Three Deserted Medieval Settlements on Dartmoor: A Report on the late E. Marie Minter's Excavations

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With Contributions by

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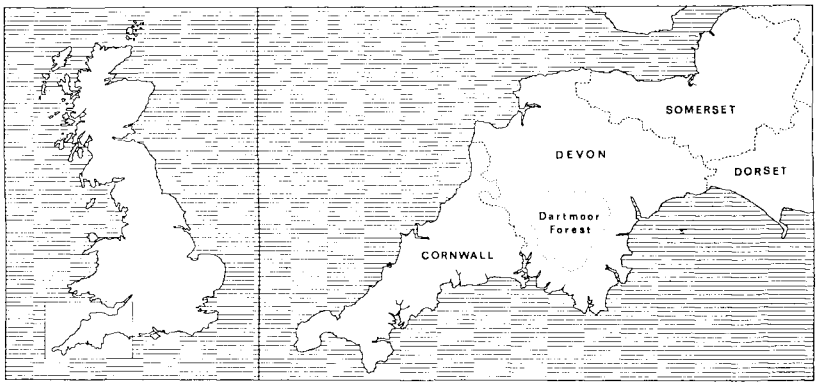
HOUNDTOR, HUTHOLES AND DINNA CLERKS are three deserted medieval settlements on the granite uplands towards the eastern side of Dartmoor Forest, Devon. Houndtor and Hutholes were small villages comprising eleven and six buildings respectively; Dinna Clerks was an isolated homestead. Extensive excavation at these sites by the late Mrs E. Marie Minter revealed a long sequence of superimposed houses, divisible into two periods. Those of the first were built of turf. Although their remains were few, and in some places confusing, they provided much information on the construction of this type of building in the South-West of England. During the second period commencing in the middle of the 13th century, the houses of turf were gradually replaced by those of stone. The excavation of the well-preserved remains of the long-houses and their associated barns and corn-driers and the recording of the gardens and some of the open fields have given a clear insight into the ecology of a community dependent upon mixed farming at altitudes between 1100 and 1300 ft above sea level. The excavation of these settlements has also demonstrated how the deterioration of the climate in the late 13th and early 14th centuries led to their eventual desertion.

INTRODUCTION

The deserted medieval settlements at Houndtor (SX 745789), Hutholes (SX 702758) and Dinna Clerks (SX 692751) lie on the granite uplands towards the eastern side of Dartmoor, Devon. Before excavation their positions were clearly defined by the high standing walls of the buildings and could be readily recognized in the winter and early spring, but during the summer were completely concealed by the high bracken which covered much of the surrounding moorland.

Dartmoor has long been known and studied for its prehistoric remains and mining activities, but until the early 1960s little interest had been shown in the many deserted medieval settlements which are to be found especially on the south, east and north-east of the moor (Fig. 1). Although the existence of many of these hamlets and isolated homesteads was known to the local population or through



DARTMOOR FOREST

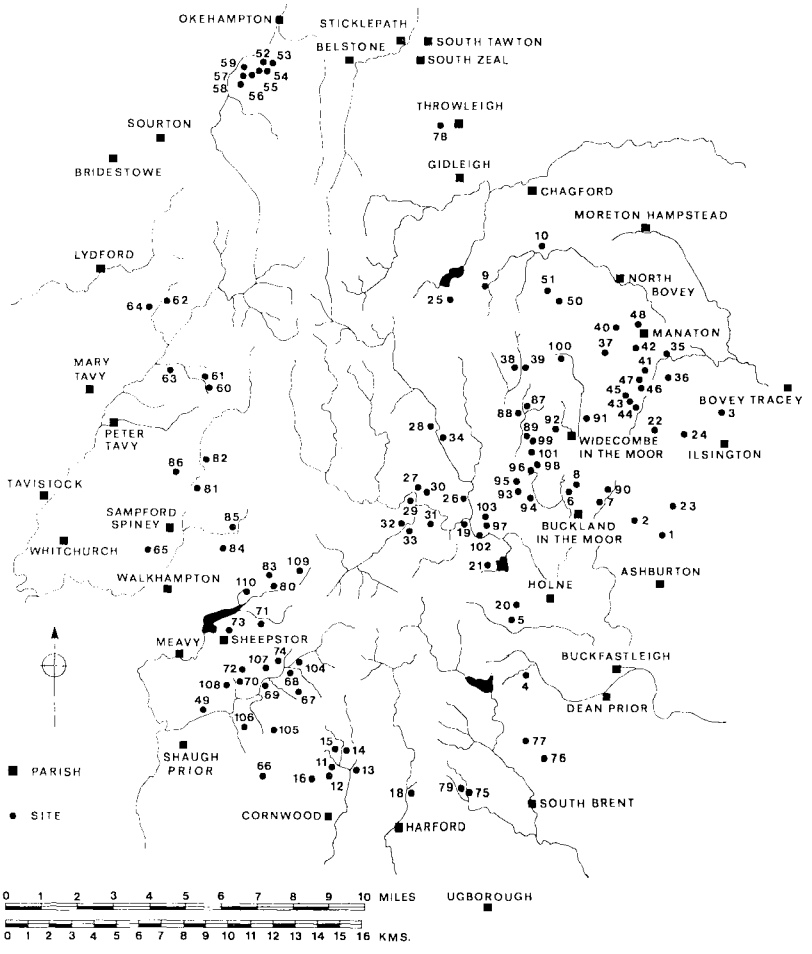


FIG. 1

Location maps showing position of Dartmoor Forest; and map (after Linehan) of Dartmoor, Devon, showing positions of Houndtor Village (Site 46), Houndtor Farmstead (Site 47), Dinna Clerks (Site 95), Hutholes Village (Site 98) and other deserted settlements. Cf. Linehan, op. cit. note 4, Table II

field-names, only a few have been recorded in the histories of Dartmoor. In the beginning of the present century William Crossing recorded the existence of several unoccupied farmhouses and mentioned the ruins of rectangular buildings, sometimes associated with tinning works in valley bottoms;[1] some fifty years later R. Hansford Worth described some early stone long-houses and noted a number which were still occupied or only recently abandoned,[2] and in 1956 an isolated medieval homestead was excavated by Lady Aileen Fox on Dean Moor as part of an emergency operation on land which was to be submerged by a reservoir.[3]

The early 1960s saw the commencement of the excavations at Houndtor and the beginning of the fieldwork by Mrs Catherine D. Linehan which led to the recording of over 100 abandoned settlements.[4] The majority of the sites appear to be homesteads with one, two or three buildings, although settlements of up to 13 buildings have been found at Blackaton, Widecombe-in-the-Moor.[5]

The excavations at Houndtor, Hutholes and Dinna Clerks covered a period of 15 years from 1961 to 1975. The work is entirely due to the enlightened initiative of the late Mrs Minter who, with a small group of volunteers, devoted the last years of her life to the investigation of medieval settlement on Dartmoor. Her first major achievement was the complete excavation of the deserted medieval village at Houndtor in the parish of Manaton (Fig. 2). The work continued with the excavation of a similar village in an enclosure known as Hutholes adjoining Dockwell Farm, Widecombe-in-the-Moor (Fig. 5). A small farmstead some 350 yards north-west of Houndtor and an isolated homestead found in a corner of an enclosure known as Dinna Clerks on West Shallowford Farm in Widecombe-in-the-Moor were also excavated.

During the last five years of Mrs Minter's life poor health and failing eyesight prevented her from publishing the excavation report. Her sudden death in October 1975 represents a tragedy both to these settlements and to archaeology on Dartmoor. However, due to the generosity of the owners, Houndtor has been taken into Guardianship by the Department of the Environment, ensuring that this important site will be preserved for posterity. It is indeed a fitting monument to Mrs Minter and to her work on Dartmoor. The other sites are being preserved by their various owners.

Mrs Minter's executors very kindly presented to the Medieval Village Research Group all the plans, manuscripts and photographs relating to her archaeological research on Dartmoor. Among the plans were the original field drawings, draft tracings of most of the stone-walled buildings and the interpretation of the principal group of stake-holes between House 1 and House 2, Houndtor. The manuscripts comprised a brief summary of the excavations of Houses 1 to 5, Houndtor; a few pages of typescript describing the principal group of turf-walled houses at Houndtor and some general correspondence relating to the excavations. There were many photographs; some portraying the stone-walled houses both before and after excavation and others clearly showing the stake-holes and floor lines of the turf-walled houses.

In the absence of any draft report this text has had to be based on her field drawings and their interpretations, the published interim reports,[6] the summary of

excavations of Houses 1 to 5, Houndtor, and from information received from those who visited the sites or assisted during the excavations. In addition Mr J. G. Hurst has kindly made available to me some 150 letters received from Mrs Minter during the time of her research. These have provided much of the detailed information included in this report. My own direct knowledge of the settlements is limited to some 14 days work on Dartmoor during the preparation of this report. Although I only spent one afternoon at Houndtor with Mrs Minter, I had many long discussions with her about the structural remains and their interpretations. I have attempted to present the facts and conclusions which Mrs Minter had reached and recorded, but in some instances more recent research has led to the modification of the views originally held. Where this occurs I have discussed the original interpretation and have given my reasons for the alterations which appear in this report. This text, the figures with which it is illustrated, the reconstructions of the houses and the discussions of the parallels and ecology of the settlements are my own contributions to this research. (The excavations were recorded in Imperial measurements, and these are used in the text. Metric and Imperial scales are shown on the figures.)

DARTMOOR

Dartmoor is the largest of the great granite bosses which form the high moorland in the South-West of England and covers an area of some 300 square miles (Fig. 1). The upland area is everywhere over 700 ft and rises to 2,038 ft on High Willhays in the north and 1,691 ft on Ryders Hill towards the south. The geology of the area is complex.[7] Towards the end of the Carboniferous period or at the beginning of the Permian age granite was forcibly intruded into slightly metamorphysized and deformed sediments at a high level in the crust. The weathering of the granite by chemical and by physical means has resulted in a landscape of large expanses of open moorland dominated by rugged tors.[8] Beneath the topsoil, the upper part of the granite *in situ* has weathered to weakly coherent material some 1–3 ft in thickness and is known as growan — the Cornish name for gravel.

The soils have an important bearing on the interpretation of the archaeological remains and on the understanding of the ecology of the upland settlements of this area. Houndtor Village and its associated fields lie towards the eastern limit of the very acid peaty gleyed podzol soils of the Hexworthy series.[9] The mineral soil overlain by a thin horizon of amorphous peat, usually some 4 in. thick, consists of some 3 in. of black humus loam merging down into a drab layer of similar thickness terminated abruptly by an iron pan approximately $\frac{1}{8}$ of an inch thick. The pan itself, covered with a mat of dead and living roots, restricts the percolation of rainwater and precludes the penetration of roots. Although the subsoil is free-draining the topsoil is subject to waterlogging for much of the year owing to the impervious nature of the iron pan.

The soil of the open moorland lying to the north, west and east of Hutholes is doubtless similar to that at Houndtor, but the village itself and its surrounding fields lie on more sheltered ground, some 1,050 ft above sea level, on brown earth

of the Moretonhampstead series. Soils of this category are to be found on the eastern sides of the moor and in the valleys of the two Webburn rivers around Widecombe. The surface layer comprises a gritty loam varying from dark brown to almost black. It merges into a 3–9 in. layer of dark brown colour which is transitional to the ocurous horizon below. Although the soils are free-draining and greatly superior to those of the Hexworthy series they tend to be very acid.

Examination of pollen, preserved in peat, extracted from moorland swamps[10] has shown that when Mesolithic man began to exploit the upland areas, much of the landscape was covered by deciduous forest, dominated by oak. Relicts of this primeval woodland survive protected from fire and animals on the surrounding clitter slopes at Wistman's Wood, Black Tor Copse and Higher Piles Copse. Pollen analysis has also shown that after some sporadic clearance and regeneration of the forest there followed a period of continuous clearance during the Bronze Age. It is probable that the uplands were largely deforested by the Iron Age.

Although archaeological evidence has demonstrated the presence of Mesolithic man on the moors,[11] there is little to suggest that there was widespread settlement until the Bronze Age.[12] The drier eastern side of the moor, where the present annual rainfall is 45–65 in., seems to have always been more densely populated than the western side where the rainfall is 65–85 in.[13] The remains of prehistoric and medieval houses and fields may still be seen on the open moorland at altitudes of up to 1,500 ft. Although settlements of both these periods are frequently found in close proximity on Dartmoor, the possibility of continuous occupation on any site over the 1,000 ft contour is extremely unlikely owing to long-term climatic change and its effect on harvest yield and failure.[14] However, the sites of many of the prehistoric settlements with their associated well-watered grass and heather moors, frequently sheltered from the prevailing winds, would again have attracted settlers in later periods of climatic optimum. Further, the finding of abandoned fields already partly enclosed and cleared of stones must have provided an additional attraction.

The pattern of dispersed settlement prevails on much of Dartmoor as in other highland regions in South-West England.[15]

THE MEDIEVAL SETTLEMENTS

Houndtor Village (*Houndtor 1*) (Fig. 2; Pl. VI, A)[16]

The remains of the deserted medieval village of Houndtor are almost midway between Hound Tor and Greator Rocks in the south-west corner of the parish of Manaton.[17] The village lies on a gentle north-east facing slope about 1,150 ft above sea level, protected from the prevailing winds by Houndtor Down rising to some 150 ft above the settlement. To the north-east, the hillside first slopes gradually and then steeply down to approximately 850 ft in the Becka Valley. Close to the 1,000 ft contour a belt of trees separates the moorland from the cultivated fields. The few trees growing above this altitude include thorns, holly trees and a group of stunted oaks standing to the north of the settlement. The moorland is mainly of grass with a little heather, some brambles, gorse and patches

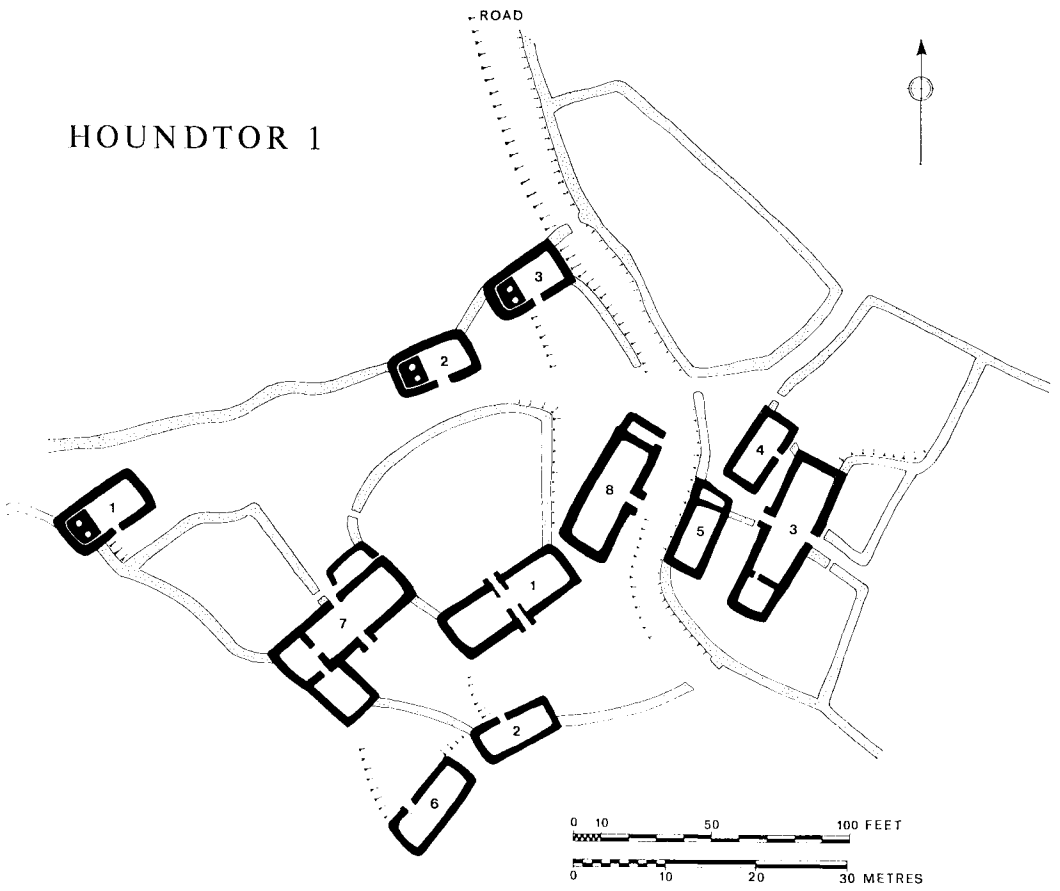


FIG. 2

Houndtor Village. Plan of 13th-century settlement with stone houses. Buildings 1–3 to the north are corn-drying barns

of bilberry. In the springtime the down is covered with bluebells. The bracken which once spread over the hillside to within a few feet of the Tor, obliterating all the archaeological features, has recently been killed by chemical spray so that the remains of the village can now be seen at all times of the year.

The area surrounding the village had been spasmodically cultivated from the Bronze Age until the time of the desertion of the medieval settlement in the 14th century. Early exploitation of this area is attested by hut circles and pounds at the foot of Greator Rocks, to the south of the settlement, and, to the north-west, the prehistoric remains on the eastern face of Hound Tor (Fig. 4). The medieval fields, lying mostly above the village, are of irregular shape and size and extend to above the 1,200 ft contour. Beyond the fields lies the open moorland on Houndtor Down (Fig. 33; Pl. VI, A).

Excavation of the village revealed a sequence of medieval occupation possibly dating back to the 7th or 8th century.[18] Most of the 13th-century buildings, comprising four long-houses, four smaller houses, one shed and three corn-drying barns, were superimposed on a long sequence of turf-walled houses indicating that, apart from some changes in house alignment, there had been little change in the layout of the village since the date of its foundation. The village lies within an enclosure of approximately $1\frac{1}{2}$ acres surrounded by a stone wall.

The somewhat haphazard layout of clustered houses and their little gardens all lying within a single enclosure differs considerably from the type of settlement found elsewhere in the highland zone in South-West England where the houses stand in substantial tofts alongside a village street like Trewortha, St Cleer, Cornwall,[19] or neatly laid out in small groups as those in Okehampton Park.[20] The plan of Houndtor village, like that of Hutholes, resembles more the layout of Chysauster,[21] *c.* 100 B.C. to A.D. 100, and suggests Celtic tradition.[22]

Access to the village was by way of a narrow sunken road leading through the valley from the north. Another track led from the corner of the manor garden to five small springs lying in an area of rough land some 75 yards to the east of the settlement.

Houndtor Farmstead (*Houndtor 2*) (Fig. 3)

Houndtor farmstead lies 340 yards to the north-west of the village on the eastern slopes of Hound Tor some 1,200 ft above sea level. The medieval homestead comprising a house and two barns was built within a subcircular prehistoric pound approximately 150 ft long and 100 ft wide. The remains of the 13th-century three-roomed long-house are to be found towards the eastern side of the enclosure; some 30 ft to the west, on the opposite side of a small enclosed yard, are the remains of a rectangular barn built around the remnants of a prehistoric hut-circle (Fig. 4). The foundations of a corn-drying barn, similar to those at Houndtor village, and a hut-circle re-used as a pen, lie close to the northern boundary. The medieval homestead was subdivided by narrow stone walls, some of which surrounded the yard; others enclosed small plots, probably used as gardens. The farmhouse and the adjacent barn were both excavated; the second hut-circle and the corn-drying barn were left to posterity.

Dinna Clerks

The isolated long-house excavated in the corner of the field known as Dinna Clerks is situated on West Shallowford Farm in the parish of Widecombe-in-the-Moor. The site lies about 900 ft above sea level where the modern cultivated fields give way to the open moorland. The homestead was built on a south-east facing slope close to the West Webburn River in a sheltered position between Corndon Tor and Rowden Down. Dinna Clerks lies among a group of small cultivated enclosures where the boundaries have been maintained.

The excavation revealed that the 13th-century long-house overlay the remains of only one turf-walled building, suggesting that the first homestead was built on

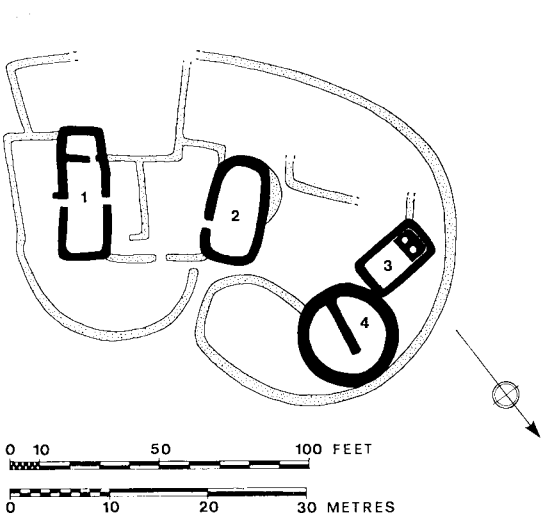


FIG. 3
Houndtor Farmstead. Plan of 13th-century farm built within a Bronze Age pound

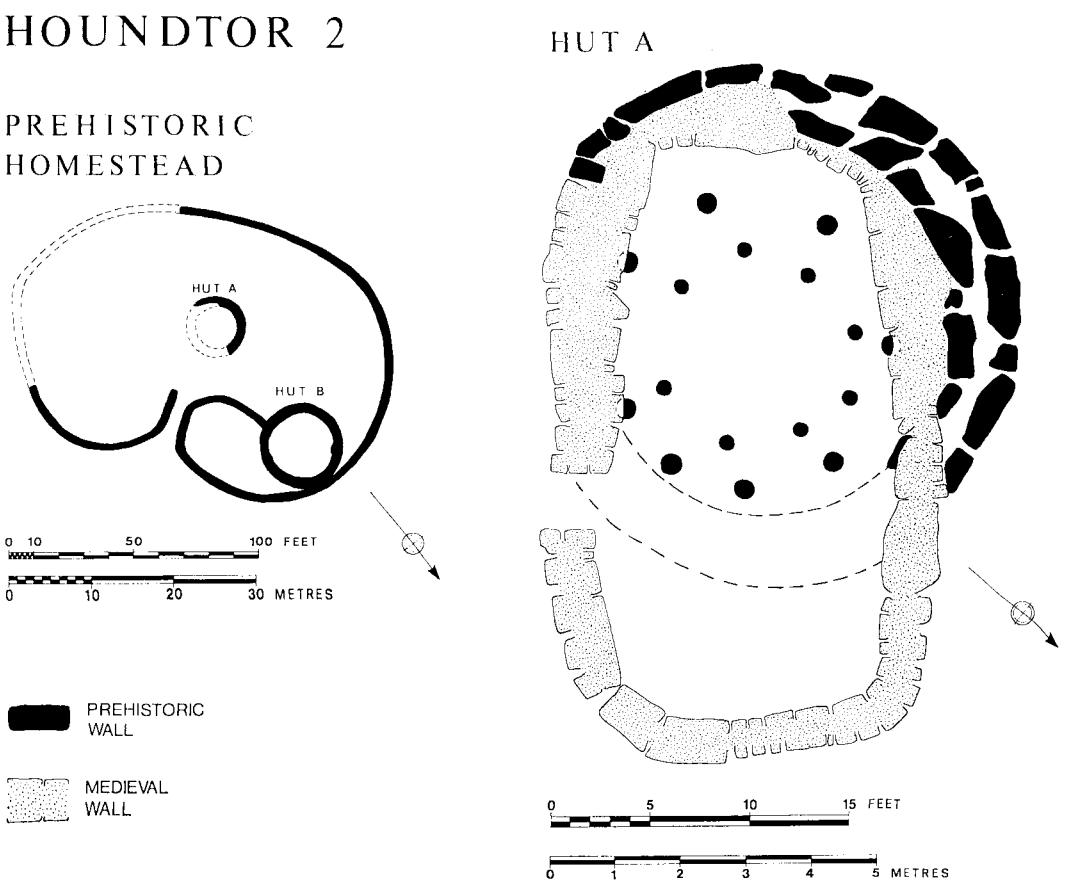


FIG. 4
Houndtor Farmstead. Plan showing details of Bronze Age pound and houses. Cf. Fig. 3

the site *c.* 1200. The long-house was destroyed by fire in the late 13th or early 14th century.

The site was saved from destruction by the chance arrival of Mrs C. D. Linehan on the day that the site was to be cleared with a bulldozer in advance of cultivation. The owner permitted the site to be excavated and retained as soon as the importance of the site was realized.

Hutholes Village (Fig. 5)

The identity of the hamlet lying in the small enclosure known as Hutholes on Dockwell Farm, Widecombe-in-the-Moor, is not known. The remains lie

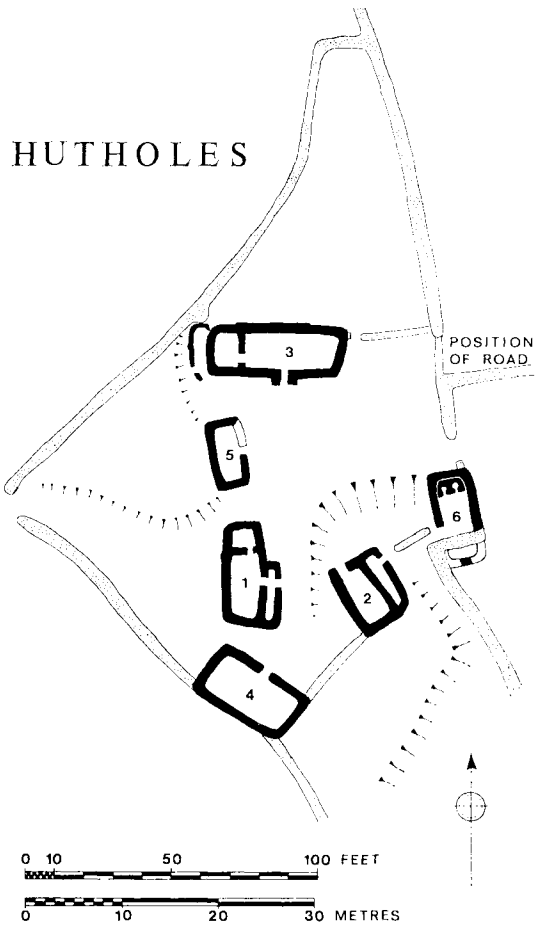


FIG. 5

Hutholes Village. Plan of 13th-century settlement showing the positions of houses and outbuildings

within the manor of Dewdon, one of six manors in the parish. The site lies on a south-facing slope sheltered between Rowden Down and Wind Tor at about 1,050 ft above sea level. The cultivated fields which surround the site give way to the open moorland as the ground rises over the 1,100 ft contour.

The remains of the 13th-century buildings lie within an acre of uncultivated land. The stone wall surrounding the settlement has been maintained to enclose the fields but much of its length follows the line of the original village boundary. The wall near the south-east corner of the enclosure was realigned over the remains of House 6 in recent times. Access to the settlement was gained by way of a sunken road leading down from the modern cross-roads some 150 yds to the east of the site.

The layout of the site and the structural sequence of the houses are similar to Houndtor's. The complete excavation of all the buildings and their surrounds revealed a long sequence of turf-walled houses underlying the surviving 13th-century foundations. The buildings of the last period comprised a manor house, a three-roomed long-house, a corn-drying barn and three other buildings. The site was probably deserted in the middle of the 14th century.

HISTORICAL BACKGROUND

By CATHERINE D. LINEHAN

Houndtor

The Domesday survey of 1086 is the earliest known reference to Houndtor. The manor was then held by Rainald from Abbot Sihtric as it had been on the death of Edward the Confessor in 1066. The Domesday entry from the Exeter manuscript records that:[23] 'The abbot has a manor called Hundetorra, which abbot Sihtric held T.R.E. and it rendered geld for half a hide. This can be ploughed by 4 ploughs. Rainald holds this of the abbot. Of it R(ainald) has 1 virgate and 1 plough in demesne, and the villeins 1 virgate and 1 plough. Here R(ainald) has 2 villeins, 4 bordars, 2 serfs, 7 oxen, 28 sheep, 18 goats, 2 acres of wood(land), 9 acres of meadow, and 1 league of pasture. Worth 20 shillings a year.'

Tavistock Abbey, a Benedictine House, some 25 miles west of Houndtor, received its charter in 981. Houndtor is not listed as one of the twenty holdings named in a prefix to the great register of Tavistock, possibly transcribed from the Charter of 981 and certainly taken from very early records.[24] In 997 the abbey was burned down by Danish raiders, but it was restored and brought to increased prosperity by Abbot Lyfing, *c.* 1009–1027 and Abbot Ealdred, *c.* 1027–1043. They were followed by Abbot Sihtric, *c.* 1043–1082.[25]

Great pressure had been put on the resources of the Church by the House of Godwin: both Godwin himself and his son Harold had enriched themselves by taking land from its ecclesiastical owners. After the Conquest further pressure was applied by the need for endowments to maintain knights for military service. Tavistock Abbey had to provide for 15 knights, a greater number than many larger and richer houses. The consequence was a need to increase the abbey

holdings. Sihtric, the last Saxon abbot, is known to have had funds available which he used to buy holdings from impoverished thanes: no date is recorded for the acquisition of Houndtor, but Sihtric purchased a virgate at Raddon, another small isolated holding to the east of Dartmoor.[26] It is possible that Houndtor was bought at about the same time.

Houndtor is not named as a military holding in Domesday Book, but subsequently appears as such. The Red Book of the Exchequer (1135) shows 16 fees held of the Abbey by 10 knights. Robert Daccus or Denneys held Houndtor for a half fee, having replaced Rainald who held the manor in 1086.[27]

A history of the Dennys family is given by a descendant, Rodney Dennis, in a series of articles.[28] In the 12th and 13th centuries the name is variously spelt as le Danes, le Daneys or le Deneys, latinized in medieval documents as Dacus. The family arms were 'azure three Danish battle axes or', bearing witness to their Danish origin. The earliest branch of the family settled at Pancrasweek in south-west Devon, with later families at Orleigh, Blagdon (Paignton), Manaton, Houndtor and elsewhere.[29] In October 1289 Houndtor and other properties are confirmed to Agatha le Denesche by her brother Robert le Deneys.[30]

Sir William Pole's *History of Devonshire*, published in 1791, gives a list of Houndtor holders, although he does not mention the le Dennys family from whom the de Houndtors held as middle lords. The book records:[31] 'Hugh de Houndtor, Kt. was in King Richards tyme seised of the whole tything of Hountor, and had issue: Richard, Henry, Turgis and Osbert. Sir Richard de Houndtor Kt. had issue John and Andrew. Thomas sonne of Hugh Langdon bought Houndtor of John de Houndtor and had issue Walter Langdon wch had issue Thomas woh granted unto Mabil his grandmother the manor of Hontor (sic) and she and the said Thomas sold the same and Little Manaton unto Thomas Gervais, a citizen of Exeter, and his sonne William sold the same unto Walter Dymock, a Lincolnshire man, employed in the Tynne works of Devon. From Dymock it decended unto Chichester and Britcheston. It is now also Thomas Southcots.'

Houndtor's later history was connected with that of the manors of Manaton and Little Manaton — all adjoining and in the Manaton parish, as Pole's accounts show.[32] Manaton was held by Dennys of Blagdon and passed by Sir Henry Daccus or Dennys to Sir Gervais de Horton in frank marriage with his sister Constance. After several generations of Horton it went through a daughter to Thorn and was later conveyed to Walter Dymock, Britricheston and Southcot. Little Manaton[33] was granted by Philip de Rixford to Hugh de Langdon and confirmed to his son Hugh in 1282. It passed to Gervais and Walter Dymock and thence as the other two manors.

Apart from the Tavistock Abbey records, much of Pole's account can be confirmed from other sources: a Richard de Hundetorra is a signatory of a deed from the Cartulary of Buckfast Abbey at the time of King John (1199–1216);[34] the Book of Fees shows Richard de Hundetorre as holding half a fee in Hundetorre in 1242/3;[35] Testa de Nevill at about the same date gives Richard de Hundetorre holding Hundetorre through a middle lord for a half fee (this must be the Dennys, who held from Tavistock Abbey);[36] in Feudal Aids it is recorded that

Benedictus le Bon and his wife Mabilla held Houndtor for half a fee from Robert le Dennys who held from the Abbey in 1284;[37] from the same source in 1303 it is Mabilla de Langdon who holds the half fee. This indicates that she was twice married.[38]

After the desertion of Houndtor village in the 14th century, the history of the land can be traced in a number of documents when Houndtor and Little Manaton were in the joint ownership of the Chichester and Southcot families as in the will of John Chechester in 1530;[39] Enrolled Deeds Southcot and Wynell 1542[40] and a deed dated 1552 relate to the uses of a fine.[41]

The land today is in the joint ownership of the occupants of Great Houndtor, Leighon and Hedge Barton.

Hutholes

Hutholes is the local name for the fields associated with ruins lying in the triangular enclosure adjoining Dockwell Farm in Dewdon Manor, close to what is now open common land.

The earliest reference to Dockwell is in 1545 when mention is made of 'Dockewyll in the lordship or manor of Dewdon'.[42] The proportions and size of House 3 in the late 12th and early 13th centuries and the long sequence of turf-walled houses which lay beneath suggest that this was the site of the early Dewdon Manor. The history of this manor shows it to have been occupied in 1066 and to have been held under Cockington Manor, Torquay, in 1087.[43] It was then called Depdona, a name which changed to Dewdon and finally to Jordan, its present name.

The present Jordan Manor lies a mile down the valley from Hutholes where there was a water mill on the West Webburn river as early as 1288.[44] As at Houndtor, the original holding may have been founded on the higher land already cleared and cultivated by the Bronze Age settlers whose hut-circles, cairns and artifacts have been found on the surrounding hills. The later clearance of the woods in the valley below facilitated the movement of the manor to a more sheltered position. The present Jordan Manor house dates from the 17th century.

Dinna Clerks

No documentary evidence has been found relating to the long-house lying in the enclosure known as Dinna Clerks. The site lies in Spitchwick, a large manor adjoining Dewdon in the parish of Widecombe-in-the-Moor. Spitchwick was held by Earl Harold T.R.E. and by the King in 1086.[45]

EXCAVATION

The excavations at the three medieval settlements revealed two principal periods. In the first the houses were built of turf. The buildings, similar to peasant houses of clay and stud elsewhere,[46] were probably replaced or extensively repaired

by each succeeding generation. In the second period, commencing in the middle of the 13th century, the turf houses were gradually replaced by substantial stone built long-houses which stood until the sites were deserted in the middle of the 14th century.

Prehistoric Settlement

HOUNDTOR 2 (Fig. 4)

The late Bronze Age pound at Houndtor Farmstead is part of a prehistoric settlement comprising huts and fields which lie beneath the shelter of Hound Tor and Greator Rocks. The site is comparable with the pattern of prehistoric settlement on Dartmoor originating in the late Bronze Age, continuing on the lower ground through the Iron Age into the Roman period.[47]

The subcircular pound, approximately 145 ft long and 100 ft wide, was levelled into the hillside and enclosed two huts (Fig. 4). It was entered by way of a narrow inturned entrance on the southern side of the site. The boundary wall, 4 to 5 ft thick, was built of massive granite slabs collected from the open moorland, as at Kestor.[48] The stones, up to 5 ft wide and 2 ft thick, were set end-to-end along both the inner and outer faces of the wall; the intervening space was filled with rubble.

The two huts had been damaged by medieval occupation of the site. The remains of Hut A were found incorporated in the walls of the 13th-century barn. The south-eastern part of the building was missing and all the floor levels were destroyed, but sufficient remained to show that its diameter was 19 ft and the construction was similar to that of the pound. The removal of the medieval barn floor revealed two concentric circles of post-holes. Their position in relationship to the stone hut circle suggests that they were the remnants of an earlier hut of timber. Similar evidence of prehistoric stone buildings superimposed on those of timber has recently been excavated on Holne Moor,[49] some $7\frac{1}{2}$ miles south-south-west of Houndtor. Hut B, 25 ft in diameter, was not excavated.

Post-Roman Settlement

SHIELINGS (Figs. 6, 7)

Description

Sparse remains of three small sunken huts, built along the contour of the hill-side, were found below the floor of House 1, Houndtor Village (Houndtor 1). Although the huts had been considerably damaged by the north wall of the stone long-house the remains of Hut 1 were well preserved. It was 12 ft long, 6 ft wide at the north-western end and 7 ft 6 in. at the other.[50] The floor was cut into the growan and varied in depth from approximately 9 in. in the south-west corner to only 2 in. in the north-east. Since some of the original ground surface may have been scoured away with the removal of mud and domestic debris between the time of the hut's desertion and that of the construction of the long-house it is

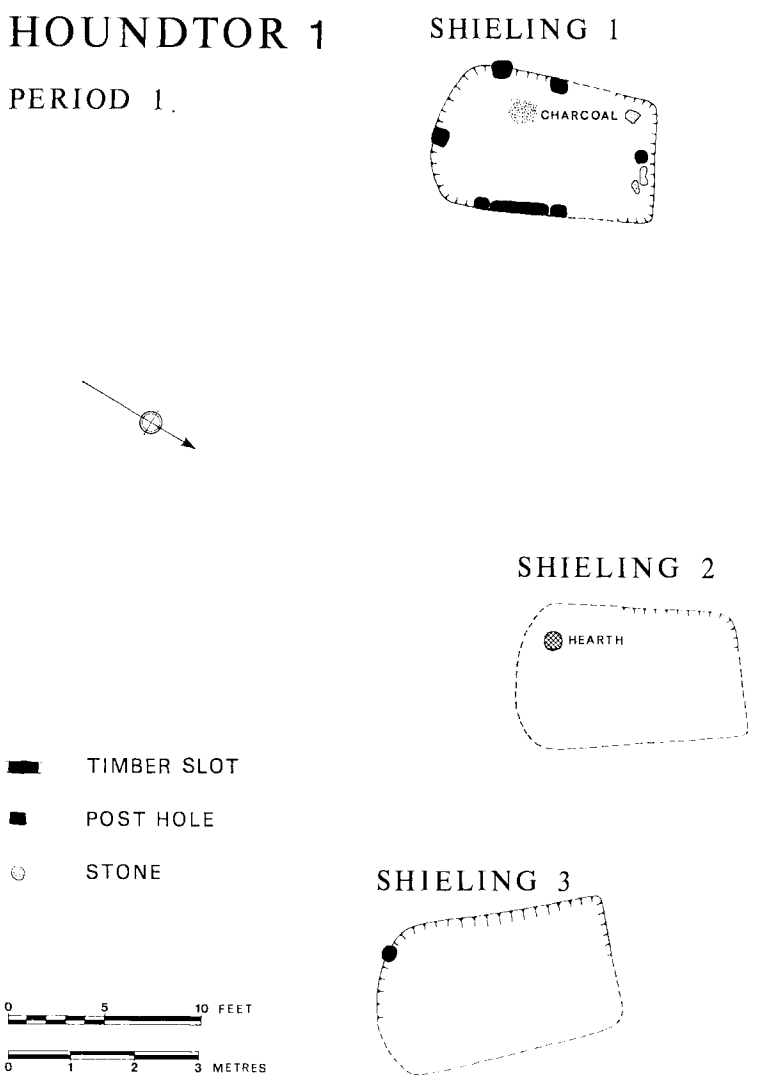


FIG. 6
Houndtor Village. Plan of Shielings. Cf. Fig. 7

possible that the hut floor was once deeper. The positions of the doors, set in the lateral walls, were clearly defined by the post-holes of the jambs.

The three huts were sealed beneath the walls and floor of the 13th-century long-house, but there was no evidence to show the stratigraphical relationship with the turf-walled houses which lay to the south-east. Three sherds of hard coarse pottery were found above the hearth in the shallow fill of the sunken floor, close to the area disturbed by the 13th-century wall and drain, but there was nothing to suggest that they were associated with the early building.[51]

Interpretation

Sunken floored buildings have a long tradition in Britain and on the Continent from the Early Saxon period until the 13th century.[52] The opposing doorways and the centrally placed hearth in Hut 1 suggest that those at Houndtor were built for domestic occupation and not as subsidiary buildings associated with the turf-walled houses. The absence of severe burning of the hearths shows that their occupation was of short duration. However, since the remains are so similar to those of the shielings[53] in Scotland and to the *hafondau*[54] in Wales, it is probable that these three huts were built to be occupied by herdsmen who grazed their stock on the open moorland pastures during the summer months before the establishment of permanent settlement. Similar examples of the establishment of farmsteads and small hamlets founded on the sites of summer pastures are to be found in Wales.[55]

The practise of transhumance in upland areas is ancient. On Dartmoor, much of the stock was taken down from the open moor in the autumn and returned in the spring to the areas of good pasturage, both within the forest and on the commons, known as predas or lairs.[56] The assignment role attached to the account of John Dabernan for 1346–47[57] lists the cattle pastured and records the location of pastures. In some of the predas there survive the remains of small enclosures and the ruins of the herdsmen's huts.[58] These are probably the type of enclosures which the Foresters were instructed to build by an order of the Black Prince in 1354:[59] '. . . the Foresters in calving-time should make lodges in their Bailiwicks, and live continually in the moor as long as the calves are tender. . . .' The exploitation of moorland rights was controlled by the laws of levancy and couchancy.[60] Although the available documentary evidence is associated with a period long after that of the occupation of the shielings at Houndtor Village it does elucidate the tradition of transhumance on Dartmoor.

Villagers of Lewis journeyed to the moors with their cattle until very recent years.[61] Their shielings were of turf or stone and turf and were either built singly or in small groups. They were circular or oval in plan and were some 6–8 ft wide and approximately 6 ft high. At Houndtor Village the fill of the sunken floor area contained decomposed turf, indicating that the walls were built of that material. The walls were probably not more than 3 ft high and some 3 ft thick. The post-holes at the end of Hut 1 show that the roofs of some huts had a ridge piece. The lower ends of the rafters were probably secured to the walls by heavy stones as in the turf houses. (For discussion of the construction of turf houses, see next section.)

PERIOD 1: TURF HOUSES (Figs. 7–13; Pl. VI, B)

Discussion

The excavations at Houndtor and Hutholes have revealed a long sequence of houses built of turf.[62] Although the remains of these buildings were sparse and few complete plans survived, sufficient remained to provide much information about their construction and development. Houses built of turf — grass and earth[63] — have a long tradition in Britain and on the Continent, but comparatively few

have been revealed by archaeological excavation. This may be attributed to several causes: their distribution is mainly confined to areas where timber or clay are scarce; the abandoned houses disintegrate leaving no trace above ground;[64] and the archaeological remains may be few and, in some soils, extremely difficult to define.

Among the early examples of buildings constructed with turf or turf and stone are those which were excavated at the Neolithic site at Knochadoon, Lough Gur, Ireland,[65] and the Iron Age promontory fort at Port Grenaught, Santon, Isle of Man.[66] In the middle ages houses of turf and stone were built at the early Christian and Norse settlements at Birsay, Orkney[67] and at Jarlshof, Shetland.[68] Documentary evidence provides information on turf houses in East Anglia[69] and literary sources of turf and wattles in Scotland.[70] However, there is little archaeological evidence of turf walls in England except in the South-West where examples have been excavated at Lanyon,[71] Tresmorn[72] and Treworld[73] in Cornwall and those, the subject of this report, on Dartmoor. Many turf houses were built by the early settlers on the North American Continent[74] and the tradition persisted in the Western Isles[75] and in Ireland[76] until very recent times.

The peasant houses of the Saxon and Norman periods were usually of timber or timber and clay even in areas where stone was readily available,[77] but recent excavations have revealed a few exceptions principally in South-West England; At Gwithian[78] in West Cornwall there was a long sequence of stone houses dating from the Iron Age until the 17th century and at Tresmorn[79] and Treworld,[80] exposed sites on the coastal uplands of North Cornwall, the houses were of turf like Houndtor and Hutholes.

The abundant supply of stone, lying exposed on the clitter slopes and elsewhere on the uplands of Dartmoor, was utilized in the construction of houses and boundaries from the late Bronze Age until about 500 B.C. when the deterioration of the climate led to the gradual abandonment of the higher marginal settlements. Those returning to the uplands in the beginning of the second climatic optimum were doubtless unfamiliar with the use of stone and would seek alternative building materials.

However, the choice must always have been somewhat limited on the uplands of Dartmoor, an area where trees were scarce and clay deposits few. Consequently the use of turf would have been an obvious choice for a community unable or unwilling to use the available supply of stone. Turf houses could be built with less labour than other materials[81] and were reasonably durable: some in America[82] and Ireland[83] are known to have lasted for more than forty years. Although turf, like cob, tends to disintegrate when subjected to prolonged saturation, the free draining growan[84] would have provided a reasonably dry footing for the walls and it would therefore be reasonable to postulate that these houses would have lasted at least twenty-five to thirty years on Dartmoor, if maintained.

Today, in the West of England, the tradition only survives in the construction of the thick stone or turf-faced earthen banks which bound the fields, but much information on the building of the turf house has been recorded in Ireland where

houses were built in this material until recent years.[85] Turf with a strong mat of grass and roots was, where possible, carefully selected. After the heather and long grass had been trimmed the sods were cut and lifted. They were usually 3 ft long and 2 ft wide; the depth varied between 2 and 6 in. depending upon the depth of the roots. The walls would be affected by both damp and frost, so had to be wide in proportion to their height; those at Houndtor and Hutholes were some 4 to 5 ft thick. In some areas scraps of wood or bushes were placed between the layers of turf to strengthen the walls, especially at the corners. Sometimes the sods were pinned together with stakes.

It was necessary to stablize the surface of the walls inside the house to prevent the turves from crumbling away when dry. In many areas stone was used for this purpose, but excavations in Devon and Cornwall have shown that most of the turf-walled houses of this region had wattles, doubtless like those seen and recorded by James Boswell and Dr Johnson in the Hebrides in the 18th century.[86] Gradual crumbling of the walls outside the house was of less importance, so they were frequently left unprotected. In some medieval houses the walls may have been slightly battered as in the Lewis black-houses[87] where the stone-faced turf walls are 5 ft to 6 ft at the base and about 3 ft 6 in. at the top. The field boundary banks, today, are battered to encourage growth of grass and to facilitate their maintenance. However, many houses built in more recent times, especially those in Ireland, had relatively straight sides trimmed with a spade or hay-knife.[88] There are examples of houses like those at Jarlshof, Shetland[89] or Forntida Gardar Island, Iceland[90] where the walls were faced on both sides with stone. This tradition has persisted until recent times in the construction of the black-houses of the Hebrides.[91]

The excavation of the turf buildings on Dartmoor revealed no evidence, such as post-holes at the gable ends, to indicate whether the roofs were gabled or hipped. Contemporary illustrations of Viking and Norman houses[92] show that both have a long tradition in the British Isles and on the Continent, but the choice, in some circumstances, must depend upon the availability of suitable building materials and structural technology — especially in timber buildings — to infill the gable of a wide building. However in districts where the materials would permit the construction of one type or the other, the choice seems to depend, to a great extent, upon regional traditions.[93] The wide overall span of some of the turf-walled houses at Houndtor and Hutholes and the scarcity of good timber on the more exposed sites on Dartmoor suggests that the roofs would have been more similar to those of the black-houses of the Hebrides[94] than the turf cabins at Magilligan, Co. Derry[95] (cf. Fig. 13, A). The hipped roofs of the black-houses have no overhanging eaves: the coupled rafters rest on the inner sides of the walls allowing water to percolate through their thick mass. The rafters were probably seated on flat stones set in the wall, as in some Irish houses.[96]

In the absence of any evidence to indicate the use of a ridge piece[97] in the construction of the roofs of the turf houses at Houndtor and Hutholes it would be reasonable to assume that they would have had trussed rafters made from roughly prepared timbers of uneven quality and shape. The cladding was possibly supported

on wattles like that which survives in the medieval roof of the long-house at Higher Tor, Widecombe.[98] Excavations of House 4, Houndtor, and of the house at Dinna Clerks showed that the roofs of the stone houses had a layer of turf beneath the thatch. The roofs of the turf houses were possibly similar. (For a discussion on thatching see pp. 128–29.)

Discussion of excavated remains

Each house in the long sequence of turf-walled buildings stood on the surface of the growan after the removal of the topsoil or the remnants of the pre-existing building. The remains were few, but the positions of the houses were clearly marked by lines of stake-holes left by the wattles, the hearths and the wear of the floors. Most of the turf from the walls had been removed by the construction and occupation of the later houses, but sparse remains were found at Houndtor Village in the area between Houses 1 and 2 and sealed beneath the floor of House 1.[99] The positions of the stake-holes, filled with dark brown or black soil, were clearly visible in the light buff-coloured growan, especially when the ground was damp. Their fill could always be removed, without difficulty, with a spoon. The holes were sharply defined and the hard texture of the growan precluded the possibility of their size being exaggerated by excavation.[100] So many houses had been superimposed on differing alignments that the remains were somewhat confused, but the plans clearly demonstrate the variation in the shape and size of the buildings as well as the size of the stake-holes.

Most of the stake-holes had been driven vertically into the ground except those found in a building below the floor of the 13th-century House 2, Houndtor Village, and where stones had deflected the point of the stake. The bottoms of most were pointed and many showed the impression of the sharpened stake. They were mostly between 2–6 in. deep and 2–3 in. wide, but they tended to be slightly smaller at Houndtor where the growan was harder. However there were some stake-holes over 8 in. deep beneath House 6 at Hutholes and over 4 in. wide beneath House 3 at the same site. The deeper holes were probably made with a tool as it would be difficult to drive a stake deeply into the growan.

The stake-holes are grouped together marking the position of house sites — their limits are clearly shown in Fig. 7 and in some of the unpublished plans. The stake-holes cannot be interpreted as the work of moles, which never burrow through an iron-pan[101] or deeply into the subsoil, as their food comprises earth-worms, grubs and insects, all of which live in humusy soil. Further, moles do not dig blind vertical shafts evenly spaced in straight lines! Only at Hutholes, where the growan is softer, had some larger stake-holes been damaged by moles. Mrs Minter also found evidence of mole activity in a modern garden plot lying immediately to the north of House 3, at the same site. However, where mole interference occurs the interpretation is usually clear.[102] Nor could the stake-holes be interpreted as geological involutions, which are rare on Dartmoor.[103]

Many visitors to the excavations, whilst acknowledging the existence of the stake-holes, tentatively suggested that they were associated with the 13th-century

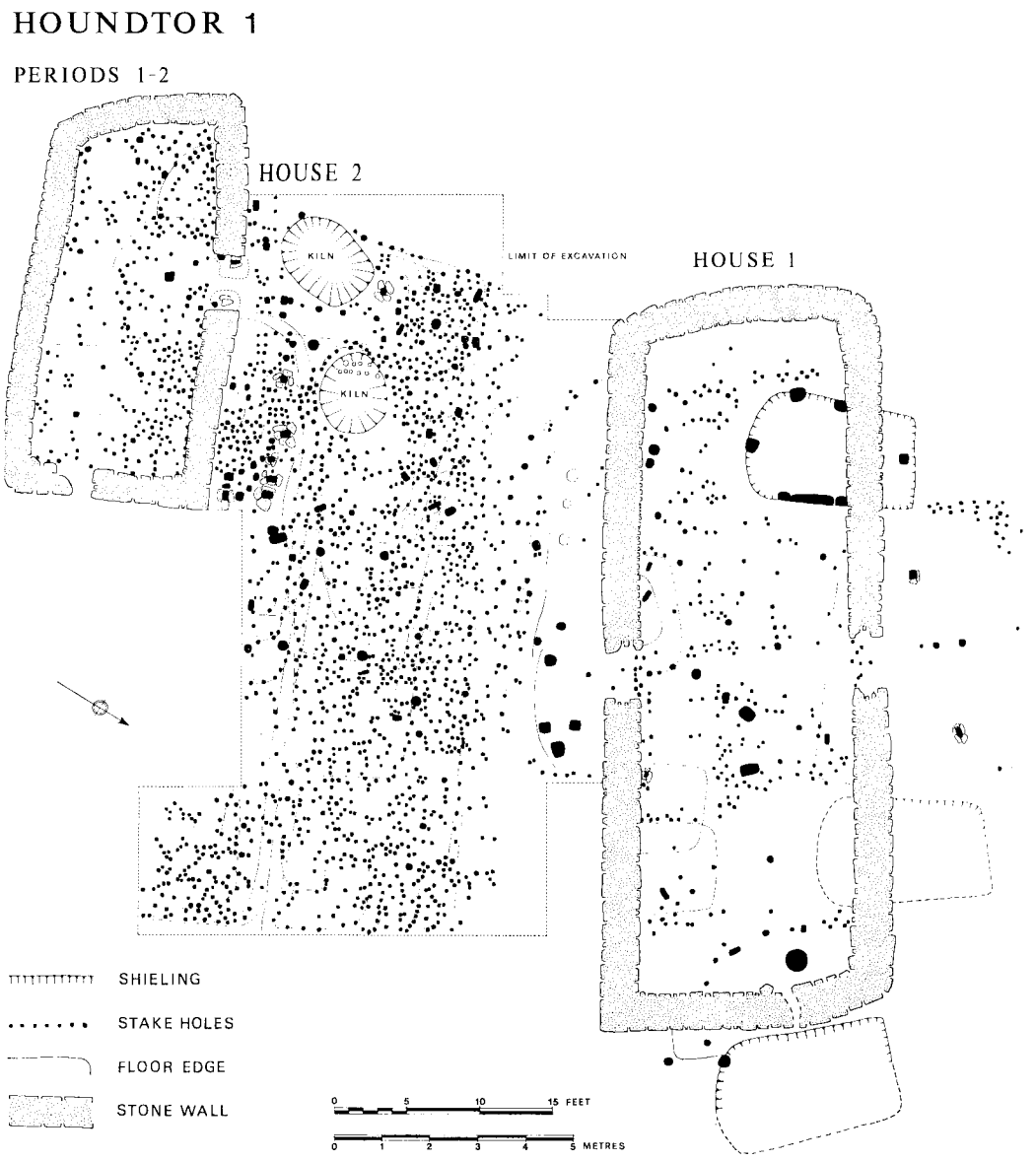


FIG. 7

Houndtor Village, Periods 1–2. 13th-century stone buildings, Houses 1 and 2 with underlying shielings and turf-walled buildings

long-houses, but examination of the plans of the stake-holes at the Manor Site, Hutholes (Fig. 11) and of those lying between Houses 1 and 2, Houndtor Village (Figs. 7–9) show that some were certainly earlier as some lines ran beneath the stone walls. Further, some of the long-houses were almost completely superimposed on the sites of the last of the turf buildings as Houses 1 and 2, Houndtor Village, and Dinna Clerks (Figs. 9 and 12) and in Cornwall at Treworld[104] and Lanyon.[105] Some stake-holes within the long-house byres were the footings of cow-ties and others of mangers.[106] Most of the 13th-century long-houses had more stake-holes beneath the byres than the living-rooms, but this does not prove that all the stake-holes in the byres were of 13th–14th-century origin (cf. Fig. 10).[107] There is nothing to suggest that any of the turf houses had byres.

The proof of the existence and the interpretation of the remains of the turf-walled houses rests not upon the details of individual features but upon the cumulative evidence at these excavations and the recording of similar standing buildings in areas where such building traditions have survived.

Excavation details: Houndtor Village; Area between House 1 and House 2 (Figs. 7–9)

The excavation of the area between Houses 1 and 2 at Houndtor Village revealed the remains of a long sequence of superimposed houses built of turf. Their positions were clearly defined by remnants of turf walls, lines of stake-holes, the wear of the floors and the remains of nineteen hearths.[108] It was not possible to elucidate all the stake-holes found in this area, but three phases of turf buildings could be recognized (Figs. 8 and 9). These houses were identified by the lines of stake-holes connected with the hard edges of the floors. Although the remains of many other houses could be recognized, only those which could be identified in this way are shown on the individual plans. The houses of the last phase are clearly defined by the walls of the stone long-houses by which they were replaced.[109] Remains of a turf wall some 2–3 ft high, built with a rough facing of stone, were found between Houses 1 and 2 (Fig. 9). The construction suggests that there was probably a short intermediate phase in the middle of the 13th century when the turf walls were faced with stone, as at Hutholes (Fig. 11).

Trial trenching revealed that the remains of this group of turf-walled houses, lying between Houses 1 and 2, were almost completely confined within the area of excavation. Evidence of other similar buildings was found beneath the remains of nearly all the 13th- and 14th-century long-houses and barns, but their plans were difficult to interpret and have not been illustrated in this report: they may be inspected in the library of the National Monument Record, London, by arrangement with the Medieval Village Research Group.

The sites were aceramic until the 12th century, and because of the acidity of the soil and the lack of stratification, few artifacts were found with these remains.

Phase 1 (Fig. 8): The remains of over eight superimposed houses can be identified in the first structural phase. These houses were built on a NE.–SW. alignment, along the contour of the hill. The upper ends of the houses were rounded and the longitudinal sides contracted towards the lower end. The houses were up to 24 ft long and 10 ft

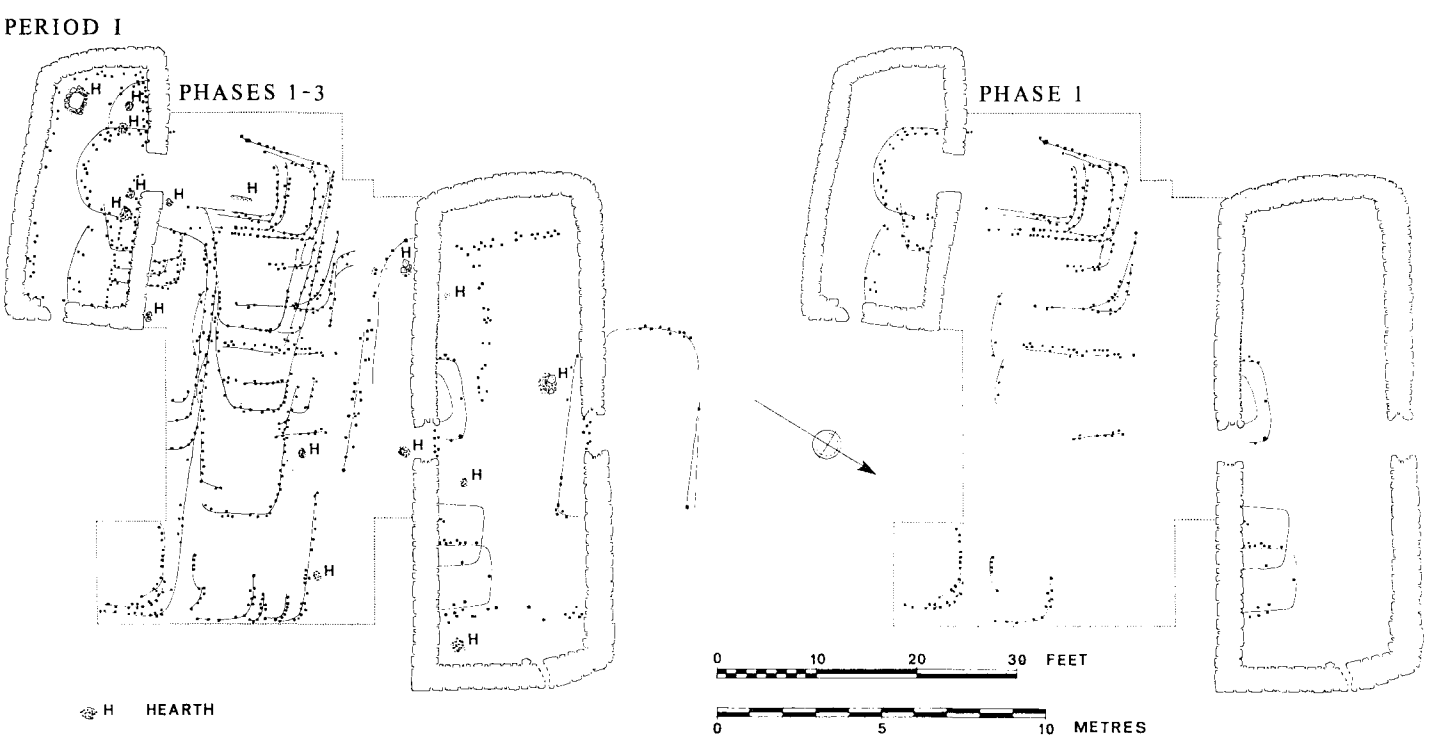


FIG. 8

Houndtor Village. Left: Interpretation of turf-walled houses. Period 1, Phases 1–3. The stake-holes shown in this plan are only those which are associated with hard edges of floors. Cf. Fig. 7. Right: Plan of turf houses, Period 1, Phase 2. Cf. Fig. 7

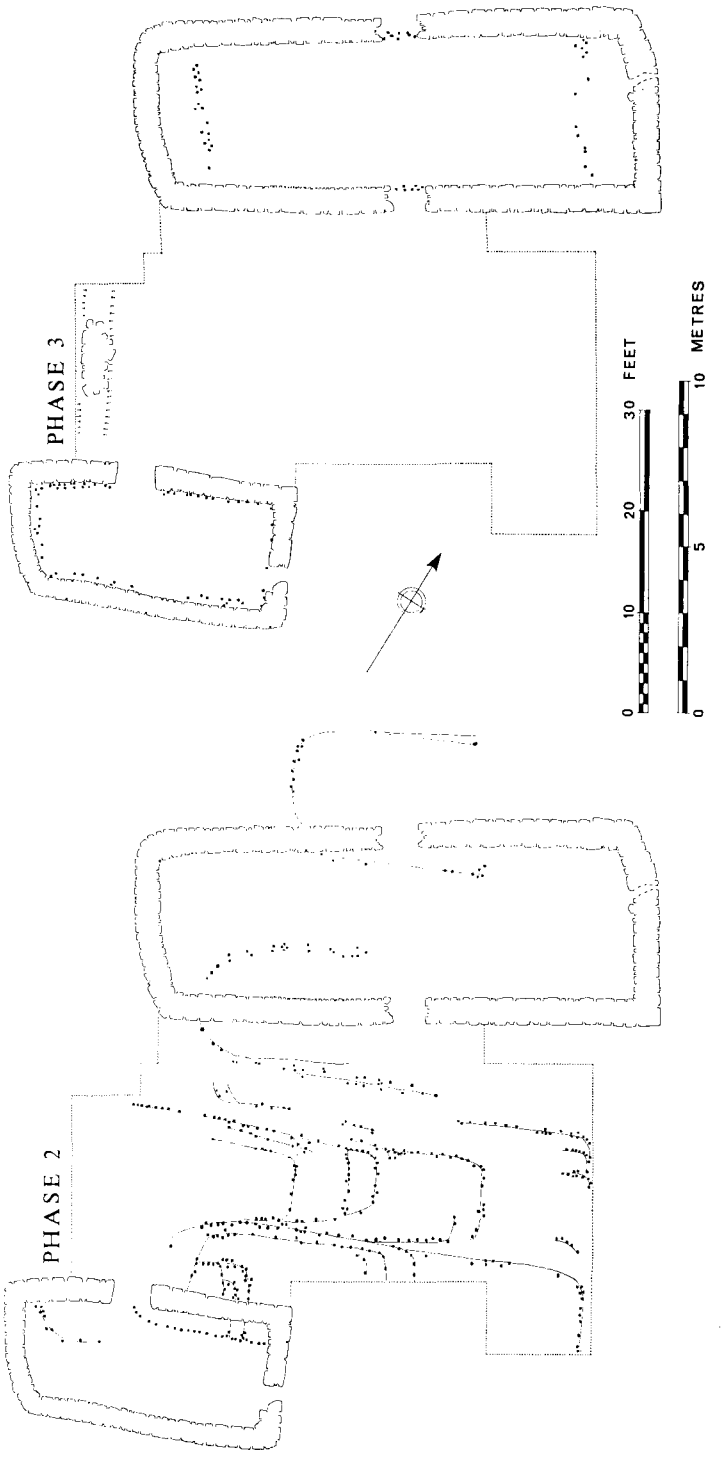


FIG. 9
Houndtor Village. Left: Plan of turf houses, Period 1, Phase 2. Right: Plan of turf houses, Period 1, Phase 3. Cf. Figs. 7, 8

wide. These buildings are attributed to the first structural phase because their plans and alignments are closely comparable. The similarity suggests that the time between the desertion of the shielings and the construction of the first turf house was short.

Phase 2 (Fig. 8): Sparse remains of over twelve houses of the second structural phase were identified. Although their remains were similar to those of the earlier phase they were less easy to elucidate. The houses, between 8 ft and 10 ft wide and over 20 ft long, were built on a NE.–SW. axis and lay at right angles to the remains of the earlier buildings over which they were superimposed. Building on this alignment was to persist until the village was deserted. There is no apparent reason why the alignments of the houses at Houndtor should have been altered at this early date. At some later sites the positions of the houses changed to facilitate the drainage of the byres, but the absence of any suitable drains or heavily worn floors precludes the possibility of byres until the 13th century. Recent excavations of several manor sites[110] and peasant houses[111] have revealed long sequences of superimposed buildings constructed on differing axes, but this research has offered no information to elucidate the change of alignments.

Phase 3 (Fig. 9): In the beginning of the last phase in this part of the settlement the area was divided to accommodate a house and subsidiary dwelling. The well-preserved remains of these buildings were found sealed below the floor levels of Houses 1 and 2.

Turf building beneath House 1 (Fig. 9): The removal of the 13th- and 14th-century floor levels of the stone-built long-houses revealed the remains of two superimposed turf-walled houses approximately 36 ft long and 15 ft wide and the associated hearths. Their excavation clearly demonstrates how some of the long-houses were superimposed on the site of the last of the turf buildings.

Turf building beneath House 2 (Fig. 9): The removal of the floor levels of the small 13th-century stone-built House 2 revealed the remains of an earlier tent-shaped structure of wattles and turf. The mean size of the building and the form of its construction reflects the inferior social status of its occupant. The house was 23 ft long and 10 ft wide and had been levelled into the hillside. Access was gained by way of a single doorway in the north-west wall. It was heated from a granite hearth placed near the south-west corner.

The position of the building was defined by lines of stake-holes which could be readily seen lying beside the stone walls of the later house built on the same alignment. Most of the stakes had been driven into the growan at an angle to permit their meeting at the ridge of the roof. Houses of this type have a long tradition in Britain[112] and on the Continent from the Saxon period until the present time. Early examples have been excavated at Warendorf, Germany, *c.*650–800,[113] and modern standing examples have been recorded at High Furness in Yorkshire[114] and at Bouleguy, Brittany.[115]

The angles of the stake-holes show that the roof reached the ground on all four sides of the house. The strength of the building must have been dependent upon at least three and probably four inverted 'V' shaped trusses made of poles, either crudely joined with collars or more simply bound at their apexes with straw rope. A ridge-piece, housed between the intersection of the poles, would have provided both longitudinal stability and support for the top of the wattles. The building was probably clad with turves as at High Furness[116] and possibly finished with a thin layer of thatch. Although the construction of the building was slight it was reasonably durable. The similar buildings at Bouleguy, Brittany,[117] were all about thirty years old when recorded and were then expected to last if properly maintained at least another decade or more.

Other turf buildings at Houndtor Village

Turf building beneath House 7 (Fig. 10): The excavation of this house site revealed a sequence of turf-walled houses defined by clear floor lines or stake-holes. Many stake-holes were associated with the byre of the 13th-century long-house.

Turf building beneath House 8: No remains of turf buildings were found in this area.

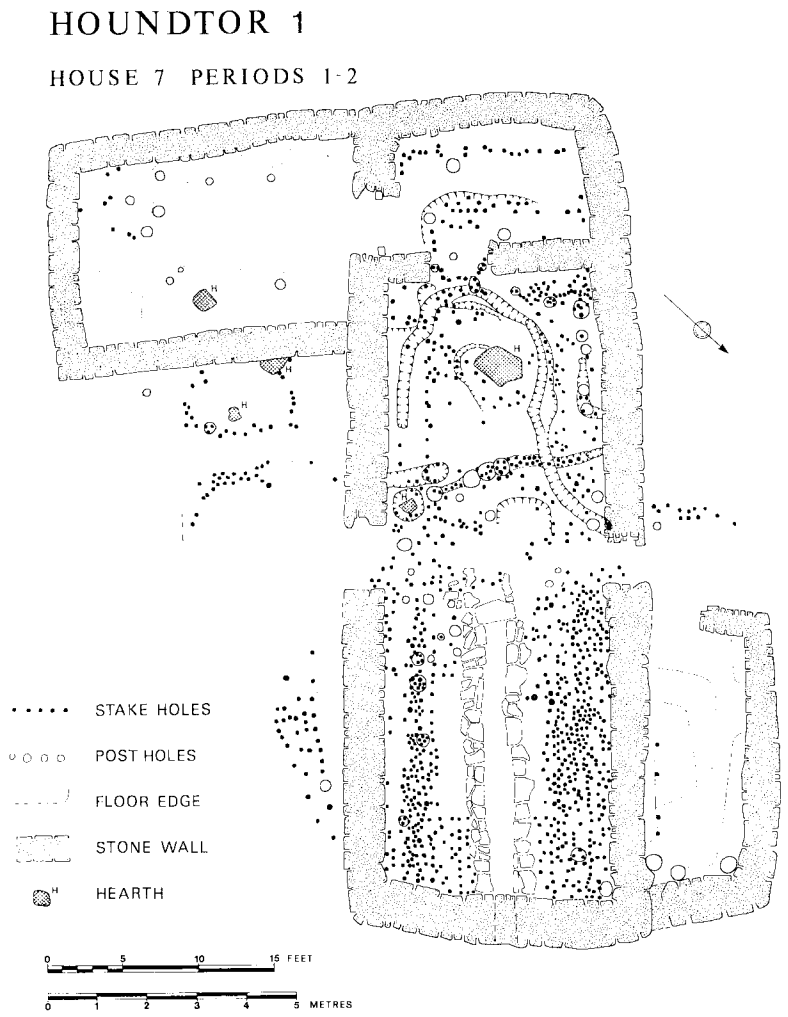


FIG. 10

Houndtor Village. House 7, Periods 1–2. Plan of 13th-century stone long-houses with underlying turf-walled buildings. Many of the stake-holes in the byre of the long-house are those of mangers and cow-ties

Turf buildings beneath Manor Site, House 3: A confused pattern of stake-holes and some lines of post-holes show that there had been a long sequence of superimposed turf-walled buildings constructed on two alignments. As on the House 7 site, there were many stake-holes associated with the 13th-century long-house byre. A long line of post-holes found close to the garden wall NW. of House 4 suggests that the manorial enclosure was originally bounded by a timber fence (not illustrated).

Turf buildings beneath Houses 4, 5 and 6: Similar stake-holes were found on these sites indicating a long sequence of occupation (not illustrated).

Turf buildings beneath Barns 1, 2 and 3: Some floor lines and a confused pattern of stake-holes were found beneath the floors of Barns 1 and 2, but there was no evidence of any earlier structures beneath Barn 3 (not illustrated).

Houndtor Farmstead

Turf buildings beneath Farm-house: A confused pattern of stake-holes in the living-room and inner room indicates that there was a sequence of several superimposed turf-walled houses. Many stake-holes were found associated with the 13th-century byre (not illustrated).

Turf buildings beneath Barn: The floor of the barn was covered with stake-holes, but as the excavation was limited to within the building, the small area exposed revealed no information to interpret these remains (not illustrated).

Hutholes

The excavation at Hutholes revealed the remains of a long sequence of turf buildings, as at Houndtor. Lines of stake-holes were found beneath all the 13th-century houses with the exception of Houses 2 and 4, but only the plans of those excavated at the postulated manor site, House 3, are illustrated in this report. However, many of the unpublished plans show that although many of the houses changed their alignments on rebuilding, their sites remained constant.

Hutholes Manor site (Fig. 11; Pl. VI, B)

The remains of many superimposed turf-walled houses built in three phases were found at the manor site.

Phase 1 (Fig. 11, left): The houses of the earlier phase stood on a N.–S. alignment. Although no complete plan survived, well-preserved ends of some were clearly visible lying to the south of the stone walls of the 13th-century long-house. Their internal width varied from 8 ft to 13 ft, but owing to the disturbance caused by the later occupation of the site their lengths were indeterminate.

Phase 2 (Fig. 11, left): The houses of the second structural phase were superimposed on an E.–W. alignment over the remains of the earlier buildings. The position of the last house built in this phase was clearly defined by the post-holes of the wattling which not only marked the position of the door, but also the width of the walls. The post-holes were about 12 in. wide and set some 15 in. apart and those which marked the door showed that the walls were approximately 4 ft thick. The thickness of the wall suggested that the weight of the roof was carried on the turf and not on the posts as in some wattle-walled and turf buildings in Scotland and Ireland.[118] The size of the house, approximately 40 ft long and 22 ft wide, suggests that it was the site of the manor.

Phase 3 (Fig. 11, right): The remains of the house of the 3rd structural phase were well-preserved although much of the northern side of the building had been destroyed by the construction of the 13th-century long-house. It was 43 ft long and 21 ft wide. The excavation has shown that when the house was built the turf walls were lined with wattles inside; then at some later date the surface of the walls was either cut back and re-faced on both sides with stone or a new house of stone and turf was built on the same foundation. No trace of the turf can now be positively identified but the inner stone facing of the western wall and much of the outer facing of the northern wall survived, and are clearly illustrated in Fig. 11. Similar houses have been excavated at the early Christian and Norse settlements at Birsay, Orkney[119] and at Jarlshof, Shetland[120] and in South-West England at Lanyon, Cornwall.[121] The tradition has persisted until the present day in the black-houses of Lewis.[122]

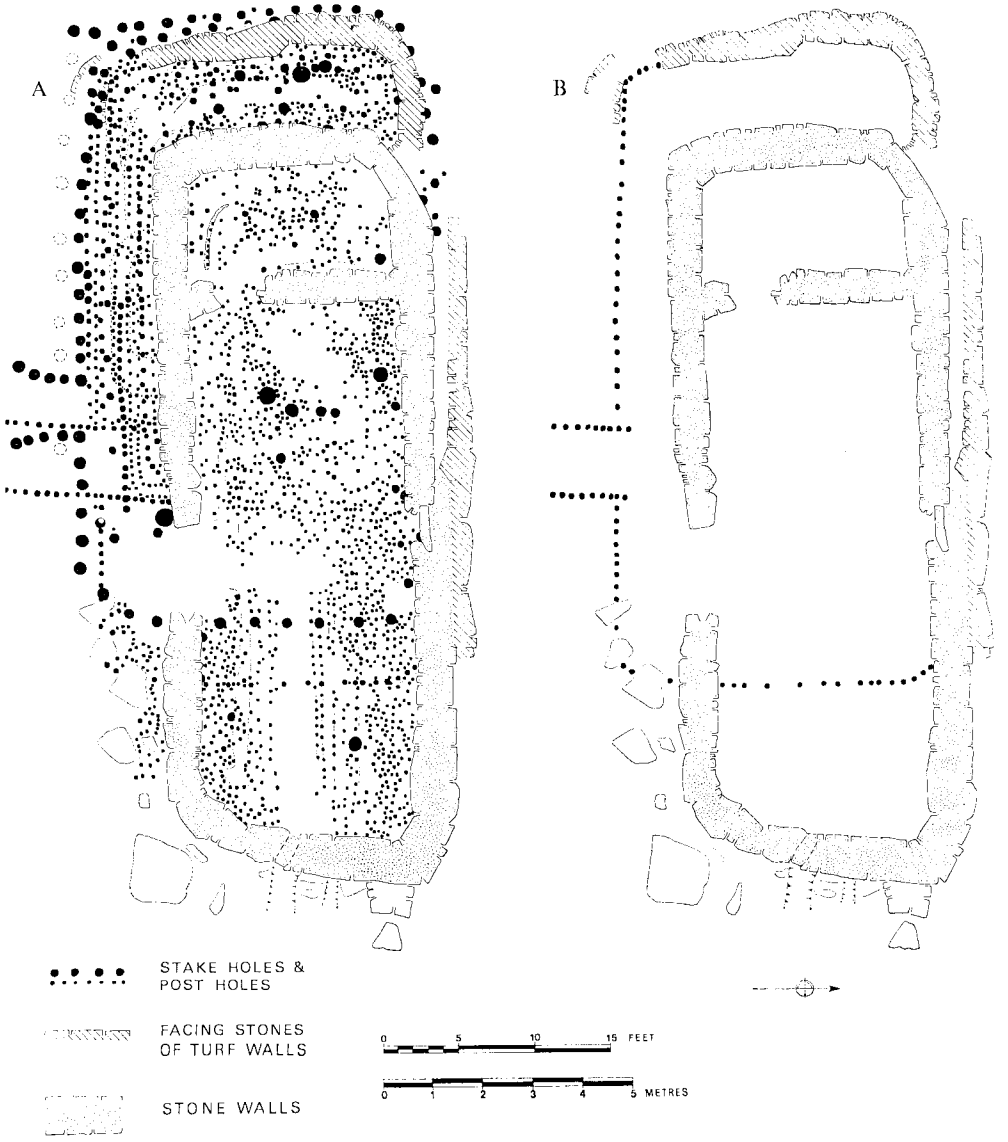


FIG. 11

Hutholes Village. Manor Site (House 7), Periods 1–2. A: 13th-century long-house with underlying turf-walled houses. B: Detail of the last turf-walled house showing how the walls were refaced with stone. The 13th-century long-house lies over these remains. Cf. Pl. VI, B

Turf buildings beneath House 5: Excavation of this site revealed a long sequence of turf-walled structures standing on a N.–S. alignment similar to that of the superimposed 13th-century stone building. Twelve lines of stake-holes and their associated floor lines marked the position of the eastern walls of the building, but the remains of the western walls were very confused (not illustrated).

Turf buildings beneath House 1: The stake-holes found in the living-room and inner-room suggest a short sequence of superimposed turf houses. Many stake-holes were found associated with the 13th-century long-house byre (not illustrated).

Turf buildings beneath Houses 2 and 4: No remains of turf-walled buildings were found beneath these houses.

Turf buildings beneath House 6: A confused pattern of stake-holes some up to 18 in. deep was found beneath the 13th-century floor levels (not illustrated).

Dinna Clerks (Fig. 12)

Occupation at Dinna Clerks, unlike that at Houndtor and Hutholes, was brief: excavation revealed remains of only two superimposed turf-walled houses beneath the floor of the 13th-century long-house. The well-preserved and clearly defined remains of the turf buildings clearly show the relationship between the two structural periods. The superimposed houses of the earlier period, built on a NW.–SE. alignment, were each approximately 48 ft long, 13 ft wide at the south-eastern end and tapering to 10 ft at the other. The stone long-house was built on the same alignment with similar tapering sides.

PERIOD 2: STONE BUILDINGS *c.* 1250–1350 (Figs. 14–24; Pls. VII, VIII)

The Long-house

The buildings of the second period, comprising long-houses and their associated outbuildings, were substantial stone structures built to last for a long period of time. Documentary research and archaeological excavation have revealed the widespread distribution of the long-house in the British Isles where examples have been found in most rural areas excepting the central and east Midlands, Kent and East Anglia.[123] In modern times the term long-house was used by Dr I. C. Peate in the 1930s to describe a house type built with a byre at one end of the house.[124] It is a literal translation of the Welsh term *ty hir*, a name widely used by countrymen in Wales to describe this type of house. The term is now in general use but recently there have been attempts to change it to byre house or some similar alternative. The long-house is simply a long rectangular building planned so that, if the occupier so wished, man and beast could live at opposing ends of the building under a single roof and share a common doorway in the lateral wall, but recent excavations have clearly demonstrated that some houses of this type may never have contained animals.[125] This suggests that the byre was just one particular function of the 'lower room' in the long-house which, in some instances, may not have been permanent (cf. pp. 131–39).

Houses in which man and his farm animals lived under a common roof have a long tradition on the Continent dating back to the Bronze Age, and the many

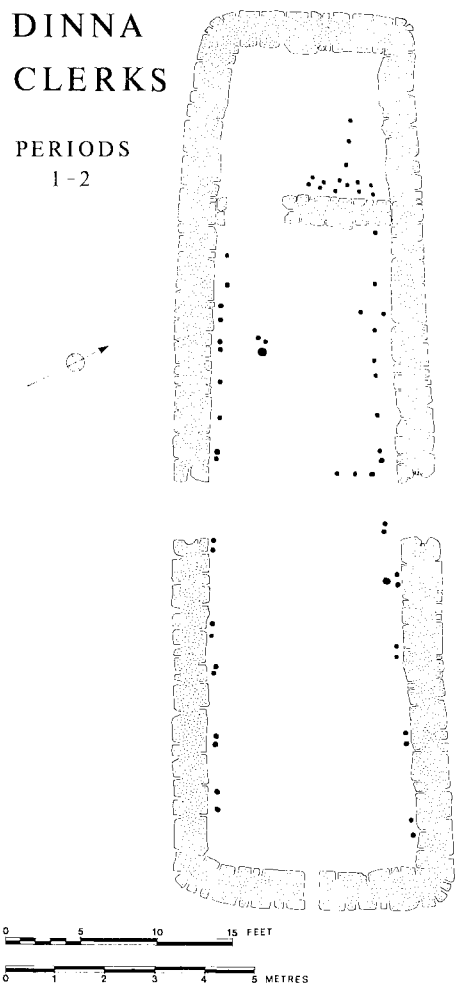
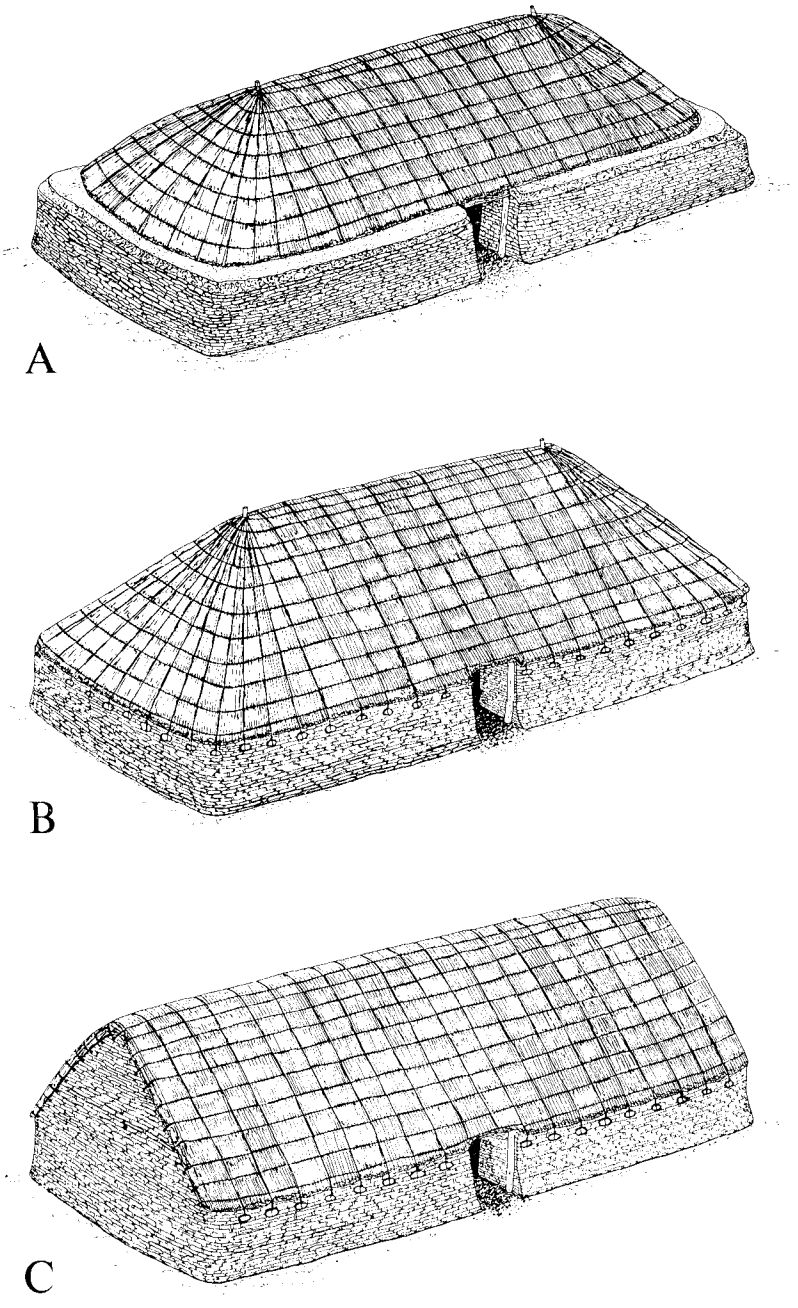


FIG. 12
Dinna Clerks. Periods 1–2. Plan of 13th-century long-house superimposed on turf-walled houses

excavated examples in Norway, Sweden and Denmark[126] show that this was the characteristic house plan in Scandinavia during the Iron Age and Viking periods. The aisled buildings at Feddersen Wierde[127] are typical of the type of dwelling found in Germany between the late Iron Age and the 5th century A.D. Later examples of large long-houses occur at Warendorf near Munster[128] in the 7th and 8th centuries. Although long-houses occur in the British Isles at Jarlshof, Orkneys[129] *c.*850, and an isolated example at Mawgan Porth,[130] Cornwall, *c.*950, there is no evidence to indicate that there was widespread distribution until the late 13th and early 14th century. The apparent dearth of earlier long-houses may be



TURF HOUSES

FIG. 13

Reconstruction of turf-walled houses. A: Hipped roof with rafters resting on inner edge of walls. B: Hipped roof with rafters resting on outer edge of walls. C: Gable-ended roof with rafters resting on outer edge of walls. Owing to the shortage of timber on Dartmoor the first would seem the most likely roof form to be adopted at these sites

attributed to the mean winter temperature of a maritime climate, like that of England and Wales, being warmer than that of places of similar latitude on the Continent. Consequently small numbers of cattle could always be outwintered, especially in periods of climatic optimum. However, the increasing number of cows held by the peasantry[131] and the climatic deterioration of the late 13th and early 14th centuries led to the widespread construction of the long-house in the pastoral areas of Britain in order to protect the meadows from the treading of the animals during the winter months.[132]

No long-houses have as yet been recorded in the arable areas of the East Midlands and East Anglia. Cattle in this area were outwintered until the 14th century after which time they were kept in open yards, locally known as crew-yards. The distributions of the crew-yard and the long-house seem to depend upon the climate and the availability of bedding material.[133] The crew-yards are very practical in the eastern arable counties where bedding straw is plentiful and the drier climate would allow the cattle to lie out in the open yard with comparative comfort. The byre, however, offers protection to the cattle from the weather in areas of high rainfall and indoor housing is particularly economical with bedding, a commodity often scarce in pastoral areas.

Construction of the stone houses

Recent excavations at many rural sites in Britain have demonstrated that in areas where building stone was readily available stone houses began to replace those built of timber in the late 12th and early 13th centuries.[134] A similar change was occurring in Europe at the same time.[135] In Exeter stone began to replace timber in the late 12th century;[136] in Barnstaple in the early 13th century[137] and at Houndtor and Hutholes the stone long-houses replaced the earlier houses of turf in the second half of the 13th century.

Platform houses have a long tradition in many upland areas as at Vendown, Cornwall,[138] but no example was found at Houndtor or Hutholes. Although the upper end of many of the larger houses had been built into the side of the hill at these sites, the lower end stood on the original ground surface. The walls, built without large footing stones or foundation trenches were of similar construction to those at Garrow[139] and Dean Moor.[140] They varied from 2 ft 6 in. to 3 ft in thickness and were built of roughly coursed, undressed, weathered granite blocks gathered from the clitter slopes and from the plough soil. The spaces between the stones were packed with growan or soil to provide a firm seating for the stones and to exclude draughts. Owing to the isolation of Houndtor Village the remains of the houses were well preserved as few stones had been robbed. At the commencement of the excavation walls of four houses were standing up to a height of 4 ft 6 in. and the SW. end of Barn 3 was almost 6 ft high. The amount of tumble surrounding the walls shows that the walls were probably 6–7 ft high in origin.

The positions of the doorways were clearly marked in the high-standing walls. Post-holes show that most of the doors were hung within wooden frames probably similar to those which are to be seen in the Shetlands today.[141] Owing

to the acidity of the soil it was not possible to determine whether the door furniture was of metal or wood.

Seven of the larger houses had stone porches. The masonry was not bonded in with that of the wall of the house suggesting that they were later additions, as that at Treworld, Cornwall. This assumption was confirmed in the excavation of House 1, Houndtor Village. The size of the porches, extending between some 4 ft to 5 ft from the doorway and the low level of the eaves of the houses show that their roofs were pitched like those of the Old Post Office, Tintagel,[142] and not of pentice type like those of the small 17th-century moorland farmhouses in South-West England like Leaze, St Breward, Cornwall.[143]

There was no evidence to suggest the form of the windows. If they existed it would be reasonable to postulate that they were small unglazed openings set high in the walls, similar to those described by John Ray in an account of a journey through East Lothian in 1662.[144]

Little remained to show how the roofs of the houses were made. Like the turf houses, there was nothing to suggest the use of a ridge-piece[145] and there were no rebates in the walls or any features to suggest that the houses had cruck roofs, like Higher Tor, Widecombe.[146] However, the rounded ends of some of the houses and the even spread of stones by which they were surrounded, especially at Houndtor Village, show that the end walls were not gabled. It would, therefore, be reasonable to assume that the roofs were hipped and of trussed rafter construction. The use of a wall-plate in these houses is unlikely owing to the scarcity of timber on the moors and the regional traditions.[147]

Although the excavation of the 13th-century house at Dinna Clerks[148] and House 4 at Houndtor Village[149] has suggested that turf was used as a roofing material, there was no evidence to show whether it was supported on wattles, as at Higher Tor, Widecombe, or on laths. The use of turf for roofing has persisted in Ireland,[150] Scotland,[151] and on the Continent,[152] where examples may still be found. The turves are usually cut and cleaned of surplus earth so that the matted roots may be pressed between the wattles or laths. In some counties in Ireland[153] the turves are about 2 ft wide and up to 20 ft or more in length, running from the wall plate to the ridge which they overlap by about 1 ft.

The houses which are the subject of this report may have been thatched with either straw, heather or rushes. Although little is known of the thatching techniques of this region in the middle ages it is likely that the thatch was secured with grass or straw ropes.[154] Rope-thatch is the simplest of all to construct and is well adapted to withstand the strong winds. Examples have been recorded in Scotland,[155] Ireland[156] and the Isle of Man;[157] the method was also widely used in Devon and Cornwall to cover ricks of hay and corn until the advent of the pick-up bailer and combined harvester during the 1950s. (See Fig. 23 for reconstruction of House 7, Houndtor.)

It is possible that the construction of the roofs of some of the smaller houses at these three sites, especially those of the turf buildings, may have been similar to some of the *clachans* of Lewis[158] in which the rafters were laid like joists horizontally from wall to wall. The thatch was then heaped up so thickly on top

of the roof that the outline was more or less semicircular when seen from the outside. It was held in position by a network of ropes of heather or straw weighted down by stones.[159]

Description of houses

The houses at Houndtor (Figs. 14–19; Pl. VII) showed great variation in both size and plan, ranging from that of House 2 which was only 23 ft long and 10 ft wide, comprising living room and byre; to House 3, called the Manor House because of its great size, 57 ft long and approximately 14 ft wide, comprising byre, living-room and inner-room; or to House 7, 51 ft long and 15 ft wide, comprising byre, living-room, inner-room and second inner-room. Houses 1 and 7 at Houndtor were the only houses at these sites where the byre was separated from the passage by a wall. Similar examples occur at Garrow,[160] Treworld,[161] Dean Moor[162] and some other sites in England.[163] In parts of Scotland there was a prejudice against screening the fire from the view of the cows,[164] but no such traditions have been recorded in Devon.

The floors of the living-rooms, made up of trampled growan, had been levelled into the sides of the hill in most of the houses. The living-rooms were heated from central hearths, the positions of which were clearly defined by the granite hearth stones. Some houses had wattle-and-daub chimney hoods, a feature found in some peasant houses in Devon and Cornwall,[165] but none of the hearths had stone firebacks similar to those found in Wales[166] or that at Garrow, Cornwall.[167] Remains of cooking pits were found in four houses (Figs. 16, 17 and 21).

The use of the lower room of the long-houses as a byre is clearly attested by the central drains. The wear of the floors and the absence of evidence of partitions between the byre and passage show that the cows were tethered along the longitudinal walls of the building. Unlike the cow-ties and mangers of stone at Treworld[168] and Garrow,[169] those at Houndtor and Hutholes were of timber, and their positions were clearly marked by lines of stake-holes as at the deserted medieval settlement at Meldon, near Okehampton.[170] In the traditional moorland byre — locally known as a shippen — the cows were tethered to vertical posts. The lower end was either driven into the floor or, in post-medieval buildings, placed in slots in a granite curb; the upper end was held in a horizontal rail running the length of the byre some 6 ft above the floor. The joint connecting the post and rail was so constructed that should a cow fall and be unable to rise the dowel could be knocked out to allow the post to be lifted from the ground to release the cow-tie.[171]

The gaps in the cover stones of the central drain show that the byres could not be completely cleared of manure each day as fresh faeces would fall between the stones and cause a blockage. As the cattle were tethered it was not possible to cover the manure with fresh bedding daily as the uneven distribution and build-up of faeces would have created impossible conditions within the byre. It is apparent, therefore, that a thin layer of hard trampled straw and manure was allowed to accumulate over the drain covers to act as a filter down to which level the byre was cleaned. No evidence of the nature of the bedding was recorded, but it is certain

that the abundant supply of bracken was exploited since straw must always have been a scarce commodity on Dartmoor. Bracken forms excellent litter and being richer in potash than straw makes better manure.[172] Oat and barley straw would certainly have been reserved for feeding the stock, but any surplus rye straw, not required for thatching, would have been used as litter.

The numbers by which the houses have been differentiated mark the order of their excavation. In order to clarify the text, the houses, whilst retaining their original numbers, have been published in a different order. The sequence in this report is: Houndtor, 1, 8, 7, 3, 4, 5, 6, 2; Hutholes, 3, 5, 1, 2, 4, 6. All measurements of the houses are internal.

HOUNDTOR 1

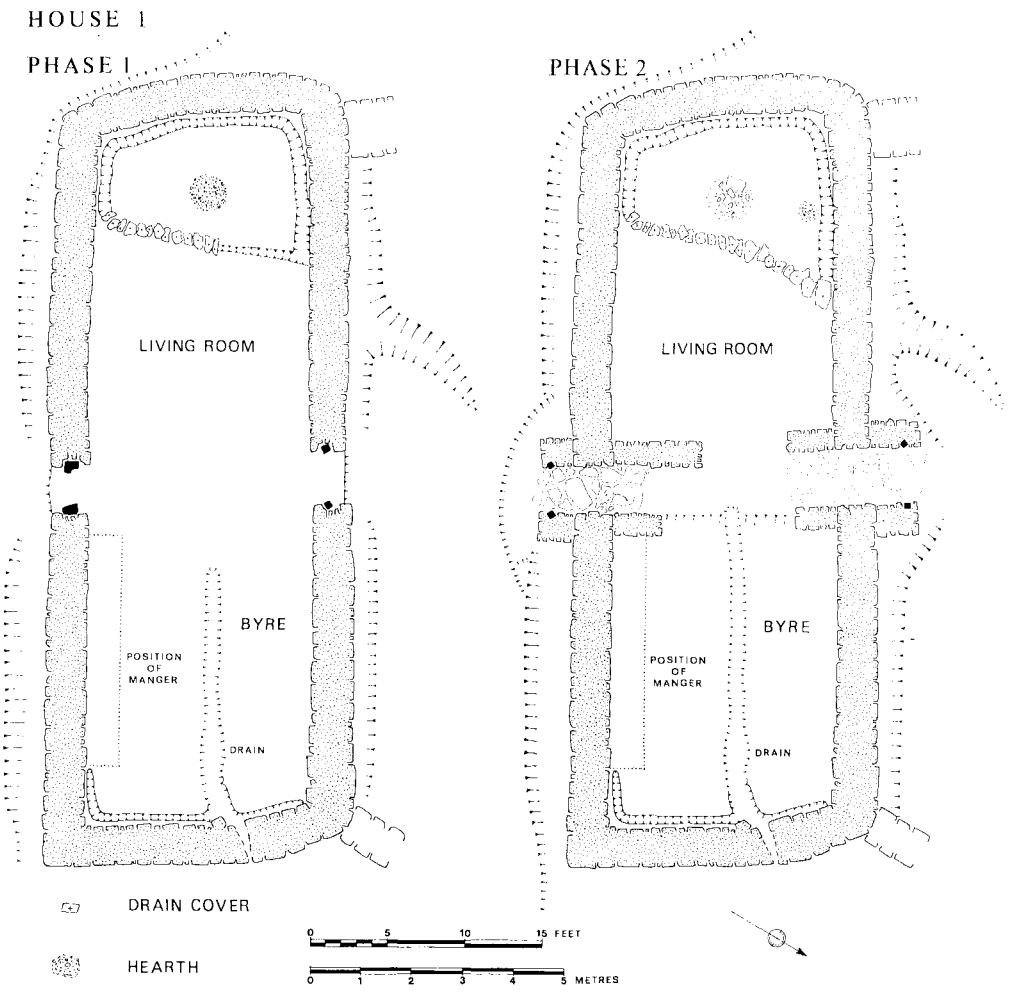


FIG. 14
Houndtor Village. Period 2. House 1, Phases 1 and 2. Cf. Pl. VII, A

Description of the Stone Houses (Figs. 14–23; Pls. VII, VIII, A)

Houndtor

House 1 (Fig. 14, Pl. VII, A): The remains of House 1 were well preserved and some walls were over 4 ft high at the time of excavation. The building, 47 ft long and 15 ft wide, was an example of a simple long-house comprising a living-room and a byre separated by a cross-passage set between opposing doors. At some time during the period of occupation porches were added to the doorways, the thresholds were paved, and walls were built to screen the passage from both the byre and living-room, as at Treworld,

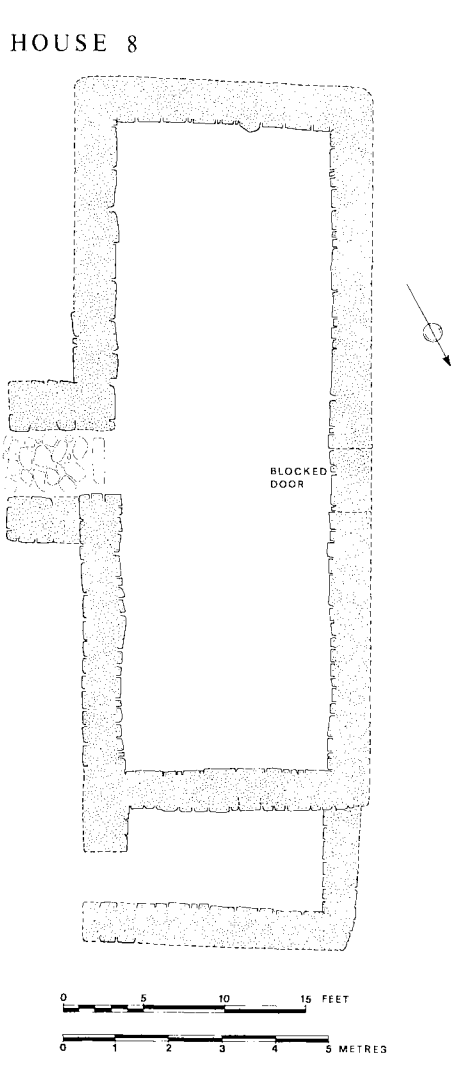


FIG. 15

Houndtor Village. Period 2. House 8, Plan of long-house after its conversion to a barn

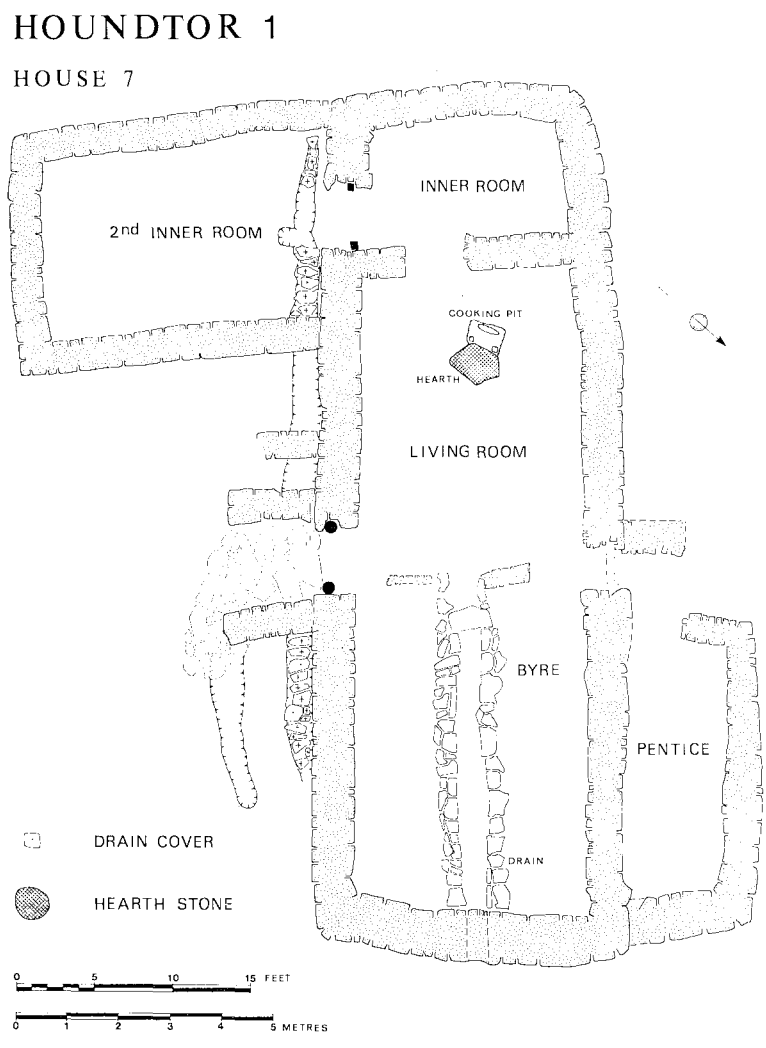


FIG. 16
Houndtor Village. Period 2. House 7. Reconstruction, Fig. 23

Cornwall.[173] Where the level of the living-room floor lay below that of the surrounding ground surface internal drains lay along the walls to carry away seepage. Similar internal drains have been excavated at Tresmorn,[174] Penhallam[175] and, in Wales, at Dinas Noddfa.[176] The central drain of the byre was open.

House 8 (Fig. 15): House 8, 40 ft long and 13 ft wide, was in origin similar to House 1 and comprised a living-room and byre. The building was later converted to a barn, at which time the NW. door was blocked, the byre floor lowered to the level of the bottom of the central drain and a pentice added to the lower end of the building. The blocked drain running through the centre of the lower end wall is the only evidence of the sometime existence of a byre. This can only be seen from the pentice. The conversion of

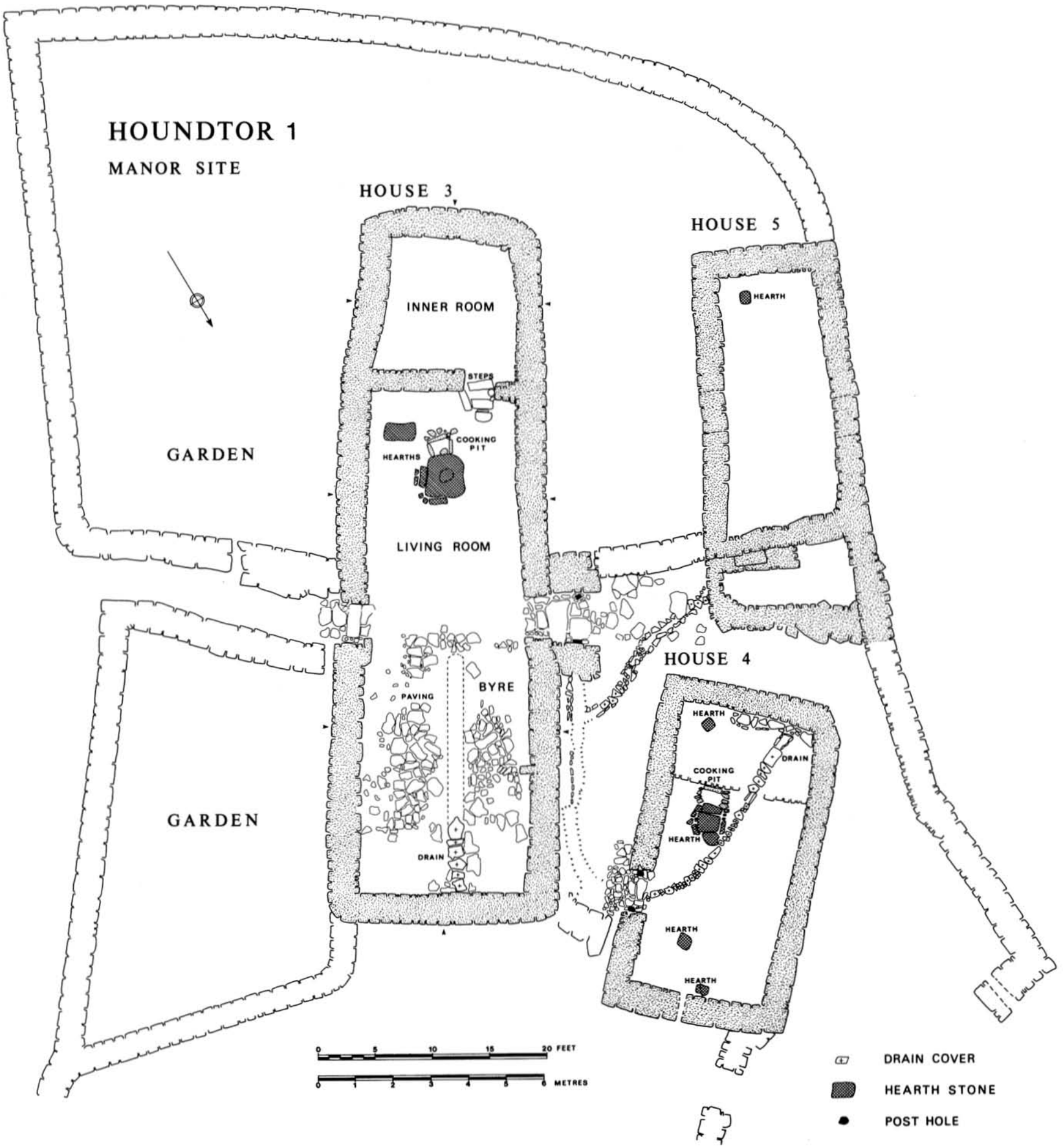


FIG. 17
Houndtor Village. Period 2. Manor site, Houses 3, 4 and 5. *Cf.* Fig. 20; Pl. VII B

this house, like those at Hutholes and Treworld,[177] demonstrates how the abandoned houses were re-used as barns as the sites were gradually deserted.

House 7 (Fig. 16): House 7, 52 ft long and 15 ft wide, was more complex than the other houses at Houndtor Village, possibly reflecting the superior social status of its occupant. The house comprised byre, living-room, inner-room, second inner-room and a pentice. Although the drain covers in the byre had been destroyed by a roughly dug exploratory trench cut through the length of the building at some time before the commencement of the excavation, the remains of the building were well preserved and the walls stood over 4 ft high. A small cooking pit lying by the side of the granite hearth in the living-room was found beneath the remains of the fallen wattle-and-daub chimney hood. There was no archaeological evidence to indicate the use of the first inner-room, but it is reasonable to postulate that it was used as a store for the more important household commodities and as the sleeping quarters. The position of the second inner-room suggests that it might have been built to accommodate a dependant relative. (For reconstruction see Fig. 23.)

House 3. Houndtor Manor Site (Figs. 17, 22; Pl. VII, B): There is no documentary evidence for the existence of a manor house at Houndtor, but the lords of the manor took their name from the vill (see Historical Background, above), which might suggest residence, and the archaeological remains suggest that their establishment was House 3. The importance of this house is attested by its separation from the surrounding houses, the layout of its gardens and paddock and its associated cott (House 4) and barns (Houses 5 and 8). Although the house had been damaged, as House 7, by a roughly-cut trench, the remains were well preserved and some walls stood over 4 ft 6 in. high. The house, comprising byre, living-room and inner-room, was 57 ft long and the width tapered from 16 ft at the lower end of the byre to 11 ft at the upper end of the inner-room. The shape of this house, built with one end wider than the other, was similar to Houses 5 and 7 at this site and to those at Dinna Clerks and Houndtor Farmstead, and demonstrates the continuity of plan dating from the earliest turf houses.

The floors of both the inner-room and living-room were dug into the side of the hill, necessitating the construction of two steps between the rooms. The large central hearth and cooking pit in the living-room indicated that most of the food was cooked in the house. Stones extending out from the centre of the north-west wall of the byre suggest that it was originally divided into two separate compartments by a stone wall, but there was nothing to show whether the provision for animals was contemporaneous with the construction of the house or the demolition of the partition wall. A narrow path-way flanked by walls standing up to 5 ft high led from the south-east door through the garden and out into the paddock to facilitate the handling of cattle. A similar cattle road was excavated at Viking House 3, Jarlshof.[178]

House 4 (Fig. 17): Houses 4 and 5 lay within the manorial enclosure and shared a common yard. Similar examples of multiple occupation of a homestead in upland areas have been revealed by excavation at Lanyon[179] and Treworld[180] in Cornwall, and standing examples have been recorded in Wales.[181] The small size of the two houses when compared with the main dwelling suggests that they were either occupied by a dependent relative or by some person of servile position. House 5, probably the earlier of the two buildings, was built as a house; House 4, however, was built to be used as a barn. At some later date the function of the two buildings was reversed.

The excavation of House 4, 25 ft long and 11 ft 6 in. wide, revealed that there had been two structural phases. In the first the building had been used as a corn-drying barn. The position of the kilns was clearly marked by the stone footings of the front retaining wall running across the building just south-west of the later hearth. Although no remains of the kilns survived, the space between the retaining wall and the end of the barn indicates that they were similar in size to those in the corn-drying barns (Fig. 24).

The central hearth and cooking pit show that the building was used as a small dwelling after the removal of the kilns in the second structural phase. A shallow central drain indicated that the lower end of the house had finally been used as a small byre. There was nothing to suggest that the footings of the kilns were the remains of an earlier house[182] or that the building was the manorial kitchen.

House 5 (Fig. 17): House 5 had been considerably altered during three phases and the remains, although substantial, were somewhat confused. The building was originally 22 ft long, 10 ft wide at the lower end and 8 ft wide at the other. The (later blocked) opposing doorways and the hearths suggest that it was built for domestic occupation. Although the plan of the building is similar to Houses 1 and 8, there is no evidence to show that the lower room was ever used as a byre. In the second phase a pentice was added to the north-east of the building and finally in the third phase when the building was converted into a barn, the lower end of the building was demolished and rebuilt, and opposing doorways blocked and another door built into the new end wall, with an external step.

House 6 (Fig. 18): House 6, 32 ft long and 9 ft wide was a small house. There was no evidence to show that animals were ever housed in the lower end of the building.

House 2 (Fig. 18): House 2, 24 ft long and 10 ft wide, was an example of a small long-house comprising living-room and byre and was similar to those excavated at Tresmorn, Cornwall.[183]

Houndtor Farmstead (Houndtor 2)

House (Figs. 19 and 22): The house at Houndtor Farmstead, another example of a long-house built with tapering sides, was 38 ft long, 14 ft wide at the lower end and 10 ft at the other. It was divided into three rooms, comprising byre, living-room and inner-room. The excavation of the living-room revealed the remains of a fallen wattle-and-daub chimney hood lying over the granite central hearth and a small recess was found at

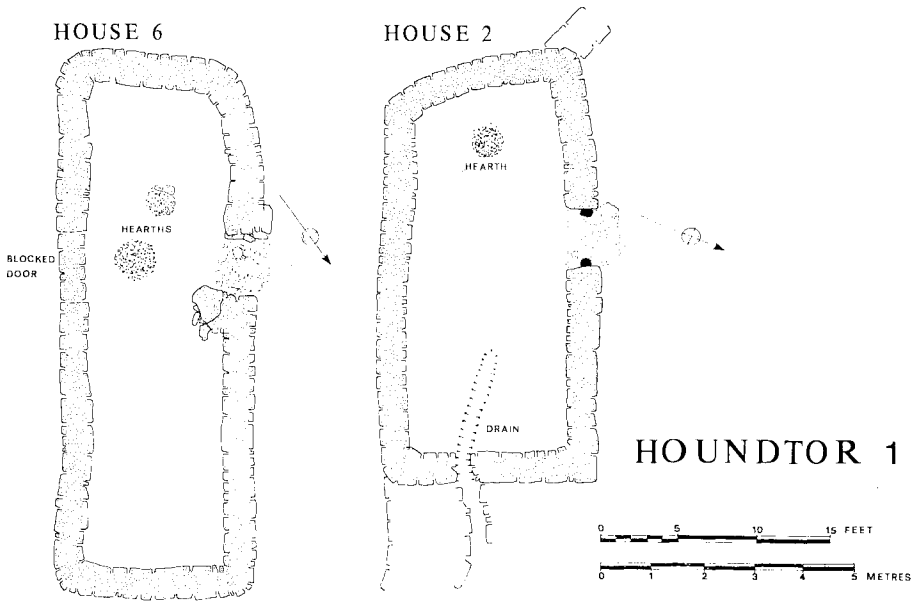


FIG. 18
Houndtor Village. Period 2. House 6 and House 2

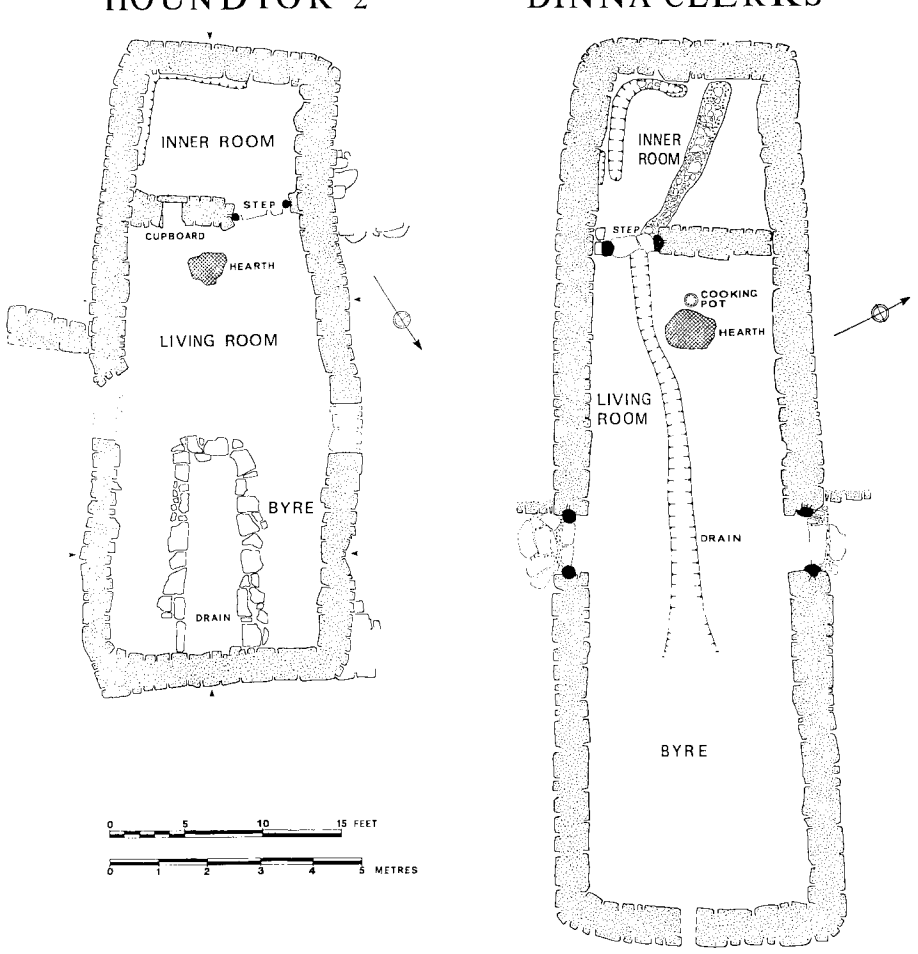


FIG. 19
Houndtor Farmstead and Dinna Clerks. Period 2

floor level in the partition wall between the living-room and the inner-room. The shallow central drain in the byre was identified as a type still used in calf houses on Dartmoor today.

Dinna Clerks

House (Fig. 19): The long-house at Dinna Clerks was 55 ft long and the width tapered from 14 ft in the byre to 11 ft in the inner-room. The house had been destroyed by fire and the turf roof had fallen inwards sealing many artifacts beneath its tumble. The collapsed wattle-and-daub chimney hood was removed in the living-room to reveal the central granite hearth and the remains of four small cooking-pots, one green glazed jug, one large cooking-pot buried up to its rim in the floor, two charred wooden platters and a thick iron ring. Horseshoe nails and a quantity of iron rings together with miscellaneous fragments of iron and copper alloy were found on the south side of the room.

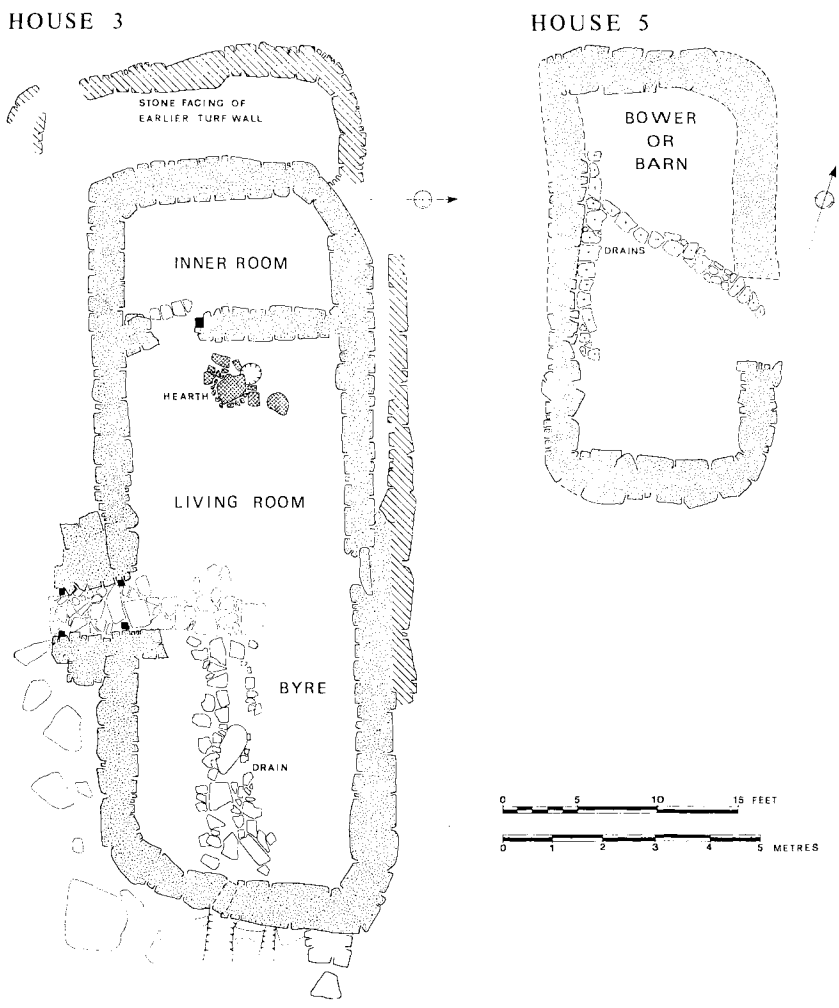


FIG. 20
Hutholes Village. Period 2. Manor site Houses 3 and 5

A group of pottery comprising a cistern, two yellow glazed jugs and a cooking-pot, was found in the inner-room, demonstrating that this probably served as a store and sleeping quarters like the wardrobe in more important houses.[184] A worn Long-Cross penny minted *c.* 1253–1260, found in the NE. corner of the byre, indicates that the house was destroyed in the late 13th or very early 14th century.

A drain ran from the inner room to carry away the seepage from the wall at the upper end of the house where the floor level lay beneath that of the surrounding ground surface. Its sudden termination and the absence of a central drain leading to the outlet in the SE. end wall show that the floor level of the byre had been levelled down so that the lower end of the house could serve some function other than that of the housing of animals.

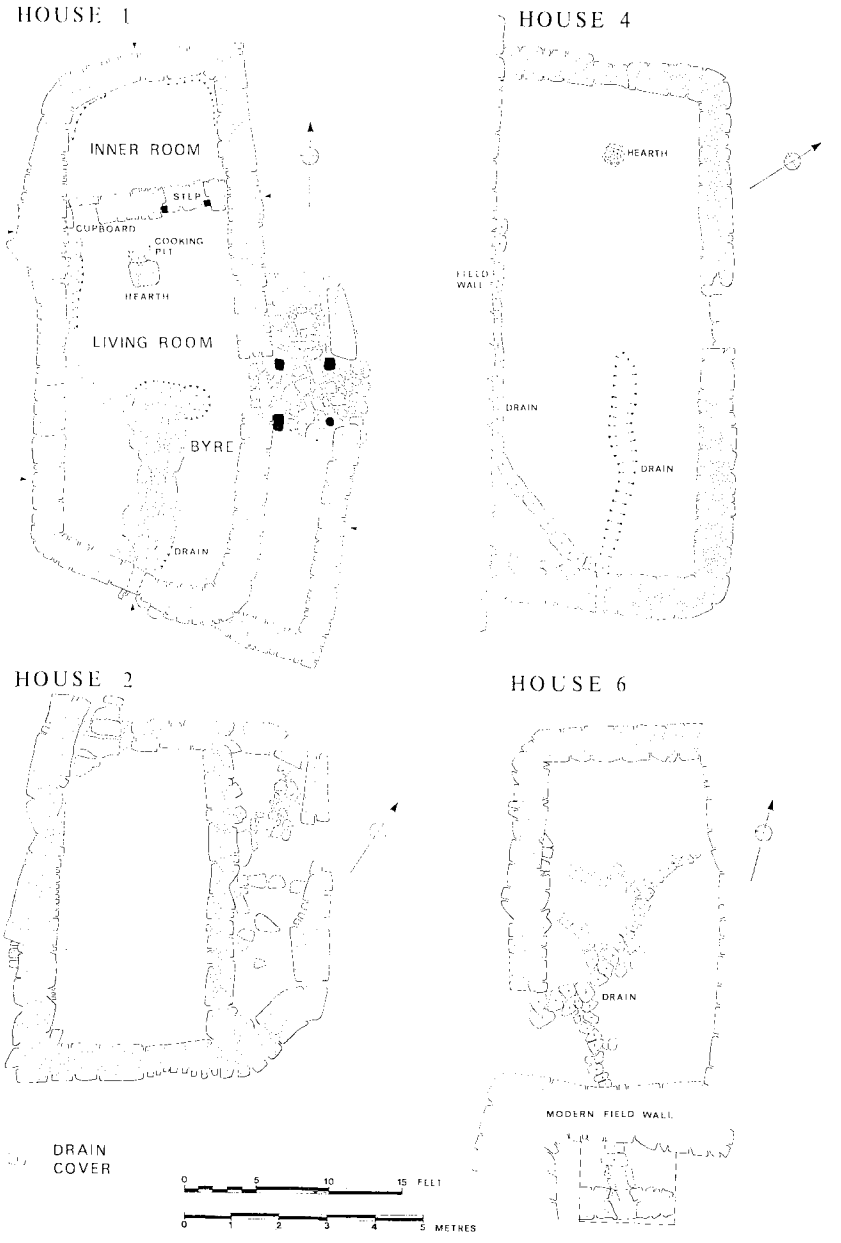


FIG. 21

Hutholes Village. Period 2. Houses 1, 2, 4 and 6. Cf. Fig. 24 (House 6); Pl. VIII, A (House 1)

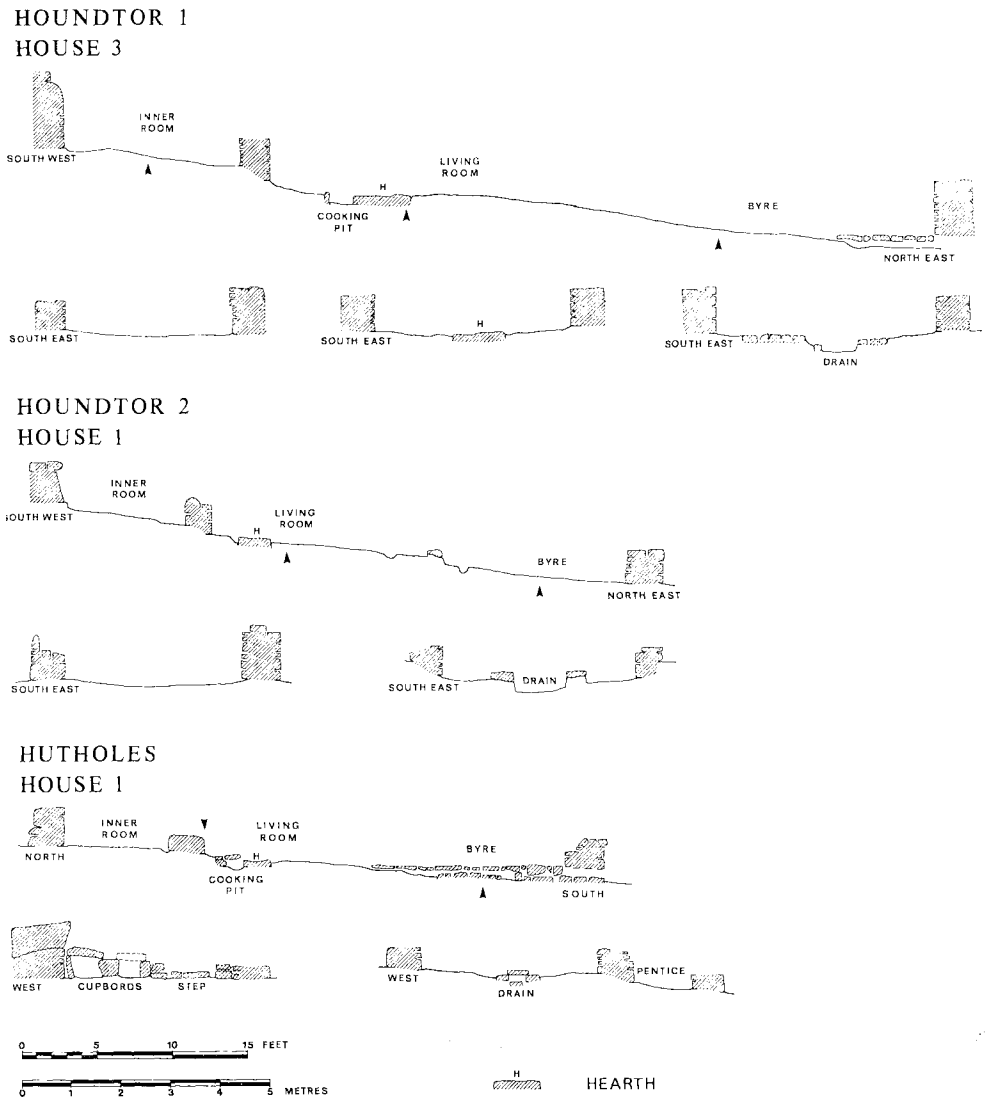


FIG. 22

Sections through 13th-century long-houses, Period 2. Houndtor Village, House 3, Houndtor Farmstead, Hutholes Village, House 1. Cf. Figs. 15, 19, 21

Hutholes

Manor Site, House 3 (Fig. 20): House 3, 46 ft long and 14 ft wide, was a long-house of three rooms and was superimposed on the remains of the earlier hall-house built of turf and stone. The house was smaller than that of the previous structural period suggesting that the manor house had already been moved to its present position in Jordan.[185]

Manor Site, House 5 (Fig. 20): House 5, 25 ft long and 10 ft wide, lay some 13 ft to the south of House 3 and was superimposed over the remains of a long sequence of superimposed turf-walled buildings which stood on a similar alignment. The remains of this

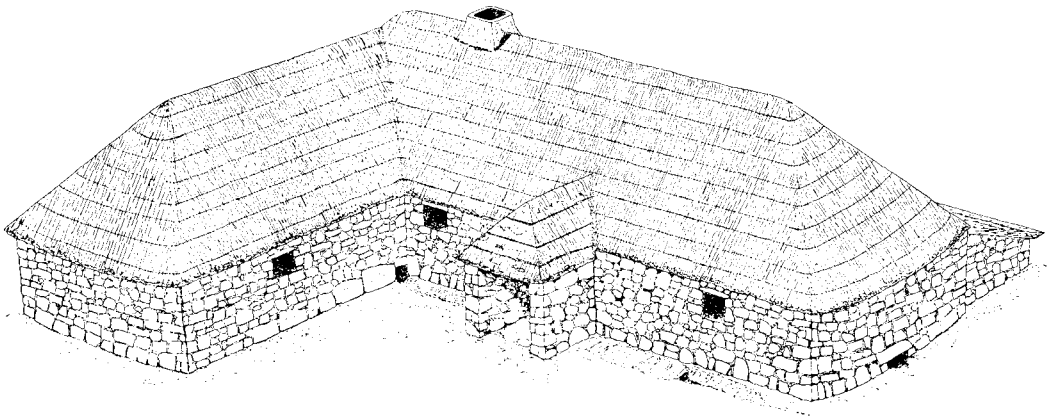


FIG. 23
Reconstruction of House 7, Houndtor Village

building had been considerably damaged and nowhere did the walls stand over 2 ft high. Although the building stood close to House 3, and was probably associated, there was nothing to indicate its function; the absence of any hearths suggests that it was a barn during the last period, but may have served as a bower earlier.

House 1 (Figs. 21, 22; Pl. VIII, A): House 1, approximately 34 ft long and 12 ft wide and comprising byre, living-room, inner-room and pentice, was crudely laid out and built of roughly coursed stone and huge granite blocks. Much of the north end and eastern side of the house had been built into the side of the hill and where the level of the floor was lower than that of the surrounding ground surface internal drains carried away the seepage from the walls to the central drain in the byre. The stone-lined cooking pit lying at the northern edge of the granite hearth was the best preserved at these sites. It was almost 15 in. wide, 21 in. long and 15 in. deep, measured from the floor to the cover stone. The positions of the mangers and cow-ties were clearly marked by lines of stake-holes in the byre.

House 2 (Fig. 21): House 2 was certainly a barn at the time of the desertion of the settlement in the mid 14th century, but the layout of the building so closely resembled that of the southern half of House 1 that it is probable that the two buildings were very similar in origin. Trial trenches were cut to the north of the building to establish whether it had been larger in origin, but the stone walls constructed upon the ground surface left no visible trace which could be recognized in the small area opened up. The principal room was 21 ft long and 10 ft wide, the width of the pentice approximately 5 ft. A few sherds of post-medieval pottery were found in close proximity to these remains, but there was no evidence to suggest that this building or any other at this site had been occupied after the middle of the 14th century.

House 4 (Fig. 21): House 4 was 34 ft long and 15 ft wide, and comprised living-room and byre. The blocked doorway at the upper end of the house suggested that there had been an inner-room, but trial trenching, as in House 2, revealed nothing to confirm or refute this supposition. The remains of the building had been damaged by the modern field wall superimposed on the line of its southern wall.

House 6 (Fig. 21): House 6, 30 ft long and 12 ft wide, was originally a two-roomed house comprising living-room and byre. Before the desertion of the settlement, the house was converted into a corn-drying barn. The building had been considerably damaged by the construction of the modern field wall.

CORN-DRYING KILNS (Fig. 24; Pl. VIII, B)

Discussion

Kilns for corn drying and malting have a long tradition in the British Isles dating from the Roman period.[186] The function of the two types are similar as both have to dry wet grain.[187] In some places the same kiln may have been used for both purposes. The malting kiln was used to destroy the vitality of germinating grain in the process of making malt for the brewing of ale, while the corn-drier was used to facilitate the threshing, milling or storage of grain, which had been brought in wet or unripe from the fields.[188] Although both types of kiln are of similar construction they can usually be identified by the environs in which they are found. Further, malting kilns are inclined to show more signs of burning in the flues due to regular rather than seasonal use and to the fact that the optimum temperature for malting is slightly higher than that of the average for corn-drying.[189] In SW. England corn-driers have been excavated at Tintagel[190] and Beere.[191] The kilns found at Launceston Castle[192] and Penhallam Manor[193] were probably used for malting. The excavation of the three corn-driers at Houndtor Village and that at Hutholes has revealed much information on their construction and has elucidated the difficulties encountered in arable farming at altitudes of over 1,000 ft above sea level on Dartmoor during the climatic deterioration of the late 13th and early 14th centuries.

When corn was considered fit to cut with a scythe, or, in more recent years, a binder, the grain might contain over 30% moisture. After cutting, the sheaves were left in the fields for ten to fourteen days to dry and ripen. Oats,[194] probably the principal cereal to be grown on the uplands of Dartmoor in the middle ages, are more liable to ferment and heat in the stack than other cereals, so great care has to be taken to ensure that the crop is thoroughly dry before it is brought in from the fields. In many wet and upland districts where corn is still cut with a binder, ricks tend to be small and are sometimes built around hollow frames or wooden tripods to facilitate the movement of air and prevent heating. Alternatively the danger of heating was sometimes overcome by building the stacks over field or road-side walls.[195] However, in extremely wet or late harvests it frequently became necessary to dry the corn artificially as at the sites which are the subject of this report, or in the Western Isles[196] or the West of Ireland.[197] Although artificial drying of corn in kilns is not difficult, considerable care had to be practised to prevent damage to the crop by over-heating the grain. The following temperatures in modern drying plants should not be exceeded:[198]

Seed corn, exceptionally damp (over 24% moisture)	110°F (43°C)
Seed corn, moderately dry (under 24% moisture)	120°F (49°C)
Corn for milling	180°F (82°C)

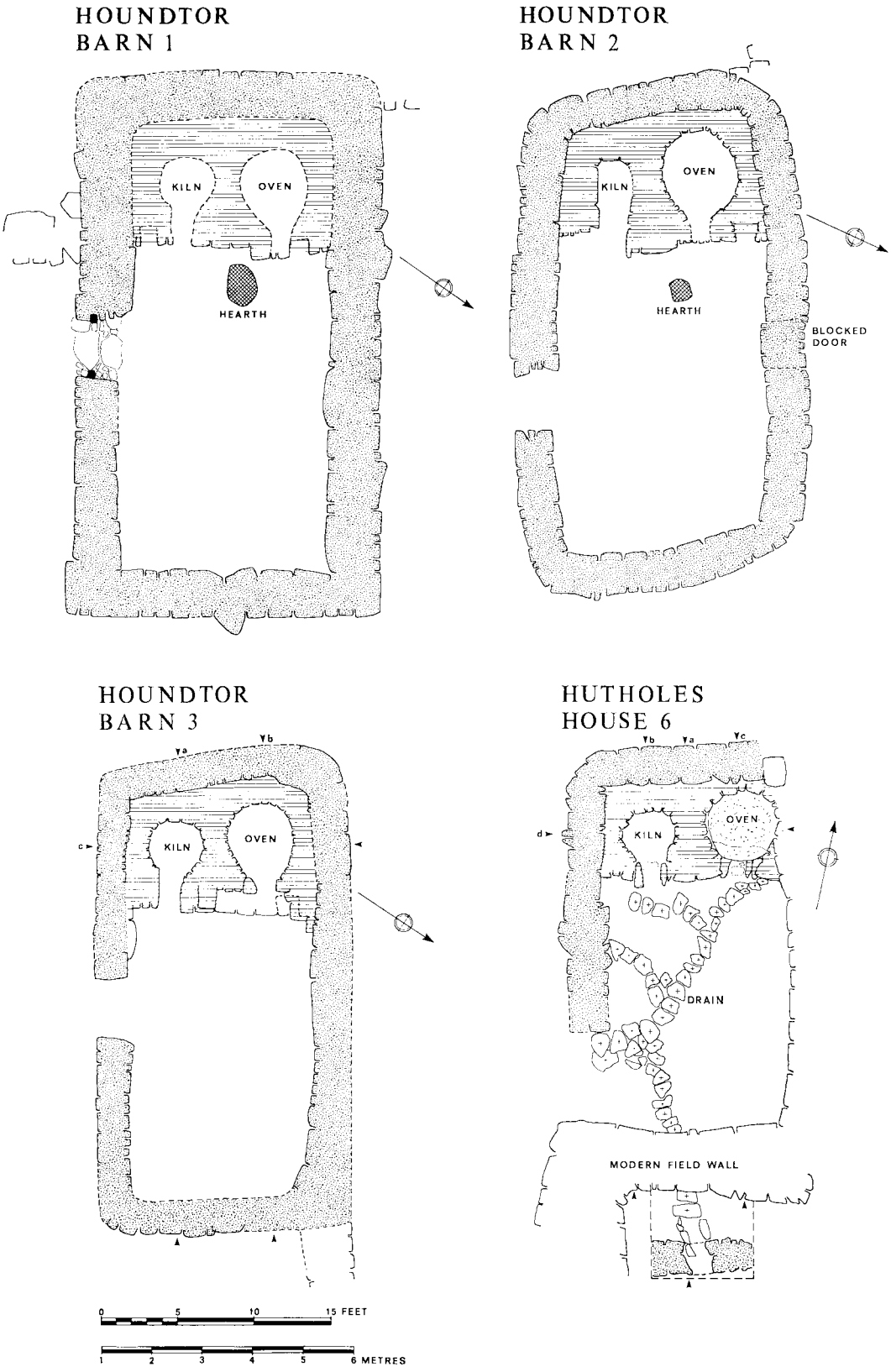


FIG. 24

Corn-drying barns, Period 2. Houndtor Village, Barns 1–3, Hutholes Village, corn-dryer in House 6. Cf. Pl. VIII, B

Of the remains of the five corn-driers, those in Barns 1–3 at Houndtor Village and the one in House 6, Hutholes, were well preserved; that in House 4, Houndtor, was dismantled before the desertion of the settlement and that at Houndtor Farmstead was not excavated. Although the corn-driers are certainly associated with the last structural period *c.* 1250–1350, the precise date of their construction is not known, but the insertion of a drier into an abandoned house at Hutholes suggests that they may have been built in the early 14th century when the settlements were being gradually deserted. As the remains of the driers were not disturbed during their excavation, their relationship with the barns in which they stand is uncertain.

The driers were substantial structures built within a raised platform faced with stone and packed with rubble and growan (Pl. VIII, B). Each platform, approximately 12 ft wide, 8 ft deep and probably 4 ft high in origin, spanned the entire width of the building like that at Penhallam Manor, Cornwall.[199] Originally there were two kilns to each platform, but later all the kilns on the right-hand side of the driers were filled in and replaced by high level ovens similar to those at Penhallam Manor[200] and Launceston Castle.[201] The vertical sides of the kilns, some 4 ft in diameter, had no paved floors and showed little signs of burning. They were heated by way of a straight-sided flue nearly 2 ft long and 1 ft 6 in. wide, the entrance of which and the surrounding ground were burnt by firing, but the burning was not as severe as that of the malting kiln at Penhallam,[202] demonstrating the difference between the function of the kilns. The sides of the ovens were more severely burnt.

Nothing survived to indicate the form of the drying-floors, but they were probably similar to that of the kiln recorded in the 19th century in County Mayo, Ireland.[203] There the floor was made up of bundles of straw placed over wooden kiln-rafters. Documentary evidence shows that corn in many kilns was spread over linen or horse-hair cloths, both of which have a long tradition in Britain.[204]

Since the type of double drier as found at Houndtor and Hutholes seems to be without parallel in the British Isles, the precise function of the ovens is uncertain. However, it may be assumed that as it is impossible to thresh wet grain and impractical to dry the whole sheaf, the ears were dried over the kiln until the moisture had fallen to about 20%. The grain could then be threshed with a flail and re-dried in the kiln or in the oven depending on whether the corn was required for seed or for milling, until the moisture content had fallen to a safe level of about 16% (cf. p. 140). The more extensive burning of the ovens suggests that they may have also been used at other times of the year to heat the grain to facilitate the grinding of corn in hand querns as in the Hebrides.[205]

AGRICULTURE ON DARTMOOR IN THE MIDDLE AGES AND THE DETERIORATION OF THE CLIMATE

Agriculture

Documentary evidence[206] clearly shows that agriculture practised on the monastic farms of Tavistock Abbey, lying to the west of the moors between the

town and the Cornish border, was of a very high standard for the period. The monks possessed little top quality land, but, by maintaining a high level of soil fertility by frequent applications of sea-sand, manure and the burning of the outfield, they were able to achieve results which by existing standards could be called outstanding. However, the land on the moor, especially that over the 1,000 ft contour must have always been more difficult to farm owing to its altitude, the high rainfall and the acidity of the soil; therefore the success or failure of its settlements depended upon the long-term variation of the climate. The isolation of the upland farms must have made the application of sea-sand impracticable and the level of fertility was probably maintained by the regular manuring of the infield and the exploitation of the outfield for as long as it could produce crops after resting and burning.[207] In order to have as much land available for outfield cultivation and to give the land the maximum period of rest, every possible acre was utilized, as at Garrow Tor, Cornwall.[208]

Charred grains of oats[209] were found among the ash samples collected from the corn-drying kiln in Barn 3, Houndtor Village, but it was not possible to determine the type. The Tavistock records[210] and the Bailiff's accounts of the earldom[211] show that three distinct varieties were grown in Devon at that time: *avena nuda* (pill-corn); *avena minuta* and *avena grossa*. Pill-corn was grown in Cornwall until the last century.[212] Oats as a crop fulfil a dual purpose: it is a producer of grain and at the same time supplies a straw which is superior to that of all other cereals in palatableness and nutrition and may be used to replace hay in winter.[213] Oats is undoubtedly the best cereal for growing on poor acid soils in rainy districts where summer temperatures are rather low. Rye will also produce reasonable crops in acid soils,[214] and found its place among the cultivated crops in Devon in this period.[215] It is very unlikely that wheat or barley were cultivated on Dartmoor at this time as barley[216] cannot tolerate very acid soils and wheat[217] will not thrive in areas of heavy rainfall.

The yields of oats produced on the more exposed settlements on Dartmoor, especially those grown in the period of climatic deterioration in the late 13th and early 14th century, would certainly have been smaller than those of the monastic farms lying to the west of the moors, and were probably smaller than the national average too. The anonymous author of a 13th-century treatise on husbandry[218] declares that oats should yield to the fourth grain, that is to say that a quarter of grain sown should produce four quarters at harvest. The Tavistock records show that up to 8 bushels were sown to the acre on the monastic farms in West Devon.[219] However, it must be remembered that an acre in Devon was nearly one-fifth larger than the statute acre and that the bushel may have been larger than the standard bushel, as it certainly was at Exeter and in Cornwall.[220] A bushel of an average sample of modern oats weighs 42 lb. (19.05 kg).

The Climate 1250–1350

The variation of the climate had a far greater effect on the ecology and pattern of settlement than some historians and others unfamiliar with agriculture are, at present, prepared to accept. In the British Isles the results of climatic

deterioration are, of course, more keenly felt on land which is considered marginal owing to its height above sea level or to the nature of the soil. Recent research[221] has demonstrated how the long-term climatic change is reflected in the corn-growing upland districts of Britain where the upper limit of land capable of producing crops is dependent upon the length of the growing season — the number of growing months with a mean temperature of over 50°F (10°C). The research also shows how the theoretical climatic limit to cultivation has risen and fallen over the past millennium according to the long-term variation of the climate. For example the average levels of warmth and wetness at 1,050 ft in the Lammermuirs in the 13th century were prevailing at elevations of only 650 ft in the mid 19th century.[222] On Dartmoor the limit of cultivation probably fell from about 1,400 ft to 1,100 ft. Estimated trends[223] show that when the summer warmth is about 1300 day degrees centigrade the frequency of crop failure is probably one year in 60, at 1150 day degrees centigrade the chances of failure would be one year in eight and should the day temperature fall to 950 day degrees centigrade the chances of harvest failure could be as much as one year in two.

There are many conditions directly or indirectly attributable to the climatic deterioration which may have led to the total or partial failure of cereal crops during this period, a few of which may be briefly mentioned here: cold wet springs lead to late sowing and reduced yield and provide conditions which leave cereals, particularly oats, susceptible to attacks by leather jackets, often accentuated by birds uprooting the plants whilst seeking the lavae;[224] damp summers provide the right conditions for the spread of mildew;[225] strong winds and rain lead to the lodging of cereals[226] and the lack of summer warmth leads to the immaturity of crops at harvest time.

Although there are few diseases in animals which may be directly attributed to the weather, the climatic deterioration of this period with its associated wet summers and warm winters provided conditions to assist the spread of anthrax, foot and mouth disease, liver-flook and pleuro-pneumonia, all probably grouped under the medieval heading murrain,[227] and other diseases such as foot-rot, laminitis and lung-worm.[228] The cattle plague of 1319–21 and the sheep murrain of 1315–17 combined with the loss of crops created a serious agrarian crisis in many areas.[229]

The pattern of settlement on Dartmoor closely follows the long-term variation of the climate. The post-glacial climatic optimum extended from about 4,000 to 2,000 B.C., when the world temperatures were some 2–3°C warmer than they are today.[230] Prolific remains of Bronze Age occupation show that the moor was widely settled and cultivated up to the 1,500 ft contour in the 2nd millennium B.C., but the decline from the climatic optimum, at first gradual and then abrupt at about 500 B.C., led to the desertion of the more exposed parts of the moor in favour of valley settlement. There followed a cool rainy period which eventually gave way to the secondary optimum of climate between A.D. 400 and 1200, with peak years probably occurring between A.D. 800–1000 when temperatures were probably some 1–2°C higher than today. During this period much of the abandoned land was re-cultivated, up to the height of 1,300 ft. The excavation of the

houses of this period shows that the standard of living of the peasantry on the moors was similar to that of those living on the lowlands. The gradual deterioration of the climate during the late 13th and 14th centuries led again to the abandonment of the farmsteads over the 1,000 ft (304.8 m) contour. Similar instances of abandonment and reoccupation of farmsteads have been recorded elsewhere; a farm in central Norway at the upper limit of agriculture has been abandoned three times since it was first established around A.D. 400, each time during a period of deteriorating climate and left for one or more centuries before being reoccupied when the climate allowed.[231]

The deterioration of the climate of this period was also felt on certain lowland sites, but there, it was usually the heavier rainfall and not the drop of mean temperature which affected the ecology of the settlements. Recent excavations have demonstrated how the climatic change affected Goltho, Lincolnshire,[232] one site among twenty-six deserted medieval settlements lying within a six-mile radius on difficult clayland soils of which many were subject to severe waterlogging and compaction until drained in recent years. In such areas it only takes a little extra rain combined with a few extra days when there is little or no evaporation to make the ground extremely difficult to work even with modern machinery. However, some have argued[233] that the desertion of such sites cannot be attributed to the climate and base their argument on the fact that deserted and non-deserted medieval villages are to be found side by side, and on the difficulty in imagining how rain drops could be locally selective. But on the claylands it is not so much the quantity of rain which affects the ground, as the ability of the soil to absorb or drain off the excess of moisture without leading to defloculation of the clay or late sowing.[234] Soils of the claylands,[235] as elsewhere, may vary from field to field, from farm to farm and from parish to parish. It is this variation of the soils and not the selectivity of the raindrops which, in some instances, can account for deserted and non-deserted medieval villages lying side by side.

There are, of course, many circumstances which may lead to the desertion of a medieval settlement and considerable care must always be exercised when attributing the abandonment to climatic deterioration. If one examines one site in isolation no satisfactory conclusion can be found,[236] but examination and comparison of evidence from both highland and lowland sites reveals much evidence to show how the worsening weather affected the ecology of certain medieval settlements on marginal land.

The desertion of the settlements

Climate deterioration began in the middle of the 13th century, but was gradual and its effect, at first, probably caused little serious inconvenience to those farming on Dartmoor. Although there were disastrous harvests in 1315, 1316, 1339, 1349 and 1350[237] there were certainly some years of plenty, but as the temperature dropped so did the tendency of harvest failure increase. The conversion of abandoned houses for use as barns at Houndtor Village and Hutholes shows that desertion was gradual. As in modern agriculture there are some

less well adapted to face the serious difficulties following a disastrous harvest and have to leave, while others soldier on until the next crisis or to the end of their lives. So one by one the homesteads were deserted. By the middle of the 14th century the hardships brought about by the deteriorating weather were such that the settlements over the 1,000 ft contour were, once again, abandoned to the bracken and heather.

CONCLUSION

The dating of the medieval origins of Houndtor and Hutholes is complicated by the fact that no pottery was found associated with the early houses as at Lydford,[238] Tresmorn[239] and Treworld.[240] Houndtor Village has some pottery perhaps of the 12th century, Hutholes and Dinna Clerks were aceramic until the 13th century; even then pottery was scarce, as at Lydford.[241] Further, owing to the acidity of the soil, no bone or metal object except a single coin of *c.* 1253–60 survived from which a date could be derived.

Because of the cold and unsettled climate from the Iron Age to the early Post-Roman period, there was no continuity of settlement from the Bronze Age at altitudes above 1,000 ft. However, the return of more favourable weather after *c.* A.D. 400 encouraged settlers, once again, to the open moorland. Although the somewhat haphazard layout of Houndtor Village and Hutholes might suggest Celtic tradition,[242] it would be unwise to use the plan alone as a criterion to suggest that the site was already settled at the time of the Saxon conquest of Devon *c.* 688–726,[243] as ancient traditions are apt to persist in places of comparative isolation as on Dartmoor.[244] However in the absence of ceramic evidence to indicate when the site was originally settled an approximate date may be calculated from the number of superimposed houses and their estimated life. The size of the turf-walled houses and the thickness of their walls show that they were occupied as permanent houses and not as temporary shielings designed to last the duration of a single summer season. As structural and ceramic evidence show that few turf houses were built after the beginning of the 13th century and as each of the long sequence of twenty to thirty superimposed turf houses between Houses 1 and 2 at Houndtor could have lasted twenty-five years, there is no reason why the site could not date back to *c.* 700–800 — the beginning of the peak years of the second climatic optimum — or possibly even a little earlier.

THE FINDS[245]

POTTERY

The unglazed pottery has been divided into five fabric groups. As the sherds have only been examined macroscopically, there may be some inaccuracies, particularly as all the pottery has been affected by the acid soil conditions, as well as by the usual decay processes. All the fabrics contain granite-derived inclusions, some direct from the parent rock, some from sedimentary deposits. White mica, being softer and lighter than the other granite constituents, is generally only recognizable in deposits close to the granite. Black mica seems to be more resistant to erosion and is found in certain fabrics in which white mica does not occur.

Fabric 1: usually hard-fired; gritty surface. Heavily tempered with angular quartz up to 1 mm; infrequent inclusions of red iron oxide; some opaque, white angular grits, possibly feldspar, but more likely white quartz; very occasional but large black mica plates. Generally grey, occasionally orange, frequently with a patchy grey and orange surface.

Fabric 2: usually moderately well fired; surfaces coarse sandy. Inclusions vary from fine sand to quartz grits usually about 0.5 mm; mica is present in varying quantities, generally both black and white plates, but some sherds contain only black plates; occasional larger red iron oxide inclusions, and, very rarely, slate. Generally grey with brown, buff or orange surfaces.

Fabric 3: fairly fine fabric; smooth surfaces with some grits protruding. Sparse inclusions of small water-worn quartz grit, and occasional pieces of slate. Non-micaceous. Grey with brown or black surfaces.

Fabric 4: fairly coarse fabric, with sparse, angular voids, apparently indicating that calcite inclusions have been leached out. Testing with acid failed to produce a reaction, but this is not necessarily surprising after burial in such acid soil. Remaining grits are angular quartz and slate. Dark grey and black.

Fabric 5: coarse, hard fabric; lumpy surfaces. Many water-worn and angular quartz grits; some larger ?chert inclusions. Dark grey with dark brown and black surfaces.

Manufacturing techniques are not always apparent; some of the unglazed wares were wheel-thrown, notably the jugs. Some of the other vessels have vertical marks on the inside and may have been kneaded from a lump of prepared clay. All the glazed jugs were wheel-thrown.

All the sherds described are unglazed unless otherwise stated. Only the stratified group from Dinna Clerks is illustrated.

Note on site locations: the contexts given are abbreviated from the labels on the bags or boxes in which the sherds were received.

Dinna Clerks (Fig. 25)

1. Cooking-pot. Fabric 1. Living-room, near hearth.
2. Coarse fabric, unlike any others. As last.
3. Cooking-pot. Fabric 1. As last.
4. Cooking-pot. Externally grooved and finger-pressed. Fabric 1. Set in floor with top of rim level with the upper (west) side of hearth, under collapsed canopy. Found fractured but *in situ*, one-third filled with charred wood (see Fig. 19 for location).[246]
5. Cooking-pot. Horizontal pinched rib. Fabric 1. As no. 1.
6. Cooking-pot. Fine fabric with some quartz. As no. 1.
7. Jug. Glazed. Monochrome applied strip. Bridge spout. Hard sandy fabric. As no. 1.

(Fig. 26)

8. Cooking-pot. Fabric 1. Inner room.
9. Cooking-pot. Fabric 1. As last.
10. Pot with bung-hole. Fabric 1. As last. Cf. similar example from Tresmorn,[247] there restored with a handle; perhaps for dairy produce rather than cider.
11. Jug. Glazed. Fine, almost sand-free fabric. As last.
12. Jug. Glazed. Fine, sandy fabric. As last.

Discussion

Fabric 1 occurs in 13th-century and later contexts at Launceston Castle,[248] and elsewhere runs into the 15th century. Fabric 2 is common in the Tamar Valley, and predominates, e.g. at Okehampton[249] and Dean Moor;[250] it is currently dated late 13th/first half 14th century. Fabric 3 is comparable to 12th-century sherds at Launceston.[251] Fabric 4 may come from the Ashburton or Torbay areas. Fabric 5 is common in Exeter in the 14th century.

The pottery is not found in the same ratios at the four sites. Houndtor Village has no Fabric 5, and very little of 3. Houndtor Farmstead has mostly 5, with a little 1. Hutholes has no 4, while Dinna Clerks has only Fabric 1 and glazed wares. The pottery therefore permits various interpretations, but it should be stressed that there are no

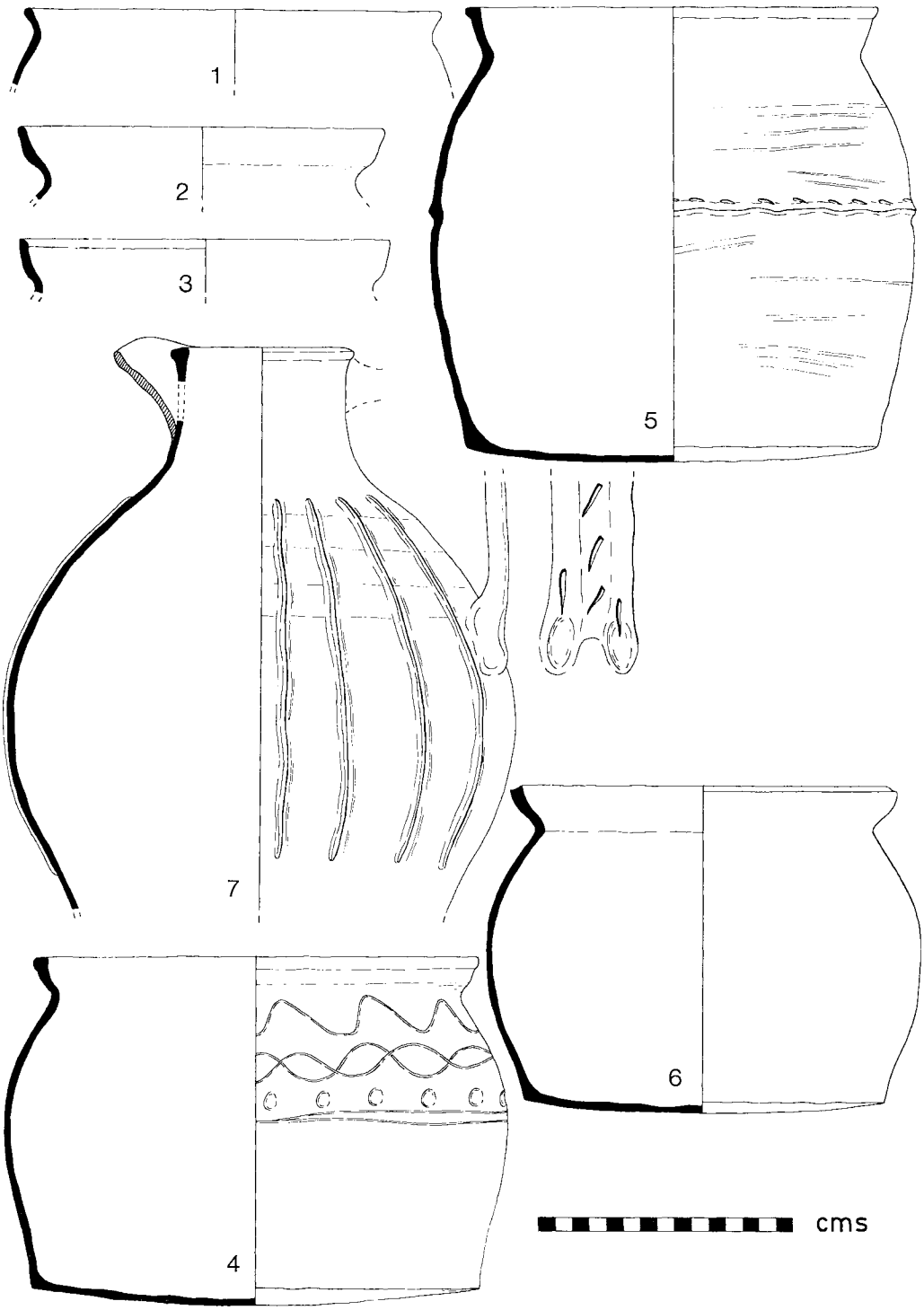


FIG. 25
Pottery from Dinna Clerks. Scale 1:4

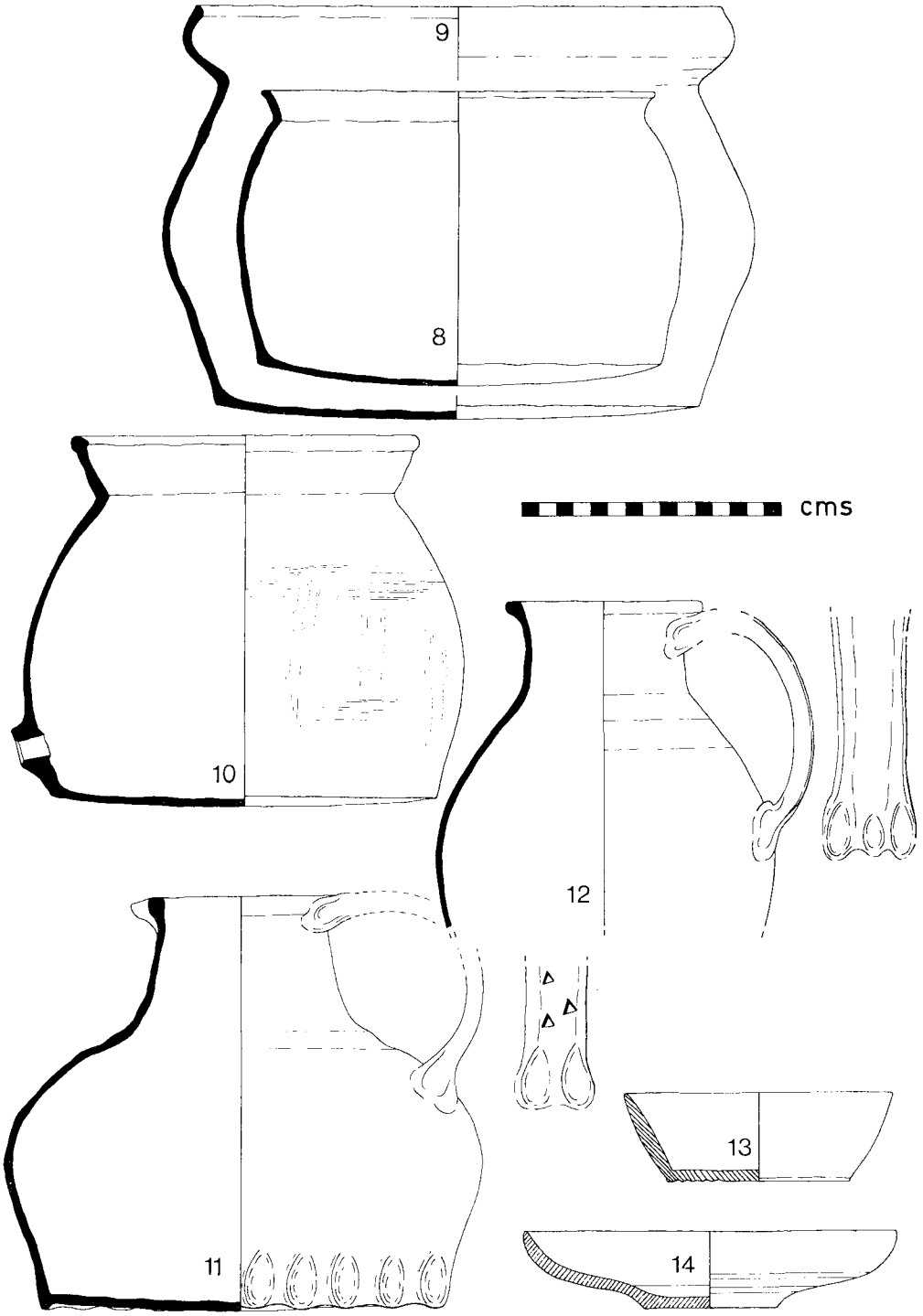


FIG. 26
Pottery and two wooden bowls (nos. 13, 14) from Dinna Clerks. Scale 1:4

11th-century or earlier wares,[252] and very little indeed that may even be 12th, at Houndtor Village (Fabric 3). Houndtor Village otherwise appears likely to be broadly contemporary with Hutholes, perhaps dating 13th/first half 14th century. Dinna Clerks was shorter lived, and the glazed wares support the second half of the 13th century date suggested by the coin (see below). Houndtor Farmstead might even be an attempt at recolonization in the second half of the 14th century, as there is a predominance of Fabric 5, a 14th-century ware in Exeter, with none of the pre-*c.*1350 Fabric 2.

The most interesting individual vessels are from Dinna Clerks. The quality of the jugs could suggest that the site was used by someone of a higher status — as could the only coin found — but their survival may be a freak of the circumstances of the house's destruction by fire, the occupants leaving much of their property unsalvaged (cf. the wooden bowls, below).

WOODEN VESSELS (Fig. 26)

Dinna Clerks

13. Turned bowl. Oak. Now distorted, but lathe marks still visible. Carbonized, presumably in the fire which destroyed the house. Lower room, south of hearth.
14. Turned bowl. Oak. As last.

COIN

Dinna Clerks

Silver penny, broken. Under roof fall inside north entrance.
Report by the late J. D. A. Thompson (Ashmolean Museum, Oxford): Henry III Long Cross type, group V (c), issued *c.*1253–60. Reverse: WAL TER[ ]. Mint name missing (but probably London or Canterbury).

IRON

Acid conditions on the four sites meant that little ironwork was preserved.

STONE

Many stone pounders, pestles, rubbing stones and whetstones were found, though no mortars or querns. Granites would have been found at the sites, but South Hamms sandstone comes from further afield, so may have been traded. No South Hamms sandstones were found at Dinna Clerks. Devonian Slate was found at all the sites. A hexagonal quartz crystal, 50 mm long, was found at Houndtor Village, House 3, room 2.

GLASS

Hutholes

Pane, unbroken. Thickness 3.5 mm. Green translucent crown glass, with circular flow lines visible. The two ends broken cleanly, the long sides carefully chipped. No marks or edges to suggest setting in lead. There is no reason to doubt that this is a medieval object, and it may have had some amuletic or magical significance. House 1, upper chamber, from bottom of a post-hole.

APPENDIX

THE MEDIEVAL FIELDS. *By* P. F. BRANDON

The site of the Houndtor medieval settlement and the fields connected with it, like so many others on Dartmoor, is a palimpsest created out of several periods of past agricultural activity. The earthworks of at least three different periods are discernible: prehistoric, medieval and modern. Although partially mutilated by later ploughing, sufficient remains of the medieval open-field landscape, itself subtly related to prehistoric

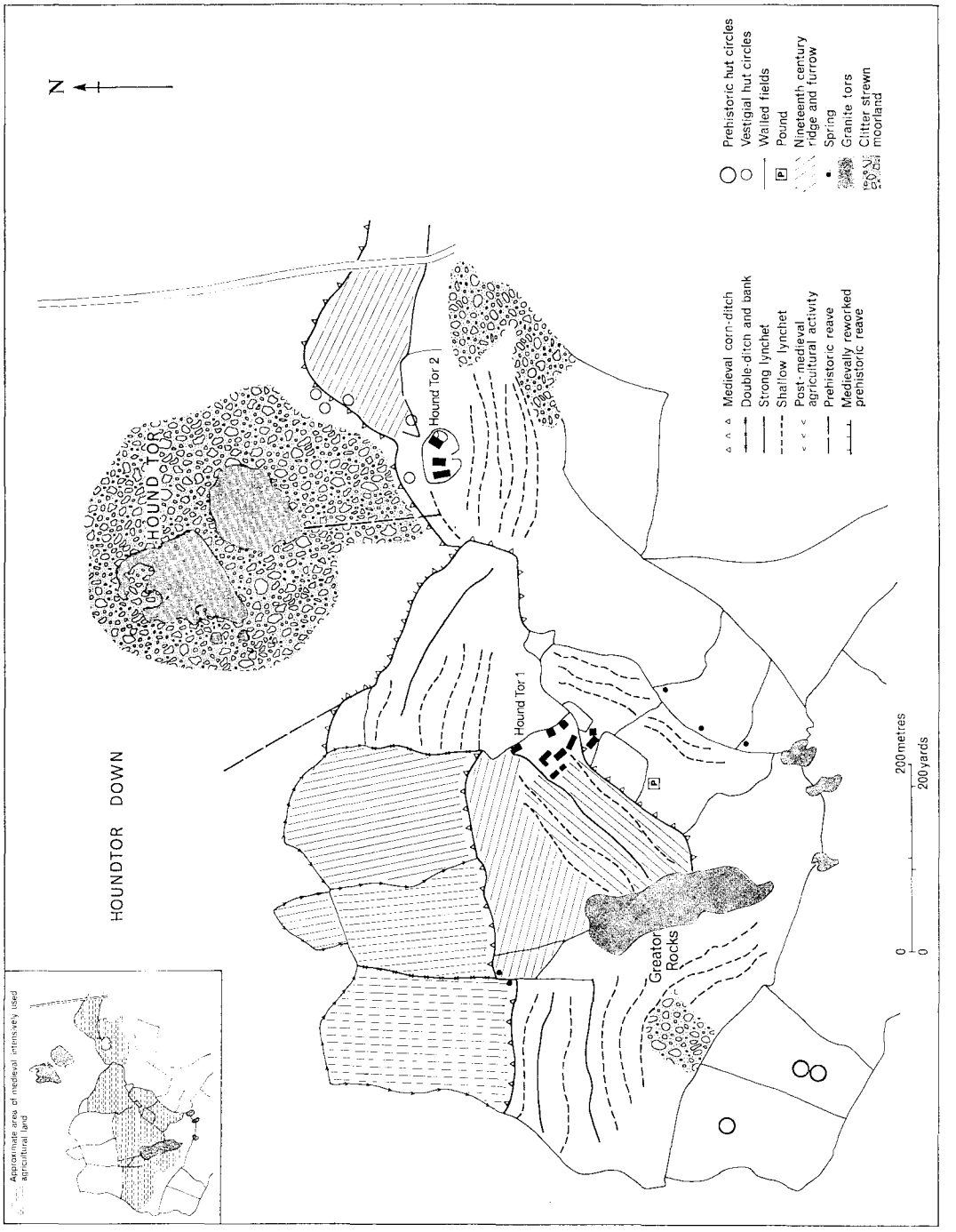


FIG. 27

Houndtor. Interpretative plan of medieval field layout. Sites A and B lie immediately SSE. and NNE. of Houndtor respectively. Sites C and D lie W. and NW. of the site of Houndtor 1 respectively

land units, have survived to permit the reconstruction of the medieval lay-out on the interpretative plan (Fig. 27). The whole setting of the site of the Houndtor deserted sites is an area of special archaeological interest.

In briefest summary, the medieval occupation resulted in a re-modelling and adaptation of a prehistoric field system, as at Kestor and Foales Arrishes.[253] The evidence on the ground suggests that from the edge of the clitter on the flanks of Houndtor to the slopes overlooking the marshy flat at the springhead providing the main water supply to Houndtor I, was an extensive prehistoric settlement scattered in single hut circles or into irregular small groups. These small prehistoric farm settlements are comparable with many others on the drier, eastern, side of Dartmoor, e.g. at Blissmoor in Manaton, but they have not been noted previously because of their much damaged condition. Small irregular plots of smooth, cleared, land lie within shallow lynchets and banks and dumps of cleared stones at site A and slight, but very definite, lynchetting is a feature of tiny parcels of land at site B. The remaining prehistoric features have been greatly altered by medieval and later activity. The Houndtor I stone buildings themselves apparently lie upon, and are built into, a previously lynchetted surface and many lines of the medieval field boundaries were pre-determined by prehistoric banks and ditches (Fig. 27).

The medieval field system imposed upon the prehistoric one is of considerable interest. That of Houndtor I comprises a number of arable fields of irregular size and shape which doubtless functioned as open-field furlongs, for several are internally sub-divided by a series of strip lynchets, mostly ploughed down subsequently, strung out along the contours and having the appearance of terraces (Pl. VI, A). At site C a series of long, narrow terraces of similar shape have been almost obliterated by later ploughing, whilst at site D a set is less disturbed. The sinuous reversed 'S' shape of these lynchets can be credibly interpreted as directly the result of the use of a long plough-team. This series of strip fields is bounded by a prominent bank and ditch of the Dartmoor 'corn-ditch' type, i.e. like a ha-ha with a deep, wide, outside ditch in front with a vertical bank on the inner side. The total acreage enclosed in this way is about 10 acres. Beyond these sub-divided fields lies a further series of fields, distinctly larger and more rectilinear, bearing no definite traces of strip lynchets, and bounded by ditches, not banks. Most of the features on the ground appear to be associated with cultivation in the last period of agricultural activity on Houndtor Down but the few internal divisions surviving suggest that this was the outfield of Houndtor 1. The field system of Houndtor 2 was basically similar. The fields above the settlement have been greatly disturbed by later ploughing but a number of heavy lynchets survive. On the downward slope is a series of adapted prehistoric fields on the steepest flank and a fine preserved set of shallow terraces, probably representing 'outfield' land.

Both field systems bear conspicuous traces of low, straight cultivation ridges of narrow width parallel to the lynchets or extending diagonally across them. These sets of ridges are unlikely to be earlier than *c.* 1780 because Land Tax assessments at the Devon County Record Office reveal that during the Napoleonic Wars the proprietor of Greator Farm, half a mile to the east, was also assessed for arable land on Houndtor Down.[254]

ACKNOWLEDGEMENTS

The excavations at Houndtor, Hutholes and Dinna Clerks covered a period of 15 years from 1961 to 1975 in the course of which many people contributed to the final result. As author of this report on the late Mrs Minter's medieval excavations on Dartmoor, it gives me great pleasure to have the opportunity of thanking the many people who interested themselves in the excavations and have assisted me with the publication of this work. Unfortunately it is impossible to be sure that due appreciation of their work has in every case been acknowledged as no full list of those who had helped Mrs Minter was found. Therefore, I can only hope that those whose names have been passed over will forgive the omission.

First and foremost, thanks are due to Mr J. G. Hurst and Dr C. A. Ralegh Radford for their continued help in bringing this project to fruition. Particular thanks are due to Professor W. G. Hoskins, Professor E. M. Jope and Mr J. T. Smith for visiting the sites and discussing the interpretation of the structural remains; to Mr H. French for discussing the excavation of the turf houses and the ecology of the moors; to Dr P. Brandon and students from the Department of Geography of The Polytechnic of North London for surveying the fields; to Dr C. Keepax for the report on the samples from the corn-drying kiln; to Mrs C. D. Linehan for the report on the history of the settlements and to Mr T. J. Miles for the description and illustration of the excavation finds. Warmest thanks and gratitude are due to those who gave so much of their time at the excavations, especially Messrs S. Bell, D. Blackmoor, Dr G. Denny, Miss H. E. Gawne, Mrs C. D. Linehan, and Mrs M. Millman.

Finally I would like to express most sincere gratitude to the owners and the tenants of the several sites for their great kindness and unfailing help at all times — namely: at Houndtor the joint owners; Mrs M. E. S. French, Wing Commander R. C. Longsdon and Mr C. C. Whitley; at Hutholes, Mr H. French and his tenant Mr K. Zab; and at Dinna Clerks, Mrs Lind and her tenant Mr Jones.

The excavation plans, manuscripts, photographs and information on the finds are in the custody of the Medieval Village Research Group, c/o The National Monuments Record, Fortress House, 23 Savile Row, London.

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[12] G. T. Denford, 'Economy and Location of Bronze Age settlements on Dartmoor', *Bull. Inst. Archaeol.*, XII (1975), 175–96.

[13] Ibid., 176.

[14] M. L. Parry, *Climatic Change, Agriculture and Settlement* (Folkestone, 1978), 68–95.

[15] J. J. Hall and A. E. Hamlin, 'Deserted Medieval Settlements in Devon', *Devon Historian*, XIII (1976), 2–7.

[16] In order to avoid any confusion between the buildings at Houndtor Village and Houndtor Farmstead Mrs Minter named the village Houndtor 1 and the farmstead Houndtor 2.

[17] The village and farmstead on Hound Tor are on open moorland and can therefore be visited at any time. It would be appreciated if permission to visit Hutholes and Dinna Clerks is requested from the owners as these sites lie in enclosed farmland.

[18] See page 146 for discussion of the dating of the medieval settlements.

[19] Rev. S. Baring-Gould, 'An Ancient Settlement on Trewortha Marsh', *J. Royal Inst. Cornwall*, XI (1892–3), 57–70 and 289–90; see also air-photographs in E. M. Jope and R. I. Threlfall, 'Excavation of a Medieval Settlement at Beere, North Tawton, Devon', *Medieval Archaeol.*, II (1958), Pls. XII, A, XIII, A.

[20] Op. cit. note 4, Fig. 53.

[21] O. M. Hecken, 'An Excavation at Chysauster, 1928', *J. Brit. Archaeol. Assoc.*, XXXIV (1928), Fig. 2, 145–64.

[22] Loc. cit., p. 146.

[23] *Victoria County History of Devonshire*, I (ed. W. Page, London, 1906), 432.

[24] H. P. R. Finberg, *Tavistock Abbey: A Study in the Social and Economic History of Devon* (Cambridge, 1951), 2.
[25] Ibid., 3.
[26] Ibid., 7.
[27] *Red Book of Exchequer*, 250; op. cit. note 24, 12.
[28] *Devon and Cornwall Notes and Queries*, XXIV (1950/51), 222; XXV (1952/53), 7, 38 et seq.
[29] Ibid.
[30] *Feet of Fines, Devon*, 846.
[31] Sir William Pole, *History of Devonshire* (London, 1791), 265.
[32] Ibid., 265.
[33] Ibid.
[34] Op. cit. note 28, VI (1910), 48.
[35] *Book of Fees*, II, 781.
[36] The Rev. O. J. Reichel, 'The Hundred of Tavistock in Early Times', *Trans. Devon. Assoc.*, XLVI (1914), 225.
[37] *Feudal Aids, Inquisitions and Assessments relating to 1284–1431*, I (London, 1899), 339.
[38] Ibid., 348.
[39] *Exeter City Library Muniments*, 50/11/1/8.
[40] *Devon Record Office*, No. 184.
[41] Op. cit. note 39, 50/11/1/10.
[42] *Devon Record Office Enrolled Deeds*, No. 274.
[43] Op. cit. note 23, 411.
[44] C. D. Linehan, 'A Forgotten Manor in Widecombe-in-the-Moor', *Trans. Devon. Assoc.*, XCIV (1962), 463.
[45] Op. cit. note 23.
[46] G. Beresford, *The Medieval Clay-Land Village: Excavations at Goltho and Barton Blount* (The Society for Medieval Archaeology, Monograph Series, VI, 1975), 19.
[47] A. Fox, 'Excavations at Kestor, an early Iron Age Settlement near Chagford, Devon', *Trans. Devon. Assoc.*, LXXXVI (1954), 50.
[48] Ibid.
[49] A. Fleming, *Dartmoor Reave Project: Interim Report*, No. 3 (1977) season. Printed publication.
[50] The structural tradition in which the houses were built with slightly rounded ends and converging sides was to persist until the late 13th and early 14th centuries (cf. plans of buildings in Figs. 14, 20 and 21).
[51] A slot was cut through the fill of the hut, down to the floor-level, to provide a firm footing for the north-east wall of the 13th-century long-house (House 1, Fig. 14).
[52] M. Beresford and J. G. Hurst (eds), *Deserted Medieval Villages* (London, 1971), 90, 100–104.
[53] E. C. Curwen, 'Black-Houses', *Antiquity*, XII (1938), 274.
[54] Op. cit. note 52, 254.
[55] Ibid.
[56] E. G. Fogwill, 'Pastoralism on Dartmoor', *Trans. Devon. Assoc.*, LXXXVI (1954), 107.
[57] P.R.O. Ministers' Accounts 88/15.
[58] Op. cit. note 56.
[59] *Dartmoor Preservation Assoc.*, 22.
[60] 'Levancy and Couchancy, for the purpose of estimating the number of Cattle which a commoner has the right to depasture on an unstinted common, means the *capability* of the commonable tenements to maintain, during the winter, by its summer produce, the cattle claimed to be depastured.' F. Stroud, *The Judicial Dictionary*, II (London, 1903), 1088.
[61] Op. cit. note 53.
[62] Since the remains of so many of the turf houses are so confusing and difficult to interpret it is not practicable to publish all their plans.
[63] E. E. Evans, 'Sod and Turf Houses in Ireland', *Studies in Folk Life, essays presented to Iorwerth C Peate*, ed. G. Jenkins (1969), chapter 7, 80–81.
[64] Ibid., 87.
[65] S. P. O'Riordain, 'Neolithic Site A, Knochadoon, Lough Gur', *Proc. Royal Irish Acad.*, LXI (1964), 297–459, 299.
[66] P. S. Gelling, 'Excavation of a Promontory Fort at Port Grenaugh, Santon', *Proc. Isle of Man Nat. Hist. and Antiq. Soc.*, V (1952), 307–15.
[67] C. A. R. Radford, *Early Christian and Norse Settlements at Birsay, Orkney* (H.M.S.O., Edinburgh, 1956, repr. 1959).
[68] J. R. C. Hamilton, *Excavations at Jarlshof, Shetland* (H.M.S.O., Edinburgh, 1956), 102.
[69] S. E. Glendenning, 'Local Materials and Craftsmanship in Norfolk Buildings', *South Eastern Naturalist and Antiquary*, LIII (1948), 15–25.
[70] J. Boswell, *The Journal of a Tour to the Hebrides with Samuel Johnson, LLD* (London, 1807), 4th ed., 125; see also S. Johnson, *A Tour to the Western Islands* (London, 1825), 76.
[71] E. M. Minter, 'Excavation notes on Lanyon', *Medieval Archaeol.*, IX (1965), 208–10.
[72] G. Beresford, 'Tresmorn, St Gennys', *Cornish Archaeol.*, X (1971), 57–62.
[73] D. Dudley and E. M. Minter, 'The Excavation of a Medieval Settlement at Treworld, Lesnewth, 1963', *Cornish Archaeol.*, V (1966), 39–43.

[74] C. G. Barns, *The Sod House* (University of Nebraska Press, 1970); and see also: E. Dick, *The Sod-House Frontier 1824–1890* (D. Appleton Century Co. Inc., 1942).
[75] E. C. Curwen, 'The Hebrides: a cultural backwater', *Antiquity*, XII (1938), 261–89.
[76] Op. cit. note 63.
[77] Op. cit. note 52, 89.
[78] A. C. Thomas, *Gwithian: Ten Years' Work, 1949–1958* (West Cornwall Field Club, Gwithian, 1958), 29.
[79] Op. cit. note 72, 57–62.
[80] Op. cit. note 73, 39–43.
[81] C. O'Danachair, 'Materials and Methods in Irish Traditional Building', *J. Roy. Soc. Antiq. Ireland*, LXXXVII (1957), 61–74.
[82] Op. cit. note 74.
[83] The house recorded at Balley-money, C. Antrim, Ireland was built of peat turf and grass turf, op. cit. note 63.
[84] Above, p. 101.
[85] Op. cit. notes 63 and 81.
[86] Op. cit. note 70.
[87] Op. cit note 75, 264. The turves will not crumble as long as the grass lives.
[88] Op. cit. note 81.
[89] Op. cit. note 68, 102.
[90] M. Stenberger, *Forntida Gardar i Island* (Stockholm, 1943), 98, Figs. 58 and 63.
[91] Op. cit. note 75.
[92] Viking houses: Bronze model of house: K. G. Peterson, 'Ett gravfynd från Klinta, Köping sn., Öland', *Tor*, IV (1958), 134–50; see also the temple in the Temptation scene from the Book of Kells: F. Henry, *Irish Art during the Viking Invasions* (London, 1967), colour plate B. Norman houses: F. Stenton (ed.), *The Bayeux Tapestry* (London, 1965).
[93] C. O'Donachair, 'The Questionnaire System (roof and thatch)', *Bealoideas*, XV (1945), 203–17.
[94] Op. cit. note 75.
[95] E. E. Evans, 'Donegal survivals', *Antiquity*, XIII (1939), 207–22.
[96] Op. cit. note 81, 63.
[97] Op. cit. note 46, 38–39.
[98] I am most grateful to Dr N. W. Alcock for this information.
[99] Although traces of turf-wall certainly survived in places, the interpretation was possibly somewhat confused in others by the matted roots overlying the iron-pan (loc. cit. 101).
[100] I am most grateful to Mr French and to those who assisted during the excavations for this information.
[101] Loc. cit., 101.
[102] I am most grateful to Dr K. Mellanby for a discussion on moles; see also K. Mellanby, *The Mole* (London, 1971, reprinted 1974), 68–79.
[103] D. Brunsden, 'The Origin of Decomposed Granite on Dartmoor', op. cit. note 7, 97–117.
[104] Op. cit. note 73, 36–43.
[105] Op. cit. note 71.
[106] Loc. cit., p. 120 and p. 139.
[107] Owing to the thin floor levels of some of the stone-built long-houses, the lack of stratigraphy in the turf houses and the general wear of the ground surface, it was not possible to determine the origin of all the stake-holes unless they were cut through the final floor surface.
[108] Although isolated outside hearths are sometimes found by 13th- and 14th-century peasant houses there is nothing to suggest that these are associated with the long-houses.
[109] It has been suggested by some that these stake-holes were wattle linings to the 13th-century stone walled long-houses, but examination of the plans shows that the lines of stake-holes do not follow those of the stone walls exactly: see the end walls of the house at Dinna Clerks (Fig. 14) and the side and end walls of Houndtor House 1 Phase 3 (Fig. 11).
[110] G. Beresford, 'Excavation of a Moated Homestead at Wintringham in Huntingdonshire', *Archaeol. J.*, CXXXIV (1977), Fig. 7.
[111] Op. cit. note 46, 122–24.
[112] C. F. Innocent, *The Development of English Building Construction* (Cambridge, 1916, and reprinted by David and Charles Reprints Plymouth, 1971), 8–11.
[113] W. Winkelmann, 'Eine westfalische Siedlung des 8. Jahrhunderts bie Warendorf', *Germania*, XXXII (1954), 189–213.
[114] Op. cit. note 112, Fig. 3.
[115] G. I. Meirion-Jones, 'Some Early and Primitive Building Forms in Brittany', *Folk Life*, XIV (1976), Fig. 2.
[116] Op. cit. note 112.
[117] Op. cit. note 115, 62.
[118] For examples in Scotland see A. J. Warden, *The Linen Trade, Ancient and Modern* (London and Dundee, 1864), 453; Sir J. Sinclair, *The Statistical Account of Scotland*, II (Edinburgh, 1972), 22 seq.; for Ireland see E. E. Evans, 'Sod and Turf Houses in Ireland', *Studies in Folk Life, essays presented to Iorwerth C. Peate*, ed. G. Jenkins (1969), chapter 7, 80–90.
[119] Op. cit. note 67.

[120] Op. cit. note 68, 102.
[121] Op. cit. note 71, 208–10.
[122] Op. cit. note 53, 264.
[123] Op. cit. note 52, 107–14; and op. cit. note 46, 13–18.
[124] I. C. Peate, 'Some Welsh Houses', *Antiquity*, x (1936), 448–59; and 'The Welsh House, A Study in Folk Culture', *Y Cymmrodor*, XLVII (1940), 3rd ed., Liverpool, 1946.
[125] J. G. Hurst, *Wharram Percy Excavations*, The Society for Medieval Archaeology, Monograph series, forthcoming.
[126] A. Rousscll, *Norse Building Customs in the Scottish Isles* (London, 1974).
[127] A. Bantelmann, *Tofting, eine vorgeschichtliche Warft an der Eidermundung* (Offa Bucher, n.f., xii, 1955).
[128] Op. cit. note 113.
[129] Op. cit. note 68.
[130] R. L. S. Bruce-Mitford, 'A Dark-Age Settlement at Mawgan Porth, Cornwall', in R. L. S. Bruce-Mitford (ed.), *Recent Archaeological Excavations in Britain* (London, 1956), 167–96.
[131] Op. cit. note 56, 89.
[132] Op. cit. note 46, 13–18.
[133] Milk Marketing Board, *Report of the Production Division*, no. 7 (1956–57); J. E. Grundey, 'Notes on the relationship between climate and cattle housing', *Vernacular Architecture*, 1 (1970), 2–5.
[134] Op. cit. note 52, 93–95.
[135] P. Grimm, 'Hohenrode, ein mittelalterliche Siedlung im Südharz', *Veröffentlichungen der Landesanstalt für Volkheitskunde zu Halle*, II (1939), 1–56.
[136] I am most grateful to Mr T. Miles for this information.
[137] I am again grateful to Mr T. Miles for this information.
[138] D. Dudley, 'Vendown Minster', *Proc. West Cornwall Field Club*, new ser., 1 (1955–56), 147–48; see also D. Dudley and E. M. Minter, 'The Medieval Village at Garrow Tor, Bodmin Moor, Cornwall', *Medieval Archaeol.*, VI–VII (1962–63), Pl. XXIX, B.
[139] Dudley and Minter, op. cit. note 138, 275.
[140] Op. cit. note 3, 144.
[141] Op. cit. note 68, 105.
[142] V. M. and F. J. Chesher, *The Cornishman's House* (Truro, 1968), 65.
[143] Ibid., 71.
[144] P. Hume Brown, *Early Travellers in Scotland* (Edinburgh, 1891), 231.
[145] Loc. cit., 114.
[146] I am most grateful to Dr N. W. Alcock for drawing my attention to this house.
[147] Recent research has demonstrated that some roofs of medieval and post-medieval buildings were constructed without wall plates in Devon as in Ulster: N. W. Alcock, 'Medieval buildings of Bishops Clyst', *Trans. Devon Assoc.*, XCVIII (1966), Fig. 2; and D. McCourt, 'Roof-timbering techniques in Ulster; a classification', *Folk Life*, X (1972), 118–30.
[148] Loc. cit., 135–36.
[149] Loc. cit., 133–34.
[150] R. H. Buchanan, 'Thatch and Thatching in North-East Ireland', *Gwerin*, 1, no. 3 (1957), 123–42.
[151] Op. cit. note 126.
[152] Op. cit. note 112, 214–15.
[153] Op. cit. note 150, 126.
[154] See: op. cit. note 112, 202–4; op. cit. note 150, 228–30.
[155] Op. cit. note 126.
[156] Op cit. note 150, 228–30.
[157] Op. cit. note 112, Fig. 58.
[158] Op. cit. note 112, 202.
[159] Ibid.
[160] Op. cit. note 139, Fig. 88.
[161] Op. cit. note 73, Fig. 13.
[162] Op. cit. note 3, Fig. 37.
[163] Op. cit. note 52, Fig. 20.
[164] Op. cit. note 53, 268.
[165] Op. cit. note 52, 98.
[166] I. C. Peate, *The Welsh House* (Liverpool, 1944), 123; 'The Double-ended Firedog', *Antiquity*, XVI (1942), 64–70.
[167] Op. cit. note 139, 276; Pl. XXVIII, B.
[168] Op. cit. note 73, Fig. 13; Pl. VIII, A.
[169] Op. cit. note 139, Pl. XXVIII, C; Fig. 88.
[170] D. Austin, 'Meldon Quarry', *Medieval Village Research Group Report*, XXIV (1976), 19–21.
[171] I am most grateful to Mr French for discussions on byres and cow-ties. For illustration of a stall-post and tethering-yoke, see N. W. Alcock, 'Devonshire Farmhouse Part 2. Some Dartmoor Houses', *Trans. Devonshire Assoc.*, CI (1969), Fig. 5, B.
[172] J. A. S. Watson and J. A. More, *Agriculture, The Science and Practice of British Farming*, 9th ed. (Edinburgh and London, 1949), 94.

[173] Op. cit. note 73, Fig. 14.
[174] Op. cit. note 72, 62.
[175] G. Beresford, 'The Medieval Manor at Penhallam, Jacobstow, Cornwall', *Medieval Archaeol.*, XVIII (1974), Fig. 27.
[176] A. Fox, 'Dinas Noddfa', *Archaeol. Cambrensis*, XCIV (1939), 247–68.
[177] Op. cit. note 73, 50.
[178] Op. cit. note 68, Pl. XXVII.
[179] Op. cit. note 71, 208–10.
[180] Op. cit. note 73, Fig. 13.
[181] S. R. Jones and J. T. Smith, 'The Houses of Breconshire, Part 4. The Crickhowell District', *The Brecknock Soc. in Brycheiniog*, XXII (1966–67), 53–56.
[182] A substantial spread of turf, found over the hearth, oven and the foundation stones of the kilns, was originally identified as the remains of a fallen turf wall, but complete excavation of this house and others at Houndtor and Hutholes has shown that the granite hearths and ovens are associated with the 13th- and 14th-century occupation. Therefore the spread of turf should be interpreted as the remnants of the roof.
[183] Op. cit. note 72, Fig. 24.
[184] J. H. Parker, *Some Account of Domestic Architecture in England, II, from Edward I to Richard II* (Oxford, 1853), 108 12.
[185] Loc. cit., 109.
[186] Jope and Threlfall, op. cit. note 19, 123.
[187] Op. cit. note 175, 110–12.
[188] L. Scott, 'Corn-drying Kilns', *Antiquity*, XXV (1951), 200, Fig. 4.
[189] *Chambers' Encyclopaedia*, Revised ed., I (London, 1874), 807; higher temperatures were required for darker ales, J. H. Walsh, *A Manual of Domestic Economy* (London, 1858), 316.
[190] C. A. R. Radford, *Tintagel Castle* (H.M.S.O., London, 1939), 22.
[191] Op. cit. note 186, 123–24.
[192] A. D. Saunders, 'Excavations at Launceston Castle, 1965–69: Interim Report', *Cornish Archaeol.*, IX (1970), 89–90.
[193] Op. cit. note 175, 111–12.
[194] Carbonized oats were found in the kiln of Barn 3. See below.
[195] J. A. S. Watson and J. A. More, *Agriculture, The Science and Practice of British Farming*, 9th ed. (London, 1949), 200–202.
[196] Op. cit. note 188.
[197] H. T. Knox, 'Notes on Gig Mills and Drying-Kilns near Ballyyhaunis, Co. Mayo', *Proc. Royal Irish Academy*, 3 (1906–7), 265–74, Pl. XX.
[198] Op. cit. note 195, 201.
[199] Op. cit. note 175, 111–12.
[200] Ibid.
[201] Op. cit. note 192, 89–90.
[202] Op. cit. note 175, 111–12.
[203] Op. cit. note 197, 265–74.
[204] Op. cit. note 110, 242.
[205] Op. cit. note 188, 200.
[206] Op. cit. note 24, 294–95.
[207] Ibid., 87–115.
[208] Op. cit. note 139, 278–80.
[209] I am most grateful to the Ancient Monuments Laboratory for this information.
[210] Op. cit. note 24, 95–98.
[211] P.R.O. Ministers' Accounts, S.C. 6, Bdle. 827, no. 39.
[212] Op. cit. note 24, 95–98.
[213] Op. cit. note 195, 251–52.
[214] Ibid., 278–80.
[215] Op. cit. note 24, 98–103.
[216] Op. cit. note 195, 272.
[217] Ibid., 236–38.
[218] *Walter of Henley: Husbandry; with an anonymous Husbandry, Seneschaucie, and Robert Grosseteste's Rules*, ed. E. Lamond and W. Cunningham (London, 1890), 71.
[219] Op. cit. note 24, 96.
[220] Ibid., 113.
[221] Op. cit. note 14, 81–86.
[222] Ibid., 95–111.
[223] Ibid., 86–94.
[224] Op. cit. note 195, 266. Leather jackets are the lavae of the crane-fly (*Tipula*).
[225] Ministry of Agriculture, Fisheries and Food, *Cereal Mildew*, Advisory Leaflet 579 (H.M.S.O., Edinburgh, 1972).
[226] Op. cit. note 195, 280–82.

[227] Murrain (derived from O. Fr. *morine*, from Lat. *mori*, to die) a general term for various virulent diseases of domestic animals, synonymous with plague or epizooty.
[228] See T. G. Hungerford, *Diseases of Livestock*, 4th ed. (Sydney, 1959).
[229] I. Kershaw, 'The Great Famine and Agrarian Crisis in England, 1315–1322', *Past and Present*, LIX (1973), 1–50.
[230] H. H. Lamb, *The Changing Climate* (London, 1968), 7, etc.
[231] Op. cit. note 14, 13.
[232] Op. cit. note 46.
[233] S. M. Wright, 'Barton Blount: Climatic or Economic Change?', *Medieval Archaeol.*, XX (1976), 148–52; see also op. cit. note 14, 143–45.
[234] Op. cit. note 48, 50—52.
[235] Ibid., 100–2; see also H. George, *Soils Survey Record No. 53, Soils in Northumberland Sheet NZ07 (Stamfordham)* (Harpenden, 1978), 55–56 especially.
[236] Wright, op. cit. note 233, 150–52.
[237] Op. cit. note 14, 137.
[238] P. V. Addyman, 'Excavation notes on Lydford', *Medieval Archaeol.*, XI (1967), 263.
[239] Op. cit. note 72, 67.
[240] Op. cit. note 73, 53.
[241] Op. cit. note 238.
[242] Op. cit. note 21.
[243] H. P. R. Finberg, *Lucerna* (London, 1964), 99.
[244] W. L. D. Ravenhill, 'The Settlement of Devon in the Dark Ages', *Trans. Devon Assoc.*, LXXXVI (1954), 63.
[245] The report here is a synthesis prepared by the editor of the complete record, which can be consulted with the other site records at 23 Savile Row, London.
[246] For further discussion of this vessel, see S. Moorhouse, 'Documentary evidence for the uses of medieval pottery: an interim statement', *Medieval Ceramics*, 2 (1979), forthcoming.
[247] G. Beresford, 'Tresmorn, St. Gennys', *Cornish Archaeol.*, 10 (1971), 68, Fig. 28.
[248] Excavations by A. D. Saunders, pottery sequence compiled by T. J. Miles. Publication forthcoming.
[249] Excavations by R. Higham. Pottery report by J. Allen, forthcoming.
[250] Fox, op. cit. note 3. Recent examination of the Dean Moor pottery shows it to be similar in fabrics and forms to that from Houndtor Village and Hutholes. The published drawings over-emphasize the sharpness of angles and wrongly suggest competent, wheel-thrown wares.
[251] See note 248.
[252] This may have implications for the length of occupation, particularly of Houndtor Village.
[253] Kestor: op. cit. note 47; Foales Arrishes: Radford, op. cit. note 11.
[254] Devon County Record Office, 217/3/25c.

NOTE

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