled but was stable apart from the lack of support at the end of the wall (90a). After the conservation of 90a only one stone was added to the facing in order to fill a slight dip (Plate 413).

Collapse 90c (Fig. 17)

The south-eastern face of the north-eastern leg of the Y shaped division was well defined and stable apart from some erosion to the wall top towards its north-eastern end (Plates 414 and 415). The displaced stone was cleared from the wall top and new masonry was added to the top of the surviving facing bringing it up to the height of the roundhouse wall (about 1.0m). The additional masonry is shown on Plates 415 and 416.

The Y shaped partition, general notes.

Parts of this feature were very unstable before conservation. the conservation process was less problematic than originally anticipated. It is not known however if the pinned masonry in 89b will maintain its integrity and this area should be carefully monitored after the project is completed. Large irregular stones were placed on the wall top at the junction with the roundhouse wall in order to discourage visitors from walking on the division.

Collapse 90d (Fig. 17)

A 3.3m length of the roundhouse wall was not conserved during the 1989/90 season. The north-eastern end of this collapse consisted of a 1.0m x 0.5m edge set stone at the base of the wall. The top of this stone had moved forwards to form an overhang. Two headers (A and B, Plate 418) had moved forward with it. Above this was a very jumbled possible face, 0.5m in height, that was probably a result of clearance during one of the excavations. Beyond this, the base of the wall consisted of large stable stones topped by loose masonry some of which was unweathered and therefore recently disturbed (Plate 419). The rubble and possible facing above the edge set stone was beginning to fall into the hut, close examination revealed no facing of definite Iron Age character the stones having been roughly piled on top of random core. The stones were therefore cleared from the wall. A large fragment of a coarse quartzose gritstone saddle quern was recovered from above and somewhat behind the upright slab (Plate 441). This was examined by Dr D. Jenkins of U.W.B. who observed that the grit stone originated on Anglesey, a common source being from the area around Ty'n y Gongl. This stone can be seen on Plate 418 where it is marked with an X. If this was definitely part of the roundhouse wall it would suggest that stones from an earlier phase of building had been used to construct the roundhouse. Unfortunately the context is far from secure; the quern was probably put on the wall by an early excavator during the clearance of the hut in 1903 although it is surprising that it was not identified at the time. It should however be remembered that 32 huts were cleared in 10 days by labourers from Bethesda (probably striking quarry men) so oversights were inevitable.

The upright stone was not stable as the core was pushing it forwards, no masonry could be added above it as any loading to the top of the stone would cause it to fall. It was therefore decided to push the stone back into an upright position. This could not be done without the removal of some core from behind the stone. The core had settled behind the slab and was stable enough to allow the removal of some stone without causing any major slippage (Plate 420). The stone was pushed back into an upright position and locked into place by the addition of

407) the western side of the southern leg. The facing in both sides was low and rather loose falling from a height of 1.0m at the centre to ground level at the end of the walls. The main point of instability was a hole in the hut floor at the junction between 53a and 53b. The facing above the hole had begun to slump and several stones had fallen from the base of the wall. The hole was infilled and the fallen stones were carefully cleared from the base of the wall leaving a $0.3m \times 0.3m$ void in the facing. This was packed with seven stones. The remainder of 53a was stabilised by the addition of stone to the top and end of the wall (Plate 408). No *in situ* stone was moved. Collapse 53b was stabilised in a similar fashion; 0.3m of heavy slabs were added to the wall top thus stabilising the *in situ* masonry beneath (Plate 409). See also collapse 90a.

Collapse 90a (Fig. 17)

The end of the southern leg of the Y shaped division had collapsed down to ground level (Plate 410). The base of the wall was however intact. New masonry was added to the top of this (Plate 411) and to the top of the wall behind it (53b and 90b) in order to support the higher part of the partition.

Collapse 90b (Fig. 17)

Plate 412 shows the eastern face of the southern leg of the Y. This was obviously rather jumbled but was stable apart from the lack of support at the end of the wall (90a). After the conservation of 90a only one stone was added to the facing in order to fill a slight dip (Plate 413).

Collapse 90c (Fig. 17)

The south-eastern face of the north-eastern leg of the Y shaped division was well defined and stable apart from some erosion to the wall top towards its north-eastern end (Plates 414 and 415). The displaced stone was cleared from the wall top and new masonry was added to the top of the surviving facing bringing it up to the height of the roundhouse wall (about 1.0m). The additional masonry is shown on Plates 415 and 416.

The Y shaped partition, general notes.

Parts of this feature were very unstable before conservation. the conservation process was less problematic than originally anticipated. It is not known however if the pinned masonry in 89b will maintain its integrity and this area should be carefully monitored after the project is completed. Large irregular stones were placed on the wall top at the junction with the roundhouse wall in order to discourage visitors from walking on the division.

Collapse 90d (Fig. 17)

A 3.3m length of the roundhouse wall was not conserved during the 1989/90 season. The north-eastern end of this collapse consisted of a 1.0m x 0.5m edge set stone at the base of the wall. The top of this stone had moved forwards to form an overhang. Two headers (A and B, Plate 418) had moved forward with it. Above this was a very jumbled possible face, 0.5m in height, that was probably a result of clearance during one of the excavations. Beyond this, the base of the wall consisted of large stable stones topped by loose masonry some of which was unweathered and therefore recently disturbed (Plate 419). The rubble and possible facing above the edge set stone was beginning to fall into the hut, close examination revealed no facing of definite Iron Age character the stones having been roughly piled on top of random core. The stones were therefore cleared from the wall. A large fragment of a coarse quartzose gritstone saddle quern was recovered from above and somewhat behind the upright slab (Plate 441). This was examined by Dr D. Jenkins of U.W.B. who observed that the grit stone originated on Anglesey, a common source being from the area around Ty'n y Gongl. This stone can be seen on Plate 418 where it is marked with an X. If this was definitely part of the roundhouse wall it would suggest that stones from an earlier phase of building had been used to construct the roundhouse. Unfortunately the context is far from secure; the quern was probably put on the wall by an early excavator during the clearance of the hut in 1903 although it is surprising that it was not identified at the time. It should however be remembered that 32 huts were cleared in 10 days by labourers from Bethesda (probably striking quarry men) so oversights were inevitable.

The upright stone was not stable as the core was pushing it forwards, no masonry could be added above it as any loading to the top of the stone would cause it to fall. It was therefore decided to push the stone back into an upright position. This could not be done without the removal of some core from behind the stone. The core had settled behind the slab and was stable enough to allow the removal of some stone without causing any major

headers above it thus tying the top of the stone into the wall. Stones A and B (Plate 418) were replaced in their original positions relative to the top of the slab (Plate 421). Stones were then added or reset above the stable base of the wall at the south-western end of the collapse (Plate 422).

Collapse 90e (Fig. 17)

The door jamb, a 0.6m long protrusion from the wall, was examined by Hogg in 1956. He stated that it was of one build with the outer wall. Only the basal course and one large but obviously displaced stone were visible at the beginning of the present season (Plate 423 between the horizontal scales). The large stone and some spilled core was cleared in order to provide a stable base for the addition of stable masonry (Plate 424). The roundhouse wall did not continue behind the jamb. This does not necessarily show that it was constructed at the same time as the roundhouse as stated by Hogg. There are signs of collapse in the base of the wall to the north-west and it is possible that the jamb was built in front of a partially collapsed wall. Other roundhouse subdivisions and blocking walls were built in front of collapses, the north-eastern end of hut 17 (collapses 17b and 17c) is a good example. This again suggests that the subdivisions were added to a severely dilapidated or abandoned roundhouse. A stable base was constructed and the large stone was reset. Two further stones were added to the jamb and three large irregular stones were added to the wall top in order to discourage visitors from using this as a point of access to the wall top (Plate 425). The wall is however very low in this quadrant of the hut and visitor management in the form of notice boards and way-markers is the only way of lessening erosion here.



Fig. 20 - scale 1:200 - Huts 28 and 29 before conservation.

HUT 29

This 7.8m diameter roundhouse was partially excavated by Hogg who recorded low mainly orthostatic walls. Most of the hut is now obscured by heather. The only facing standing to any significant height is that which forms the outer face of hut 28.

Collapse 29a (Fig. 20)

The facing between huts 29 and 28 was stable apart from one stone block which had slipped forward from the line of the face (Plate 426 beneath the scale). The stone was removed from the face and enough core was cleared to allow the stone to be replaced in a stable fashion. One additional stone was added to the wall top in order to retain the core (Plate 427).

HUT 28

Hut 28 was also examined and planned in detail by Hogg. The hut is small and rectangular with mainly orthostatic walls constructed from very large stones. There were three points of weakness.

Collapse 28a (Fig. 20)

The corner of the southern side of the entrance passage is marked by a large edge set stone which is stable (Plate 428). The facing in the outer end of the passage was partially collapsed and core had been lost from the wall. This had removed support for two stones on the wall top (A and B), which were left balancing precariously above the upright slab. This had also caused some instability in the inner face of the hut (Plate 429). New facing was added to the outer end of the passageway thus providing support for stones A and B which were manoeuvred into a stable arrangement (Plates 430 and 431).

Collapse 28b (Fig. 20)

Core was spilling into the north-west corner of the hut where a few facing stones had been lost between a massive boulder that forms the corner of the hut and a 1.2m long block of stone in the north-western wall (Plate 432). Six large headers were added to the wall thus retaining the core (Plate 433).

Collapse 28c (Fig. 20)

A large stone was beginning to slip from the wall in the outer end of the north-west side of the entrance passage (Plate 434). As the line of the wall could not be traced with certainty the stone was supported by the addition of several stones beneath its outer end (Plate 435) and no attempt was made to reset it in the wall.

HUT 14A

Collapses 14Aa and 14Ab (Fig. 13)

This unexcavated hut was not numbered on the RCAHM plan and was shown as a short length of curving facing (14Aa). This facing could be traced at the beginning of the present season and is shown on Plates 241.29, 241.31 and 241.33. This was standing to a height of between 0.2m and 0.4m above present ground level and was very unstable and jumbled. The stones in the facing were unusually small, typically 0.1m in length. A small amount of stone was cleared from in front of the wall and the facing could be seen to extend below ground level for at least 0.8m. In addition to this the facing could be traced for an additional 2.9m to the north-east (Collapse 14Ab, Plate 439). This facing was also constructed from small stones and survives to a total height of 0.8m although much of this is preserved below ground level. This additional information allows us to interpret this hut as a roundhouse with an internal diameter of about 5.5m. A roughly linear bank in the centre of the hut could be the remains of a dividing wall although it could also be spoil from a small hole that has been dug in front of the hut wall. The hut appears to be undisturbed apart from this one small hole and therefore may contain useful archaeological information beneath the 0.8m deep, protecting layer of rubble. The stones that had been cleared from in front of the newly revealed facing, 14Ab, were replaced in order to support it as the masonry was very fragile and could not survive if exposed. Several displaced stones were removed from the top of 14Aa and replaced with larger slabs in order to protect the masonry below (Plate 440).

Conclusions

This is the first season where works have been concentrated wholly on the huts. It was found that the work was very labour intensive. The pre-conservation recording was particularly demanding and this extended well into the time dedicated to conservation. The work was carried out at this point by either the writer's assistant or the writer in tandem with his supervisory duties. The expenditure on photographic materials was also greatly increased. The masonry work was more complex than that on the ramparts and in places quite demanding. In total, 174 collapses were conserved and the new team of masons worked to a high standard. The end of the season was a little rushed and a few collapses still have to be marked with drill holes. This will be carried out during the 1997 season. In conclusion, this seasons project has been very successful but the work programme was somewhat excessive. A similar amount of huts have been designated for conservation in season 10 and it is recommended that some of this programme of works be transferred to season 9.

There was originally some doubt as to how many of the huts could be successfully stabilised. This season's work has established that the majority of collapses can be conserved with a minimum of disturbance. This has greatly increased the stability of the huts. The conserved huts are now well defined allowing visitors to the site to better appreciate their form and hopefully use the entrances instead of climbing over the walls. The huts are now visible as understandable parts of the monument and should be less prone to damage by visitors who previously may not have recognised them as such. This has been achieved without the disturbance of any significant *in situ* masonry or archaeological deposits.

In addition to the physical improvement of the site this seasons work has added to our knowledge of phasing and structure of the huts. Most significantly, many of the rectangular and subrectangular 'back to back' huts have been shown to be subdivided and modified roundhouses. A structural sequence is beginning to emerge: The earliest structures appear to have been 6m to 8m diameter roundhouses. A large proportion of these were subsequently subdivided and modified to form smaller approximately rectangular huts. Additional roughly rectangular structures were added around the edge of the original roundhouses thus forming the linked groups of huts that are now characteristic of the site. The additional masonry in some cases was built in front of collapsed masonry suggesting that the original huts were not in use at this point. This is the first, albeit tentative, evidence that we have of breaks in the occupation in parts of, if not all of the site. Unfortunately no dating evidence has emerged so it is not known when these changes occurred and if they represent an abandonment and reoccupation of the site or merely a gradual change driven by environmental or social factors.

Footpaths

New information boards are currently being designed for erection during the next season. It is expected that this will form part of a controlled footpath network that will be set in place during the remaining two seasons work on Tre'r Ceiri.

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