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A Report commissioned by the National Trust

**Recording of two trenches through a Romano-British boundary
at Foage, Zennor**

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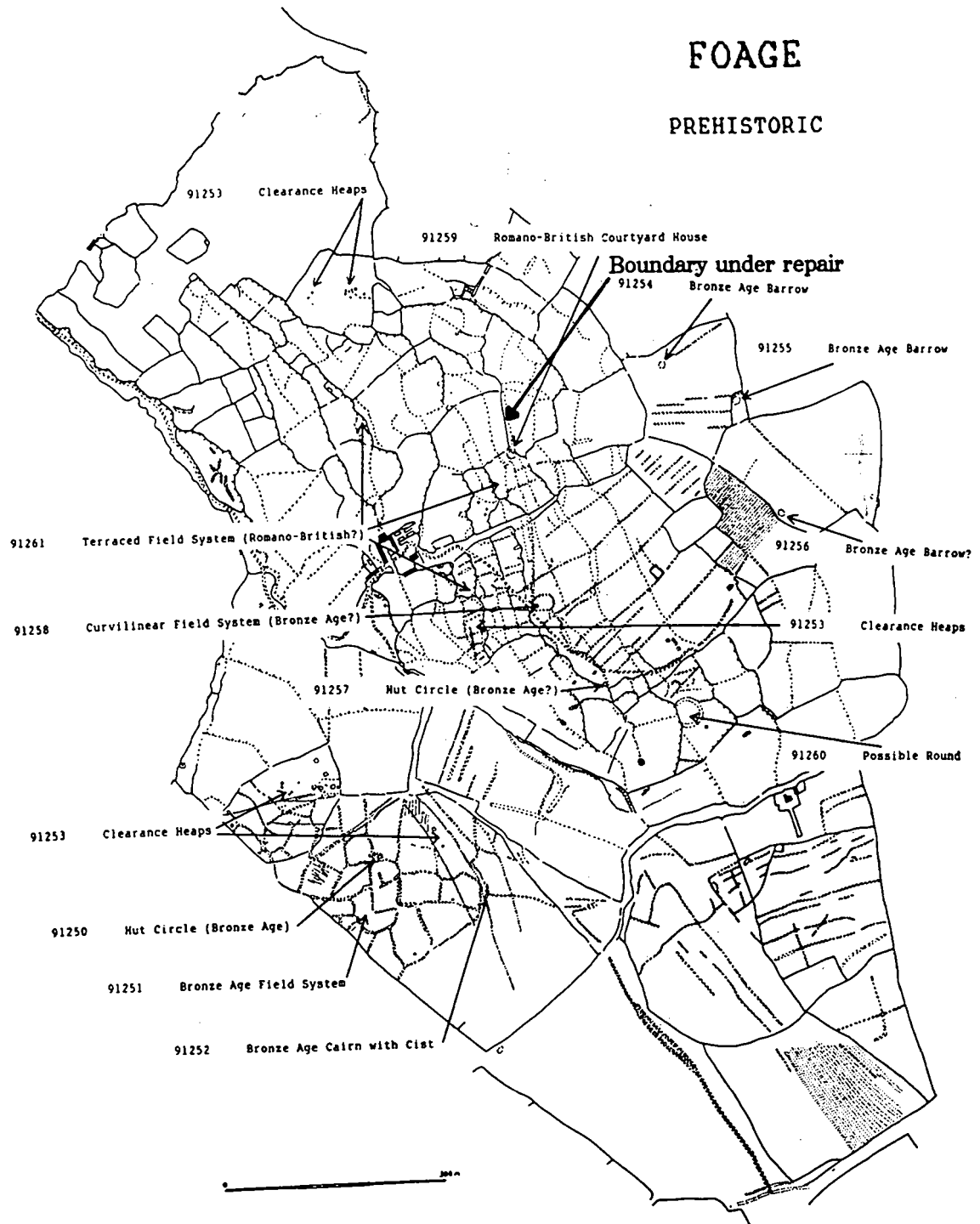
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Acknowledgements

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FOAGE

PREHISTORIC



Background

The Cornwall Archaeological Unit has consistently recommended that any works (repairs, pipelines etc) that will affect the highly important prehistoric boundaries in Zennor should be preceded by archaeological investigation and recording (eg Herring 1987, site 94043).

The National Trust (NT) planned to repair, in the summer of 1992, a collapsing and untidy revetted lynchet on the south-west facing slopes of Zennor Hill/Carne, part of the main prehistoric field system (NT 91261) at Foage farm, Zennor (see fig 1 for location). The lynchet, a build-up of cultivation soil at the bottom of a field, was substantial, nearly 2 m high in places, but the revetment had collapsed in several stretches and had been spread by the movement through or over the boundary by farm livestock in others. Rusting barbed wire from an abandoned fence ran along parts of the boundary.

As it stood the boundary no longer functioned as a livestock barrier and it was unsightly. In addition, the lynchet was continuing to be eroded and damaged by animals making their way across or through it. The lynchet was considered to be of some archaeological importance as a Romano-British courtyard house (NT 91259) had been discovered immediately to its south in the NT survey of 1989 (see Herring 1989, 36-7). The boundary appeared to have been originally attached to the north, rear side of the courtyard house and was regarded as almost certainly contemporary and thus probably 1800-2000 years old, with the lynchet having developed as the product of regular ploughing over nearly two millennia.

The NT repairs would involve using a mechanical excavator to pull away the bank of mainly loose stones along the downhill, west side of the lynchet and using the same machine to cut a shallow foundation trench and a vertical rear edge onto and against which the new wall was to be built. The new wall was to be a slightly battered revetment (with a stone and earth core behind) built to the full height of the lynchet.

It was clear that a considerable length of prehistoric boundary was to be revealed and partially removed and when consulted by Jon Brookes, the NT warden, the Cornwall Archaeological Unit recommended that a perpendicular trench be cut through the boundary so that a section through it and the lynchet could be studied and recorded. The Trust then commissioned the Unit to undertake that work and also to produce an explanatory leaflet for the Acorn volunteers who would be doing the rebuilding work.

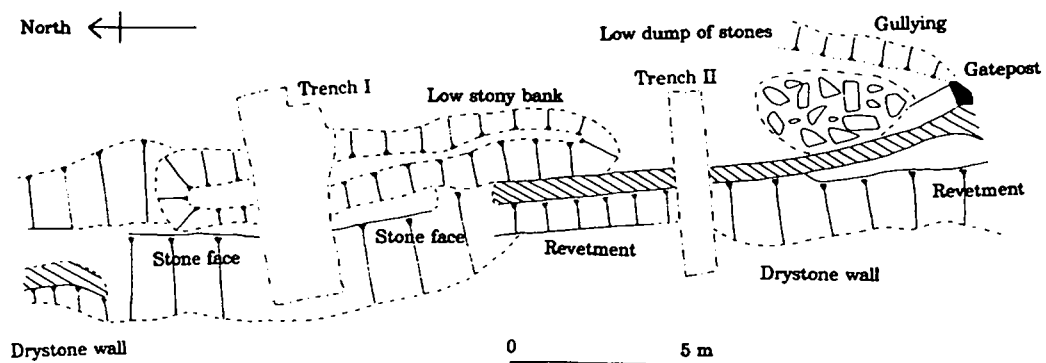


Fig 2 Plan of the southernmost 25 m of the boundary being repaired, showing locations of Trenches I and II

Methods

Two trenches, both c.6 m long, were cut by mechanical excavator. One (I), 18 m from the south end, ran through a stretch of the boundary which included a low bank of stones (0.5 m high) on the back of the lynchet and traces of a stone face along its downhill west side. The other (II), 7 m from the south end, sectioned a stretch of apparently pure lynchet with no visible bank on top but with a recent (19th or 20th century) flimsy single stone thick drystone wall running along its back.

Sections of both trenches were cleaned, photographed and drawn at 1:20 (figs 3 and 4) and the southernmost 27 m of the boundary was planned at 1:100 (fig 2) to show the trenches' locations and the nature of part of the boundary prior to repairs. Samples of the soil were taken from each identifiable layer and further smaller samples were taken at regularly spaced depths through the lynchet material in both trenches and through the buried soil found in trench I. These smaller samples were to be sent to Vanessa Straker at Bristol University for assessment of the potential for environmental (pollen etc) analysis.

Trench I (fig 3)

The stratigraphy and layers recorded will be described within a narrative account of the development of the boundary, an account which can be broken down into 7 distinct phases:

Phase 1 Pre-boundary (buried soil)

The top of the underlying rab (layer 7 - orange granite subsoil) slopes gently down from east to west at an angle of c.15° from horizontal. This was probably the original lie of the land - the builders of the wall (phase 2) appear not to have cut a foundation trench as a "buried soil" survives beneath it.

The buried soil (layer 6) is potentially the most important layer recorded in either trench because, if conditions are favourable, it should contain pollen from the vegetation that existed at Foage and in its surrounding area in the period before the wall was built, ie pre-Roman if our assumed early Romano-British date for the wall is correct. The soil is a black-brown loam containing some granite sand/gravel (1-3 mm) and relatively few small stones. It is up to 0.14 m (14 cm) deep beneath the wall and also survives to a little distance from the wall on each side. Uphill it survives for 0.2 m and is just 0.06 m deep and appears to have been cut away by ploughing/digging this close to the wall in the years before the lynchet (phase 3) developed and buried it. Downhill from the wall it survives for 0.9 m, buried by a layer of small and medium sized stones, apparently collapse from the wall (phase 5). Six samples of soil were taken from this buried soil from roughly under the centre of the wall (sample numbers 1 to 6 at respectively 1, 4, 7, 10, 13 and 14 cm from the top of the layer).

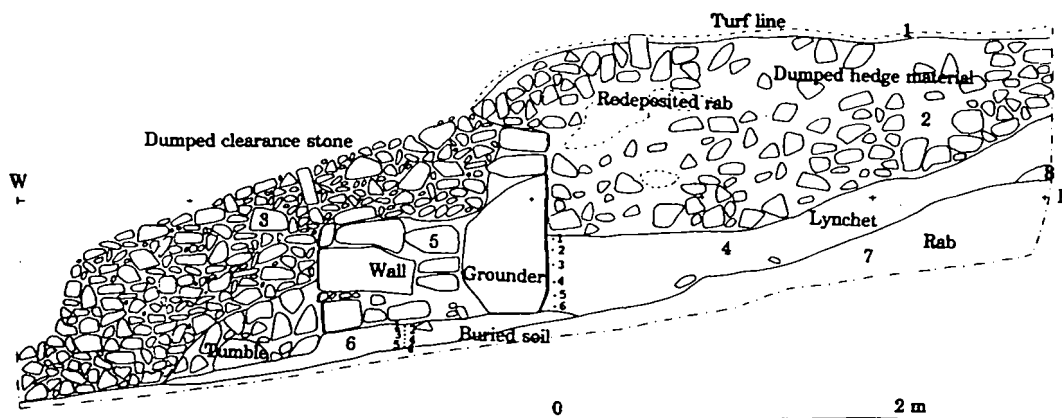


Fig 3 Section through Trench I showing layers (larger numbers) and locations of soil samples (smaller numbers)

Phase 2

Wall

Built onto layer 6 (the buried soil) is a very substantial stone-faced stone and earth wall (a Cornish hedge) 1.3 m wide with well finished vertical faces surviving to 1.0 m high on the uphill, east side and 0.6 m on the downhill, west. The section revealed a massive un-dressed granite boulder set up on edge and used as a grounder at the foot of the east face; two other boulders of similar size (0.9 m max dimension) were removed by the machine from similar positions during trench excavation. Such large grounders are common in Zennor walls and it is considered likely that most will be as old as the boundary - the smaller stones making up the upper faces and core will probably have been periodically knocked out and replaced but the large grounders will usually stand "for ever". In this case the assumption is that the grounder and perhaps also the smaller footing stones on the western side will be of the Romano-British period.

The core of the wall comprises small stones (generally less than 0.2 m max dimension) and a medium reddy brown loam (layer 5), darker than layer 4 (lynchet), and containing a considerable amount of granite sand/gravel (1-3 mm). This soil has also, of course, found its way into the heap of tumble (phase 5) on the downhill, west side.

The wall was until relatively recently somewhat higher than it appears in section; it can be assumed that the recent dump of stones on the uphill side (phase 7) originally came up to wall height (1.6 m). This would have made the boundary stock-proof on both sides. Its width gave the wall considerable strength but also allowed its core to be a valuable dump for clearance stones.

Phase 3

Lynchet

Built up against the back (east) of the wall and on top of the lip of buried soil was a substantial layer of medium brown loam (layer 4), 0.45 m deep immediately behind the wall, 0.18 m deep 2 m uphill from it. There were very few stones in this layer which was of a light, well-sorted nature. This is the lynchet layer, developed over the centuries since the creation of the field uphill of the boundary, known as "Flat Field" or "Great Flat Field". Soil from digging and then ploughing found its way, with help from gravity and water, down the slope and against boundary.

The section shows that this lynchet layer would once have been much deeper, at least 1.0 m deep immediately behind the wall, leaving little wall height on this side. It has clearly been partially removed (see phase 4).

Soil samples were taken from six points immediately behind the wall (at 2, 8, 17, 27, 35 and 41 cm depths from the top of the layer).

Phase 4

Removal of part of lynchet

The lynchet (phase 3) would once have been c.1.0 m deep uphill from the wall (see phase 3). The section shows a shallow cutting into it, c.2.0 m wide c.0.5 m deep. Someone took away the well-sorted, nutrient-rich, fairly stone-free lynchet soil and presumably re-used it elsewhere on the field or farm, a practice recorded elsewhere in the South-West (eg Jewell 1981, 104). In fact we also have a record of James Stevens, the farmer-diarist of Foage, doing precisely this, in this field ("Great Flat Field") exactly one hundred years ago! Throughout January 1892 he "*heaved the leat*", "*broke up ditch*" and "*turned ditch*" before "plowing" the field in early February. He turned his attention back to the ditch again at the end of that month. His diary entry for March 5th reveals his method and intention:

"Pulled out ditch of great flat field in slide [ie farm sledge] over the shallow lower corner and pulled some loads of scrapings on green pile plot for pile" (Pool 1977)

James was clearing the ditch not just to maintain a drain and keep the wall stockproof but also to obtain good soil for increasing the soil depth in the "*shallow lower corner*" and to add to his manure piles in the enclosure near the farmstead he kept aside for that purpose.

No doubt James Stevens was not the first Foage farmer to take soil from this lynchet although he may have been the last; many labour-intensive farming practices established in the medieval or earlier periods ended in Zennor in the decades around the turn of the 20th century. The cutting into the lynchet recorded in this section is, then, quite likely to be that made in January 1892, a remarkable coming together of documentary and archaeological evidence.

The implications of confirming that this husbandry practice prevailed in Zennor are considerable. Firstly we can expect many more lynchets to have been cut into, removing valuable archaeological and environmental history evidence. This may be particularly the case in the more intensively worked fields close to farmsteads - the lynchet examined here is c.150 m from Foage farm. Secondly we must be more cautious in equating depth (or height) of lynchet with intensity or duration of cultivation; many relatively shallow lynchets can now be expected to have been partially removed while other more substantial ones towards the edges of field systems may never have been cut into or robbed. It would be wrong to assume that the latter were in more intensively worked fields. Thirdly the practice itself is another vivid reminder of the sheer hard work involved in the farming of Zennor's fields. In all, James Stevens spent 17 days in 1892 clearing material from the "ditches" of this one field. Presumably in the following year he did the same in another field. See Appendix for a year in the life of the "Great Flat Field".

Phase 5 Wall collapse/breach

The downhill, west face of the stone wall collapsed into a low compact heap against its foot (see section). This must have happened regularly through the wall's long life but usually such breaches or collapses were repaired to keep the boundary stock-proof. That the last collapse was not repaired is a sign either of neglect or of a change in husbandry practice in which livestock were allowed free range through several fields at a time and breaches of walls and hedges were not attended to. This appears to be a feature of 20th century dairy and stock farming in Zennor so we may assume such a date for this collapse. It is certainly difficult to imagine James Stevens not repairing the wall!

Phase 6 Field clearance stones dumped from west

Overlying the partially collapsed wall to a depth of c.0.7 m is an untidy heap of small stones (layer 3), mainly fist to head size, clearly dumped on the wall from the downhill, west side, from the field called in 1840 "Higher Whit Park". These are distinctively leazing stones, the small stones kicked up by cultivation, collected by hand and dumped on the nearest wall or natural earth-fast boulder.

As they post-date the wall's collapse a 20th century date is likely.

Phase 7 Dump of material from uphill hedges

Overlying the cut lynchet (phases 3 and 4), the wall (phase 2) and the dump of leazing stones (phase 6) is a substantial dump of loose stones, earth and even scoops of rab. The layer (2) is up to 1.2 m thick and is the main element of the apparent lynchet.

The material almost certainly came from the removal of two hedges in the field uphill, ie the boundaries between "Great Flat Field" and "Flat Field" and between "Great Flat Field" and "Great Carn Field". Their removal left the large irregular shaped field that exists uphill from the lynchet today. The lines of their lynchets survive in the field.

A date in the second half of the 20th century for the hedge removal was confirmed by the discovery below the dump but above the cut lynchet of an oil can and a rusting 1940s pram (further north along the boundary). These had presumably been left against the wall in typical Cornish fashion and were smothered by the hedge debris.

Trench II (fig 4)

Phase 1 Rab and podzol

The section revealed a characteristic podzol buried beneath the main lynchet. A 0.2 m deep white or pale grey gravelly layer (5) overlay the orange/red rab (the iron having been washed out of the grey into the red). The angle of its slope, c.5° from horizontal reflects the original lie of the land (NB this is c.10° less steep than Trench I, just 11 m to the north).

Phase 2 Boundary and buried soil

At some date, probably in the Romano-British period, a boundary was erected here as a positive lynchet developed uphill from it and a negative lynchet was cut below it (phase 3). Unfortunately the original boundary has been removed but a low bank of small and medium sized stones 0.8 m wide, 0.1 m high survives. Beneath the downhill part of this is a thin buried soil (layer 7) 0.13 m thick (maximum) 0.7 m wide. This appears to have been disturbed in the construction and dismantling of the wall. One sample was taken from it.

The wall was presumably similar to that substantial stone-faced stone and earth wall recorded in phase 2 of Trench I (above).

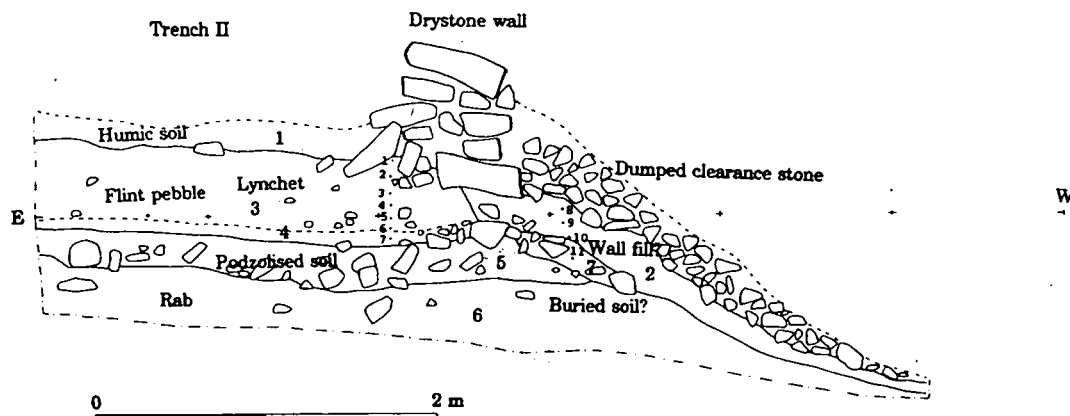


Fig 4 Section of Trench II showing layers (larger numbers) and locations of soil samples (smaller numbers)

Phase 3 Lynchets (positive and negative)

Lynchets developed on each side of the boundary. A 0.5 m deep layer of well-sorted fine grey-brown soil with some gravel (1-3 mm) and a few small stones built up against the uphill, east side. Beneath this was a thin layer (4; 0.07 m deep) of much lighter coloured soil of similar texture, presumably the product of the first few years' ploughing into the grey-white bleached horizon of the podzol. A flint beach pebble with one flake knocked off it (whether by design or accident cannot be determined) was found at the base of the lynchet. If brought to Foage by a prehistoric person for use in tool manufacture it will be residual. The more likely source is with a load of seasand spread on the fields to "sweeten" the soil (ie reduce its acidity). Its position low in the lynchet may hint at an early date (Romano-British?) for this important Cornish farming practice.

Seven soil samples were taken from the positive lynchet (Nos 1-7, from 1, 9, 19, 26, 33, 40 and 45 cm down from the top of the layer; No 7 was from layer 4). This lynchet appears not to have been cut into by James Stevens (cf phase 4 of Trench I).

A negative lynchet was formed on the downhill side of the boundary by farmers gradually cutting into both the bleached horizon of the podzol and the rab by centuries of ploughing. Assuming an even

plane to the original lie of the land this cutting was c.0.5 m deep and therefore contributed as much as the positive lynchet to the overall lynchetting scarp.

Phase 4 Debris from wall removal

A layer of reddy brown fine soil (layer 2) spreads over the downhill slope of the lynchet, obscuring much of the negative lynchet. The most likely source of this layer, up to 0.2 m deep, is the earth core from the original wall. When dismantled the stones were removed and some were re-used in the later drystone wall (phase 5).

Phase 5 Single drystone wall

In the modern period, 18th to 20th centuries, most Zennor boundaries were relatively flimsily built - single stone walls and single thickness drystone walls were most common. Here we have a typical late single drystone wall high in the section, built on top of the established lynchet. It is just 0.55 m wide and stands here to 0.8 m high. Over most of its sinuous length (the southern 13 m of the boundary) it had collapsed; this was not surprising considering its generally poor construction (see section drawing - the cleaned up wall even collapsed before final photographs could be taken!).

Phase 6

Leaving stones have been dumped against the downhill, west side of the boundary possibly in the 20th century (see also phase 6 in Trench I, above). A 0.3 m thick layer of small fist to head sized stones spreads up to the higher courses of the phase 5 drystone wall.

Summary and general conclusions

The detailed recording of the sections through this lynchet has proved extremely valuable archaeologically.

A probably pre-Roman buried soil was recorded and samples taken for preliminary environmental analysis.

The earliest wall, visible in Trench I, probably Romano-British in origin (c.1-200 AD), was substantial with a massive grounders on the uphill side, later completely buried by the build up of lynchet material. It was built both to be stock-proof and to be a dump for stones cleared from the fields. Revetted lynchets, as suspected, could always have been free-standing walls originally.

Trench II showed that negative lynchetting, the cutting away of soil and subsoil at the tops of fields could contribute as much to the scarping visible at Zennor lynchets as positive lynchetting, the build up of soil moved downslope by gravity, water etc during cultivation.

Trench I demonstrated the importance of "artificial adjustments" to lynchets, ie the deliberate removal of the fine, well-sorted and nutrient-rich soil to be spread on other parts of the field where the soil is shallow and to be put on to manure heaps to give structure to agricultural compost. The implications of such a practice for our understanding of early agriculture are outlined above (Trench I, phase 4).

Both trenches provided good evidence for the apparent neglect of boundaries in Zennor in the 20th century: the non-repair of collapses, the unstructured dumping of stones cleared from fields.

Finally, the archaeology of 20th century boundary removal as fields are thrown together, the process which has most radically altered the Zennor landscape in the last 2000 years, was shown to be not confined to the reduction of substantial walls to low grassed-over scarps. The dumping of hedge material (stones and earth) against the back of the boundary sectioned here transformed a wall with stock-proof height on both sides into a revetted lynchet with no height at all on its uphill side.

As is normal on archaeological sites the simple was shown to be complex as the exposure of these sections showed that a boundary that looked quite straightforward from field evidence alone (a collapsing revetted lynchet) had an altogether more complicated and interesting history.

Recommendations for future recording of boundaries in Zennor

In retrospect it now seems sensible to stagger the archaeological recording and hedge-line preparation stages in these projects, so that archaeological features, particularly the earliest boundaries, can be clearly identified in the recorded sections and can then be more carefully avoided or respected by the mechanical excavators when preparing the hedge line. The original stone-faced wall, where it survived, could then have formed the foundation of the rebuilt wall here at Foage.

Appendix: A year in the life of the "Great Flat Field"
 Extracted from the diary of James Stevens (ed. Peter Pool 1977)

1892

Jan	1	Heaved the leat in great flat field
	4	Heaved leat in flat field
	5	Broke up ditch in flat field
	25	Broke up ditch in flat field
	26	Turned ditch
	27	Turned ditch
	28	Turned ditch
	29	Turned ditch
	30	Broke up ditch
Feb	1	Pulled away the stones that I digged out of ditch to the hedges
	8	Plowed part of the great flat field one way
	9	Plowed part of field
	10	Plowed
	11	Plowed
	12	Plowed
	15	Finished plowing lay field
	22	Broke up ditch in flat field
	23	Broke up ditch in flat field
Mar	5	Pulled out ditch of great flat field in slide over the shallow lower corner and pulled some loads of scrapings on green pile plot for pile.
Apr	11	Pulled harrow over the great flat field and filled part of it with oats. Sowed 2 bags of special manure over part of it. I measured this field and find it about 1 acre and 49 lace.
	12	Till the other part of flat field, sowed in it all 3½ bus. of Prince Edward's oats and a peck of Cornish oats.
	13	Finishing tilling the flat field.
	19	Rolled great flat field.
Aug	15	Cut oats and bound 2 mows.
	16	Finished cutting the great flat field.
	19	Bound 4 mows oats in flat field.
	20	Raked the flat field and pulled in the rakings and put the geese 23 in the arish.
	22	Trimmed the hedge of the great flat field.
	24	Pulled in the trimmings of the great flat field. Pulled out 9 load of ditch from the moor side on the shallow corner and scuffled it.
Sept	25	Scuffled the field again.
	9	Scuffled great flat field.
	16	Harrowed and rolled pilf on the great flat field.
	17	Harrowed flat field.
Oct	26	Chained harrowed pilf on the great flat field and raked part of it.
	10	Pulled out ditch in flat field and made two bottoms.
	13	Plowing the flat field with the horse.
	17	Finished plowing flat field [sowed winter corn?].
	28	Broke up ditch in great flat field under the thorns.
	29	Pulled 5 load of earth from the ditch under the thorns to a pile for grass in the ferny field.

References

- Herring, P.C., 1987. *Treveglos, National Trust Archaeological Survey*, CAU/NT
- Herring, P.C., 1989. *Foage, Preliminary Archaeological Report*, CAU/NT
- Jewell, A., 1981. 'Some cultivation techniques in the south-west of England', in *Agricultural Improvement: Medieval and Modern* ed. W. Minchinton, Exeter University
- Pool, P.A.S. (ed), 1977. *A Cornish Farmer's Diary, by James Stevens*, Pool, Penzance

Record Archive

The following are held at the offices of the Cornwall Archaeological Unit:

Field drawings: GRE 7/18-19
Archive plans: GRH 68/1/38/2/1-2
and GRH 68/2/27
Black and white photographs