

STRIP LYNCHETS: THE CASE STUDY OF SOUTH CADBURY, SOMERSET

BY JOHN HARDWICK

Strip lynchets represent the adaptation of medieval ploughing techniques to steep hillsides. As landscape features they usually occur as long sinuous terraces looking very similar to natural river terraces. There has been much discussion in the past about their date and construction but unfortunately they have been seen in isolation. They need to be studied in their context and this inevitably involves the need for a parish study to firmly link them in the open-field system. In this article the example of South Cadbury parish in South Somerset will be examined in relation to recent and current work on lynchets.

Many of the accounts of strip lynchets have been written by geographers and they have usually considered them from five basic viewpoints: (1) general characteristics (size, shape, slope angle, relationship to altitude, contours and drainage); (2) possible reasons for construction; (3) methods of construction; (4) date of use; and (5) distribution. Unfortunately this approach has isolated lynchets from the open-field strips and much research has been futile in that it has failed to recognize that lynchets are the results of adapting the strip-farming system to slopes.

Wood and Whittington (1960) attempted to find typical lynchet dimensions. They looked at some 1200 flights and found that two-thirds of them were 180-440 yards long and 18-32 yards wide. These figures hide a great deal of variation since lynchets vary in length from 80-1200 yards and in width from 3-60 yards. Whittington (1962) looked at the relationship between lynchets and height above sea level. He discovered that lynchets range in altitude-distribution from sea level to 800 ft. O.D. but some 62% of flights occur between 300-600 ft. O.D. with a further 25% below 300 ft. O.D. He also stated that most lynchets occur on slopes of 6°-27°. This in fact seems to be the case since a plough team will start to plough across a slope when a critical angle of 6° is reached. At this angle the animal effort required to plough up the slope becomes too great for the average plough team.

A source of argument between authors has been the formation of lynchets. One of the best and earliest accounts is that given by Seebohm (1890) who recognized lynchets as less universal features of the open-field system in hilly districts (in comparison to ridge and furrow features). When strips ran across a hillside they usually did so in a horizontal manner. In ploughing, the soil was turned downhill and an unploughed bank was left between strips so that no soil could pass from one strip to another. As a result the strips became level terraces, one above another, and the banks between them grew into steep risers. This view is accepted by Nightingale (1953) but not by the Orwins (1954) who criticized the cutting into bed rock at the negative lynchets and the resulting poor thin soils. These problems can be overcome by using a spade in conjunction with the plough and may also explain the awkward-shaped tail ends and finely defined terraces which can only have been hand-made. Lynchets must have been constructed by a combination of ploughing and purposeful terracing.

The dating of lynchets has caused much confusion in previous articles. There is a need to establish the existence of physical contiguity or super-imposition. Metalled roads are one of the few features to cut lynchets and can usually only be dated to the 18th century or later. Vital clues provided by contemporary ridge-and-furrow features of open-field strips have been neglected. There are many cases where lynchets run straight into ridge-and-furrow strips and the two are quite obviously part of the same field system. This ignorance of the archaeological evidence has meant that for a considerable period numerous examples of lynchets overlying 'celtic' field systems were unrecognized. An article by Taylor (1966) did much to redress this situation. Parish boundaries would also seem to provide fundamental clues since lynchets do not cross them, but this evidence has never been pursued.

Excavation has succeeded in adding little to present knowledge. The only acceptable date for medieval lynchets cultivation comes from Brook in Kent where Kerney et al. (1964) found topsoil from the 14th and 15th centuries covering the lynchets. The implications are that more must be made of the landscape clues by using non-excavational field-work.

The distribution of strip lynchets has become contentious since Whittington (1962) wrote an article which seemed to correlate lynchets with calcareous rocks. The largest concentrations of lynchets occur in the South-West; Somerset, Dorset, Wiltshire and Gloucestershire together contain 75% of the total lynchets of Southern England. Whittington says that 97% of lynchets are on calcareous rocks and produces a map to prove it. He also produces a slope map to answer questions concerning the distribution problem but this shows anomalous areas such as parts of the Cotswolds, Chilterns, North and South Downs, and the Weald—all with largely unfulfilled lynchets potential. A recent article by Whittington (1976) adds little to present knowledge but the author does recognize lynchets as part of the open-field system.

The present study aims to show the relationship between strip lynchets and strips in the open field using the example of South Cadbury in southern Somerset. South Cadbury village lies just south of the London Road between Yeovil and Wincanton and in terms of its physical geography is dominated by the hill of Cadbury Castle which was excavated by Alcock (1972). Lynchets are found on the slopes around the castle and along the scarp slopes in the south-eastern corner of the parish. Geomorphologically the parish can be split up into three zones. The first and flattest represents the predominantly level clay vale forming the lower ground to the north and west of the village, the second covers the sloping ground leading up to the third zone which forms the more impressive relief of the parish. All the lynchets are found on either the Upper Lias or Inferior Oolite deposits.

Unfortunately there is no contemporary documentary evidence relating to the lynchets. It is therefore necessary to base all notions of the relationships between lynchets and open fields on 19th-century sources.

In Domesday (VCH, Somerset, 1, 514-15) South Cadbury (*Sudcadeberie*) accounted for 3 hides of which Bernard held 2, and a priest and 'Englishman' held $\frac{1}{2}$ hide each. There is no mention of a population, nor whether the land was being farmed or not. Although rentals and deeds exist for c.1600 there is no indication of the amount of land farmed or village population. Only 19th-century sources provide any information. This is provided by an untitled surveyor's map (c.1830) (SRO, DD/SAS, C/212 Box 1) and a glebe exchange map (1848) (SRO, DD/BT/19/35). These maps provide evidence for up to five open-fields: West field, East field, Castle field, Littleton field and Chappel field. The best evidence of both the contemporaneity, physical contiguity and importance of lynchets to the open-field strips comes from the surveyor's sketch map. This map was drawn before the parish was completely enclosed and shows most of the cultivation strips. Each strip is numbered and the landholder's name and the area of the holding is given. Figure 1 shows quite clearly that lynchets were a structural and functional part of the strip fields. The strip ownership pattern is clearly indicated. More detailed maps of the lynchets are included in Figure 2. The eastern termination of the Castle field lynchets merges into open-field strips as the slope angle decreases. As the angle of slope increases the height of the risers increases reaching over 20 ft. in places. The great length of the lynchets has necessitated their breaking up in several strips of approximately the same length. Normally the long thin tail ends to the lynchets are useless for cultivation and the open-ended terminations are much favoured. These open ends would have made access and ploughing much easier and allowed for a closer relationship between strip and lynchets. It is quite clear here that lynchets are strips that have been adapted to slopes and this casts doubts on previous authors' preoccupation with isolating lynchets from open-field strips. The same correlation between lynchets and strips is shown in Littleton field but the parish boundary plays a more significant role. A flight of lynchets runs along the scarp slope and is neatly and precisely tailored to the parish boundary:

at no point does any lynchet attempt to cross it. This seems to imply that lynchets cannot be earlier than the establishment of the parish/manorial boundaries.

SOUTH CADBURY circa 1830

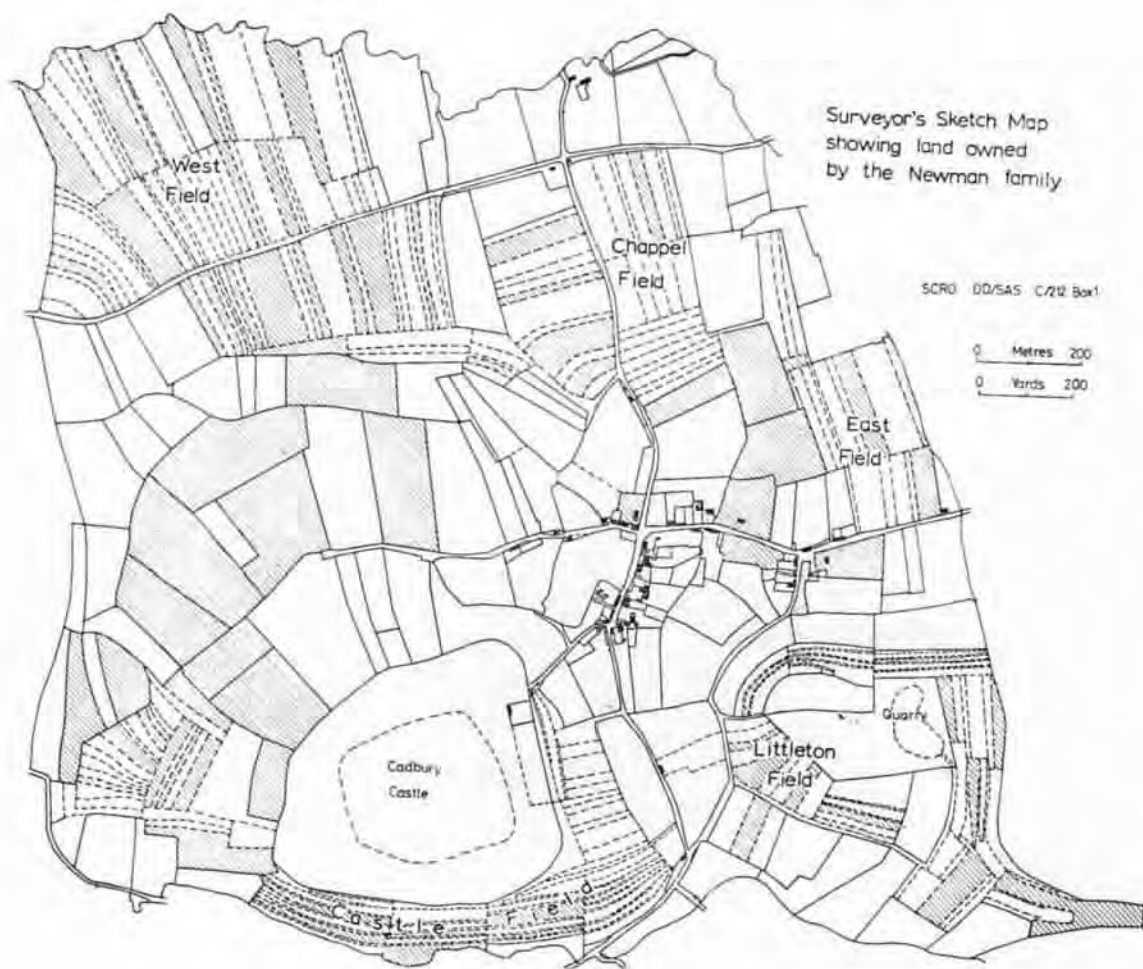


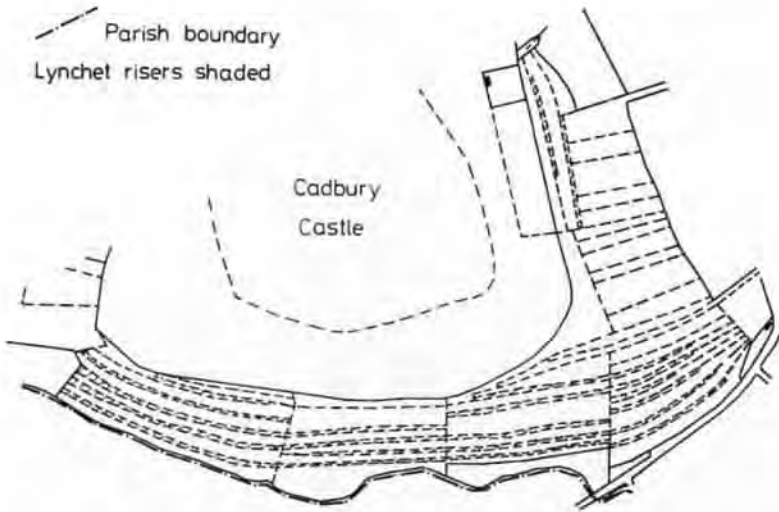
Fig. 1.

From the information on the surveyor's map it was possible to work out the total land of each landholder, how much was lynchet and hence ascertain the importance of lynchets in the open-field system. The data is listed in table-form in the appendix. No landholder had more than 10% of his strips in lynchets, half the landholders had no lynchets at all. In the whole parish lynchets account for less than 7% of the total land. Thus it would appear that lynchets play an insignificant role in the strip system. However, this insignificance relates to area only, not to the importance of lynchets in the village arable or economy.

One of the most significant facts is the great size of the lynchets. Some of the risers are well over 20 ft. high and treads of a quarter of a mile in length are not uncommon. Such large-scale earthworks must have required considerable effort by the villagers in both time and resources, indicating that they must have been important to the economy of the village. The physical setting of the lynchets is reflected in the number, size and slope angle of the treads. The widest tread is 20 yards while the

Strip Fields and Lynchets

Castle Field



Littleton Field

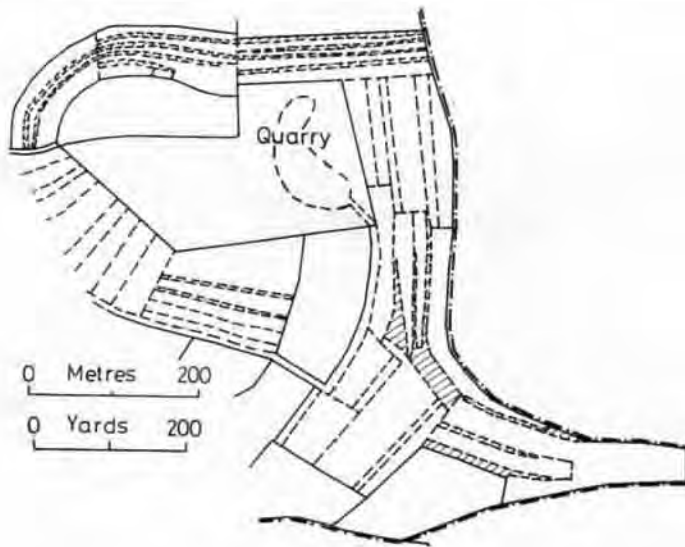


Fig. 2.

average is only 7 yards, which compares well with widths of strips given by Beresford (1948). The considerable height of some of the risers is a consequence of local steepening of slope. Generally the steeper the slope the higher the riser and narrower the terrace, resulting in fewer terraces on the steeper hillsides. Outside constraints have also influenced the pattern of the lynchets. In Castle field the boundary wall and stream have reduced the slope available for terracing. This has also occurred in Littleton field where the parish boundary and a sunken way to the quarry have done likewise.

Another approach using physical aspects to determine the importance of lynchets is to compare the amount of sloping land to that of arable. The total parish land is 670 acres (see Appendix I) which includes 40 acres of lynchets. The area above 300 ft. O.D. (where most of the lynchets occur) accounts for 250 acres of which lynchets account for 16%. Since the castle and quarry together account for over 100 acres the actual percentage of available land over 300 ft. O.D. that the lynchets cover is 27%. They therefore stand out as a very economical, efficient and sensible use of marginal slopes that would otherwise have remained uncultivated.

The evidence that has been put forward so far needs to be compared with past and recent work on lynchets. Strip lynchets have been suggested as vine terraces, remains of quarrying activity and even as access ways of British war chariots. MacNab (1965) has suggested that lynchets represent the transitional stage between downland and lowland agriculture though this theory has recently been rejected by Taylor (1966). Local historians of the late 19th and early 20th centuries simply refused to believe that lynchets were man-made.

'What are known in some parts of the county as "lincs" are really natural terraces formed by outcrops of horizontal beds of rock of different degrees of hardness' (C. H. Bothamley, *VCH, Somerset*, II 469).

However these views have been replaced by a new archaeological approach. Studies such as those by Taylor (1966 and 1975) and Aston and Rowley (1974) have led the way to a new attitude to the study and perception of lynchets in total landscape archaeological terms.

The examination of the lynchets at South Cadbury will inevitably only help to explain their importance in this particular parish, and other areas with different physical backgrounds and histories will offer alternative reasons for the need to plough steep slopes. The evidence from South Cadbury can be summarised as follows:-

- (1) Strip lynchets result from the adaptation of strip farming methods to slopes. Strips in the form of ridge-and-furrow features and as marked on the strip maps have a physical contiguity with lynchets. In many cases it is impossible to clearly define where a strip ends and a lynchet begins.
- (2) In terms of area strip lynchets play a less important role in the open-field system. They represent under 7% of the total arable and no landholder owns more than 10% of his land in lynchets.
- (3) The dimensions of the earthworks suggest that they played a significant role in economic terms since they represent a massive investment of villagers' time, labour and effort to increase the area of cultivation.
- (4) Local physical factors such as gradient and local topographical irregularities constrain the lynchets in terms of regularity of layout, number of terraces, tread widths and tread slope angle.
- (5) Parish boundaries seem to pre-date strip lynchets.

These conclusions need placing in the main body of lynchet theory. No other study has yet produced figures to show how important lynchets were in the village strips. According to Whittington (1960), in the 13th century there were extreme fluctuations between periods of very wet weather and drought. These conditions would have made clay vales such as that at South Cadbury difficult to work and to maintain yields. Increasing population growth at this time would also have had profound effects on agricultural systems (Baker and Butlin (eds.), 1973). Declines in crop yields

at the end of the 13th century produced pressures to utilize marginal land (Postan, 1966). Demand for agricultural products for the economic system would modify field systems. Fluctuation in population level, particularly population pressure, was a fundamental condition of agricultural growth, resulting in an extension of the cultivated area and a more intensive use of land already cultivated. Under acute pressure more land would be cultivated and that already cultivated would be sub-divided into smaller units, thus population pressure was a great change-inducing mechanism. Intensive agriculture would involve greater co-operation in the form of rules and regulations to make the system work. These necessary conditions were present in the early medieval period from the 12th to 14th centuries. The technology and social structure to organize the village community was matched by overwhelming population pressure and land hunger. It seems quite logical that the terraces of South Cadbury resulted from these pressures in the early medieval period. Further studies in different areas should enable a more detailed picture to emerge.

APPENDIX

South Cadbury Landholdings c.1830

Source: untitled surveyor's sketch map of South Cadbury c.1830 (S.R.O., DD/SAS, C/212 Box 1)

Landholder*	Total land	Lynchet	% Lynchet
Newman family	157.3.28	9.1.36	5.7
B	60.0.10	—	—
Mj	59.3.4	4.3.2	8.3
Br	52.2.9	0.3.8	1.9
Rr	51.0.7	3.1.36	5.9
S	50.1.5	2.1.4	4.0
R	40.1.38	4.3.6	10.7
M	39.3.4	0.3.10	2.5
Bm	37.0.33	2.3.12	8.1
G	35.2.29	2.1.12	5.7
Pj	32.2.21	1.3.34	6.3
Bb	22.1.9	—	—
Chas. Bamf.	5.1.4	—	—
Mr. Paine	3.3.4	—	—
T	3.0.24	—	—
Sj	2.1.38	—	—
V	2.0.33	—	—
Rj	1.3.22	—	—
D	0.3.2	—	—
Dj	0.0.22	—	—
Waste	9.2.19	Riser 8.2.33	% Riser 88.8
Total parish land	669 acres	0 roods	5 perches
Total lynchet	42 acres	0 roods	33 perches
% Lynchet	6.3		
Castle Field Lynchets	(Treads) 16.3.20	} 22.1.39	} 42.0.33
Castle Field Lynchets	(Risers) 5.2.19		
Littleton Field Lynchets	(Treads) 16.2.20	} 19.2.34	
Littleton Field Lynchets	(Risers) 3.0.14		

*Landholders as recorded in abbreviated form on map. No reference schedule exists.

REFERENCES

- Alcock, L., 1972, *By South Cadbury is that Camelot . . .* (Thames and Hudson, London).
- Aston, M. and Rowley, T., 1974, *Landscape Archaeology, An Introduction to Fieldwork Techniques on Post-Roman Landscapes* (David and Charles, Newton Abbot).
- Baker, A. R. H. and Butlin, R. A. (eds.), 1973, *Studies of Field Systems in the British Isles* (Cam. Univ. Press).
- Beresford, M. W., 1948, 'Ridge and Furrow and the Open Field', *Economic History Review*, 2nd series, 1, 1, 34-45.
- Kerney, M. P. et al., 1964, 'The Late Glacial and Post Glacial History of the Chalk Escarpment near Brook, Kent', *Phil. Trans.*, B, 248, 135-204.
- MacNab, J. W., 1965, 'British Strip Lynchets', *Antiquity*, 39, 379-90.
- Nightingale, M., 1953, 'Ploughing and Field Shape', *Antiquity*, 27, 20-26.
- Orwin, C. S. and Orwin, C. S., 1954, *The Open Fields* (Oxford Univ. Press, 2nd edn.), 175-179.
- Postan, M. M., (ed.), 1966, 'The Agrarian Life of the Middle Ages', *Cambridge Economic History of Europe*, Vol. 1, 556-559.
- Seebohm, F., 1890, *The English Village Community (examined in its relations to the Manorial and Tribal Systems and to the Common or Open Field Systems of Husbandry)* (Longmans, London, 4th edn.).
- Taylor, C. C., 1966, 'Strip Lynchets', *Antiquity*, 40, 277-284.
- Taylor, C. C., 1975, *Fields in the English Landscape* (Dent and Sons, London).
- Victoria County History, Somerset*, Vol. I (1906), Vol. II (1911).
- Whittington, G., 1960, 'Strip Lynchets in the Gloucestershire Cotswolds', *Transactions of the Bristol and Gloucester Archaeology Society*, 79, 212-220.
- Whittington, G., 1962, 'The Distribution of Strip Lynchets', *Transactions Institute of British Geographers*, 31, 115-130.
- Whittington, G., 1976, 'A Field System at Dinder', *Proc. Som. Arch. Soc.*, 120, 39-44.
- Wood, P., 1958, 'Second Excavation of the Strip Lynchets at Bishopstone, near Swindon, Wiltshire, June 1955', *Wilts. Arch. and Nat. Hist. Magazine*, 57, 18-23.
- Wood, P., 1961, 'Strip Lynchets Reconsidered', *Geogr. Journ.*, 127, 449-459.
- Wood, P. and Whittington, G., 1960, 'Further Examination of Strip Lynchets North of the Vale of Pewsey in 1958', *Wilts. Arch. and Nat. Hist. Magazine*, 57, 322-338.