

HEDGES AND LOCAL HISTORY

In 1971 Dr Max Hooper of the Nature Conservancy's Monks Wood Experimental Station, Huntingdon, contributed to a pamphlet with the above title,¹ describing his experiments in hedgerow dating:

"I examined documents in order to date the creation of specific hedges which could be examined at the present time. I managed to assign dates from documents to 227 hedges in various parts of lowland England and then visited each one and counted the shrub species present in 30-yard lengths. The correlation between the age of the hedge and the number of shrub species in this length was very good: the correlation coefficient (r) came to 0.85, but it is also possible to go further and calculate a regression equation to predict the age of a hedge from the number of species in it".²

Dr Hooper's original formula for this purpose was

$$\text{age of hedge in years} = (\text{number of species} \times 110) + 30$$

but this has been revised in the light of later study in another area³ to read

$$\text{age of hedge in years} = (\text{number of species} \times 99) - 16.$$

Some of the difficulties in dating hedgerows in this area on the basis of numbers of species are illustrated by the observations of Arthur Young, writing in 1804.⁴ He considered that the use in Hertfordshire from time immemorial of the 'plashing' system, and the difficulty of obtaining coal for fuel, might together be the reasons which "have induced the farmers to fill the old hedges every where with oak, ash, sallow, and with all sorts of plants more generally calculated for fuel than fences, and which would form no kind of fence under any management but their own . . . Whenever new enclosures are made, white-thorn should be the only plant used; but where the country is already enclosed with other plants, a prudent man will think twice before he will put himself to the enormous expense of grubbing up all the old fences of a farm and replanting them in new lines". Young went on to quote the practice of Mr Parker at Munden who, "approving of no plant in hedges but white-thorn, weeds out all others".

The papers which follow discuss the application of Dr Hooper's formulae in different localities in this county.

References

1. Hedges and local history. Published for the Standing Conference for Local History by the National Council of Social Service. 1971.
2. M.D. Hooper. Historical ecology. *In* Landscapes and documents, ed. by Alan Rogers and Trevor Rowley. Standing Conference for Local History. 1974.
3. E. Pollard, M.D. Hooper and N.W. Moore. Hedges. Collins. 1974.
4. Arthur Young. General view of the agriculture of Hertfordshire. 1804.

I tried to apply Dr Hooper's methods in Aldenham with the aid of members of the Aldenham School Archaeological Group. The results were paradoxical. The part of the parish on the London Clay, known as 'Woodside' in the seventeenth century and still containing extensive unenclosed common in 1801, has hedges apparently nearly a century older on average than those on the lighter soils to the north round the village nucleus. Worse, the only closely dated hedgerows, those subsequent to the Enclosure Act of 1801, averaged 2.7 species per 30-yard length, as against an expected 1.8 or less. The reasons for this are probably that many hedgerows were planted from the beginning as multi-species hedges, and also that local soil differences and consequent differences of farming practice have more effect than the lapse of years on the number of species present.

However, in some respects our Aldenham hedges were closely similar to Dr Hooper's East Midland sample, notably in the incidence of dogwood, hazel and maple, slow-colonising species which he regards as indicators of antiquity. I therefore recalculated our data, disregarding all other species. The results were gratifying. Although, as I have said, closely dated hedges are few, there are some that can be placed in a relative chronology. Oldest ought to be those on the manorial boundary, possibly Saxon in origin. Next are those of the remnant of common fields around Letchmore Heath (first named in 1299) which disappeared in 1801. Third are those enclosing an area named in the enclosure documents as 'Wortlands and Melands': Melands was so named in the fifteenth century. Fourth is the land with which Richard Platt endowed Aldenham School in

1597, and fifth the post-enclosure hedges. The third and fourth items in this list may well be earlier than the dates given, but, being in Woodside, they are likely to be later than either of the first two, which are in Fieldside. These five groups of hedges are placed in the same order by the modified version of the Hooper method. The chance of this happening by luck is 1/120. Also Fieldside as a whole emerges with a significantly higher average than Woodside.

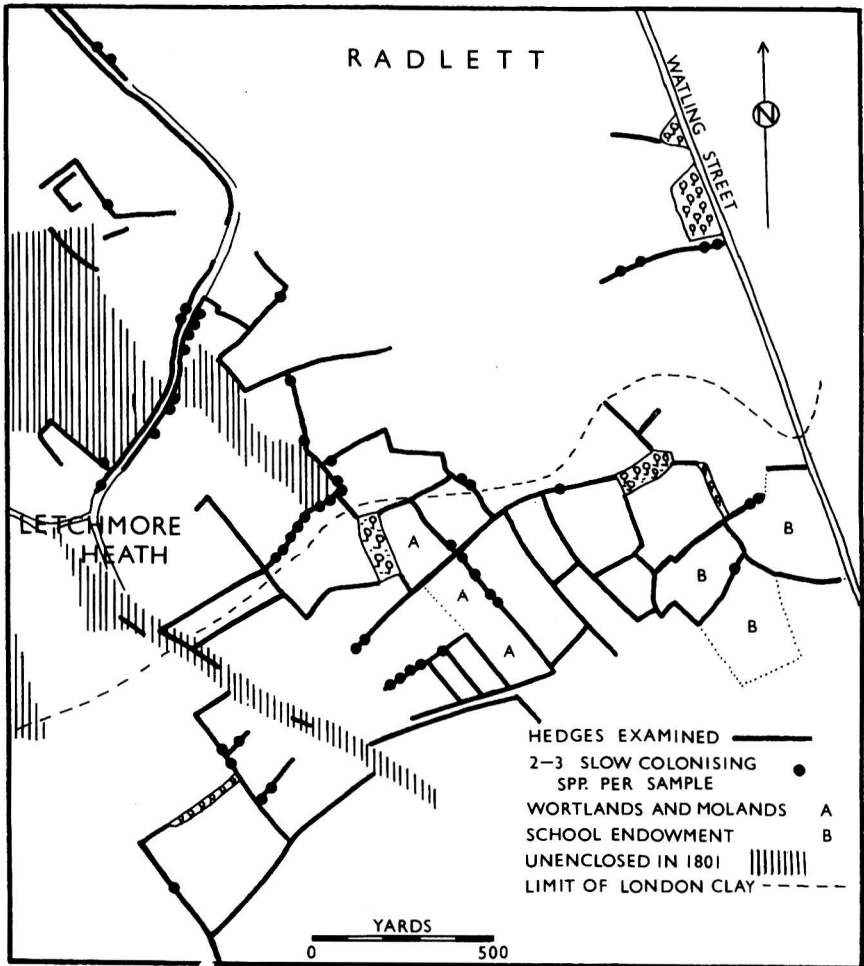
Within this older-settled half of the parish there is a tendency for the three species to occur together rather than scattered at random. Clearly, there are distinct groupings of older and younger hedges here. This trend is visible in Woodside too when the data are mapped. There appears to be a pattern of widely spaced ancient hedges with later infilling. One is tempted to equate them with former open fields of the Chiltern type which have been enclosed and subdivided.⁵ Possibly they are woodland relic hedges from the original forest clearance. Whatever their origin, the pattern seems fundamentally early: 'Woodside' as a name was itself a relic by the seventeenth century. The distribution of medieval place-names and archaeological material bears this out.

These conclusions are tentative. In Aldenham more needs to be done to elucidate the history of clearance and land use, using both documentary evidence and further field study. Meanwhile there is enough to suggest a method of relative dating that might apply elsewhere.

Additional References

5. D. Roden. Field systems of the Chiltern Hills and their environs. *In* Studies in field systems in the British Isles, ed. by A.R.H. Baker and R.A. Butlin. CUP 1973, pp.325-376.

| | No. of samples | Average no. of species | Average of dogwood, hazel and maple |
|---------------------------|----------------|------------------------|-------------------------------------|
| Manorial boundary | 29 | 4.0 | 0.83 |
| Common fields | 30 | 3.8 | 0.67 |
| Wortland and Molands | 40 | 4.2 | 0.51 |
| Aldenham School endowment | 40 | 4.1 | 0.47 |
| Post-1801 | 65 | 2.7 | 0.17 |
| London Clay (Woodside) | 352 | 3.8 | 0.45 |
| Other soils (Fieldside) | 352 | 3.1 | 0.54 |



ALDENHAM HEDGEROWS

PART OF SURVEY AREA

CLOTHALL by *Gil Burleigh and Brian Sawford*

Introduction

Covering an area of some 3524 acres (1426 hectares) Clothall parish straddles two major geological outcrops, chalk in the north west portion and boulder clay in the south east. About eighty percent of the land is arable, the remaining area being mainly fairly ancient oak hazel coppice woods (now largely un-managed), some permanent grassland, and small scattered settlements. Within the parish, although mainly on the boulder clay, are approximately 50 miles of extant hedges. From 1975-77 a programme of research on these hedges was initiated by the authors to delineate those hedges of conservation importance, and to assess any correlation between number of species and age. This paper is mainly concerned with the latter.

Documentary research was undertaken by G.R.B., whilst field research was carried out by B.R.S. following the procedure outlined in Pollard, Hooper, and Moore.³ Some 269 x 30 yard lengths of hedge were sampled for the presence of trees and woody shrubs, and the species count obtained was then subjected to the dating formula postulated by Hooper, viz.

Age of hedge =

$(99 \times \text{Number of species}) - 16$

Correlations were then made in conjunction with documentary evidence (see below). The hedgerow species located and utilised in this survey are listed in Table 1, with the relative frequencies of occurrence of the species calculated from the field data.

Documentary evidence

The conclusions presented in this section must be considered as only

preliminary, as no very detailed research into documents has yet been attempted.

On the boulder clay, both on the west and the east, the Clothall parish boundary is marked by mature hedges following the routes of ancient 'green' lanes. The parish boundary has in fact been altered little, if at all, since the founding of the Knights Templar's new town of Baldock in the middle of

Table 1

| Species | Relative frequency (%) from 269 x 30 yard samples |
|-------------------------------------------------|------------------------------------------------------|
| Hawthorn <i>Crataegus monogyna</i> | 99.63 |
| Blackthorn <i>Prunus spinosa</i> | 79.92 |
| Elder <i>Sambucus nigra</i> | 72.12 |
| Rose <i>Rosa canina</i> | 60.97 |
| Field Maple <i>Acer campestre</i> | 44.60 |
| Hazel <i>Corylus avellana</i> | 43.12 |
| Ash <i>Fraxinus excelsior</i> | 30.11 |
| Elm <i>Ulmus spp.</i> | 27.88 |
| Dogwood <i>Cornus sanguinea</i> | 21.19 |
| Oak <i>Quercus robur</i> | 18.59 |
| Buckthorn <i>Rhamnus catharticus</i> | 13.75 |
| Wayfaring Tree <i>Viburnum lantana</i> | 11.90 |
| Spindle <i>Euonymus europaeus</i> | 10.78 |
| Holly <i>Ilex aquifolium</i> | 9.29 |
| Privet <i>Ligustrum vulgare</i> | 7.81 |
| Crab Apple <i>Malus sylvestris</i> | 6.31 |
| Sycamore <i>Acer pseudoplatanus</i> | 3.35 |
| Apple <i>Malus domestica</i> | 2.23 |
| Cherry <i>Prunus avium</i> | 1.11 |
| Goat Willow <i>Salix caprea agg.</i> | 0.74 |
| Horse Chestnut <i>Aesculus hippocastanum</i> | 0.74 |
| Beech <i>Fagus sylvatica</i> | 0.37 |
| Guelder Rose <i>Viburnum opulus</i> | 0.37 |
| Red Currant <i>Ribes rubrum</i> | 0.37 |
| Lilac <i>Syringa Vulgaris</i> | 0.37 |
| Walnut <i>Juglans regia</i> | 0.37 |

N.B. No attempts were made to separate the Genus *Ulmus* into species.

Table 2 (below) shows the relationship between the occurrence of species (% frequency) in 30 yard lengths and

the predicted dates from the dating theory.

Table 2

| No. of species | % frequency | Predicted dates |
|----------------|-------------|-----------------|
| 1 | 4.68 | 1894-1977 |
| 2 | 8.03 | 1795-1894 |
| 3 | 14.39 | 1696-1795 |
| 4 | 13.04 | 1597-1696 |
| 5 | 19.40 | 1498-1597 |
| 6 | 13.38 | 1399-1498 |
| 7 | 13.38 | 1297-1399 |
| 8 | 7.02 | 1201-1297 |
| 9 | 4.01 | 1102-1201 |
| 10 | 2.34 | 1003-1102 |
| 11 | 0.33 | 904-1003 |

the twelfth century, when an area of land in the north-west corner of Clothall parish was taken for the new market town. At the time of Domesday Book, Clothall was a thriving village with outlying settlements, and there is reason to suppose the existing parish boundary was laid out at least as early as the late Saxon period.

Although in certain thirty-yard lengths the species counts are as high as ten or eleven, the average for the western parish boundary is eight, and for the eastern, seven species. This would suggest the hedges, not the boundary itself, date from the thirteenth or fourteenth centuries, according to the Hooper formula. Until such time as detailed research on manorial documents can be done we do not know whether there was active hedge planting on the parish boundary at this period, but it is quite probable.

However, it is interesting to note that if one uses the original dating formula postulated by Hooper in *Hedges and Local History* (1971), that is, age of hedge in years = (number of species x 110) + 30, then the hedges on the parish boundary would appear

to have been planted c. 1000-1200. This may be significant because, according to the Domesday evidence, the land under cultivation in Clothall and Luffenhall in 1086 was less than half the present parish acreage. It may be that c. 1100 a great deal of land colonisation occurred in the parish giving rise to the establishment of the present parish boundary and planting of hedges sometime in the twelfth century.

Around Cumberlow Green and Munches Wood, on the parish boundary with Rushden, the field boundaries have remained virtually unchanged since at least 1729, and possibly much earlier. Both the Clothall Tithe Map of 1842 and a map of 1729 (Herts. Record Office No. 74423) show the field boundaries in this area to be the same as today, with minor exceptions. The hedges bordering the east side of the A507 as it twists its way around the old Cumberlow Green manor house site (demolished c. 1709-1729) have an average of about 4.5 species per thirty yard length, which should give a date for the hedges in the period c. 1550-1650, which would

seem to fit the available evidence.

Clothall was never the subject of a Parliamentary Act of Enclosure. Enclosure on the boulder clay plateau was generally early, probably in late medieval and Tudor times. An estate map of the neighbouring Weston parish (in the possession of the Pryor family) reveals that by 1637 much of the parish was already enclosed, although Weston was the subject of an Enclosure Act in 1797. From the evidence of the hedge-counts it would appear that much of Clothall too was enclosed in the 15th-17th centuries.

In 1842 open-field strips were limited to two districts within the parish: in the north on the chalk, and in the south around Luffenhall. On the chalk the strips were located east of Baldock along the Royston road; on Bird Hill; and on Ashanger Hill. There were still some strips at the latter two places in 1896, but these had gone by 1922. The lack of hedges on the chalk escarpment is historical. Some of the lynchets on Windmill Hill were probably colonised by scrub which has given rise to high species counts (i.e. 4-5) where there are now hedges, even though the lynchets were probably only grassy baulks until modern times.

The only other areas still in strip cultivation in 1842 were the common fields around Luffenhall, still called 'Commons' today, e.g. Swamstey and Brookfield Commons. These are on the boulder clay and the strips did not all disappear until this century. On these former common fields there is today a lack of hedges, while the hedges around their boundaries suggest late Tudor planting.

Discussion

Although some of the hedges surveyed

have been shown possibly to correlate with the dating theory on the basis of documentary evidence, care should be exercised in extrapolating this data to undocumented hedges. For example an analysis of the distribution of the 27 species of trees and shrubs found in the Clothall survey has shown that whilst 85% of the species concerned can be found on the boulder clay soils, only 50% occur on the chalk. Care should also be exercised in dealing with certain boundaries that may have been woodland assarts, baulks, and margins of ancient trackways. Grassy baulks or boundaries in particular would, if unmanaged, become rapidly invaded by scrub. If later managed as a hedge, such an area would most probably be extremely species-rich and give the appearance of great antiquity if subjected to the dating theory. An indication of this can be easily gained by a study of railway banks. For example near Hitchin, many banks less than 150 years old, frequently have in excess of five species per thirty yard length.

One important factor that has arisen from this survey is that it is essential to ensure the survival of ancient hedges. Archaeologists, local historians, and natural historians should work together in a concerted effort to maintain and improve the network of hedges, not only for wildlife, but as part of the overall historical perspective of the countryside.

Additional References

6. J.G. Dony – Flora of Hertfordshire. Hitchin Museum. 1967.
7. Geological Map of North Hertfordshire. North Hertfordshire District Council Museum Services. 1975.

FLAMSTEAD AND NEIGHBOURING PARISHES by Susan Rowe

During last summer, I made a survey of the hedgerows on 500 acres of arable farmland west of Markyate. As well as making a thorough study of the flora and fauna characterising this important habitat, I attempted to determine the age of each hedge. To a certain extent, this may be achieved by referring to old maps and documents; dating information obtained from these sources can then be correlated with calculations using the method worked out by Max Hooper.

The Enclosure Acts may throw some light on the age of a hedge. Arthur Young, for example, refers to one which affected my survey area. "Kensworth was inclosed in 1798; by the act, 440 acres of waste land were brought into cultivation, and 600 acres of open-field arable allotted. Great complaints are made of the expense of this inclosure, which are said to be uncommonly heavy." Another Act of Parliament, dated 1803, led to the enclosure of Houghton Regis parish, which is also represented in the survey area. Unfortunately, no reference has been found to enclosure of Flamstead and Whipsnade parishes, which constitute the remainder of the area.

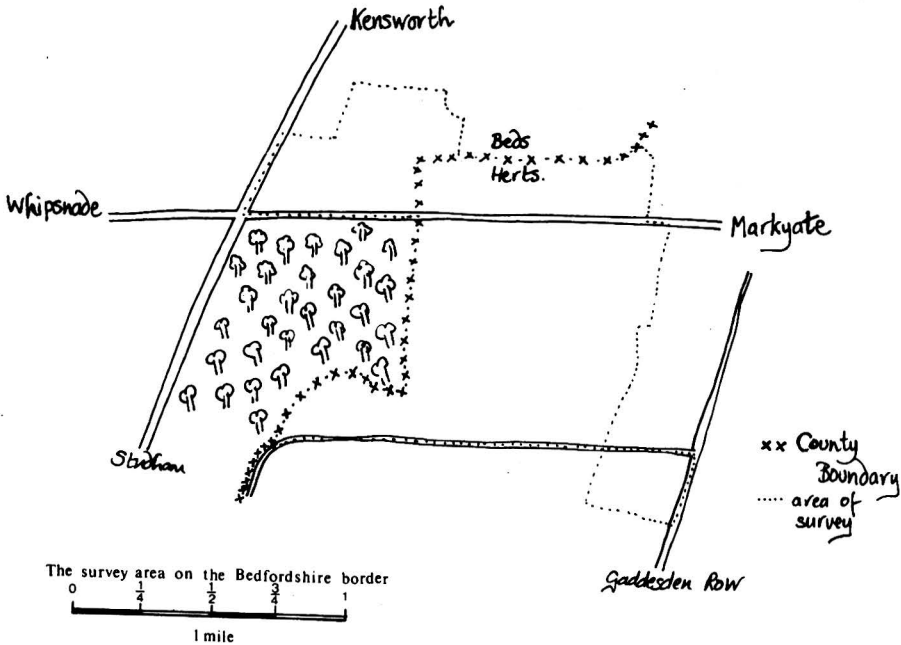
However, many hedges were planted before the Enclosures: Hooper has estimated⁸ that between one third and a half of our hedges were planted before 1700, many between 1670 and 1700, but some as early as during the reign of Ine, king of Wessex, round about AD 690, one of whose laws states the penalties for failure to erect hedges. Mention of hedges becomes frequent in the 10th and 11th centuries in the boundary clauses attached to Anglo-Saxon land charters. Apart from

these hedges, there must be many cases of 18th and 19th century enclosure occurring by private agreement between landowners, such as that documented by Arthur Young as occurring on the Sebright estate, which included most of the survey area. "Sir John Sebright has begun an improvement of a quantity of waste common that he had a power of enclosing without an act of Parliament, which does him much credit . . . the fields are enclosed with quick and defended by posts and rails". This happened between 1799 and 1801.

D.E. Allen has outlined⁹ a variation from Hooper's method of dating hedges which he believes to be more suitable for coastal and highland regions, where there is little diversity in the shrub flora.

He suggests that brambles, of which there are over 500 'lines', could be counted, and the method used instead of, or to supplement that of Hooper. Clearly the biggest drawback of this approach is the difficulty of identifying bramble species.

Where written evidence existed for the date of planting of any hedge within the survey area I found this corresponded quite well with the age calculated by counting shrubs. We know that one hedge was planted in 1806 to enclose, by agreement, a group of buildings. If it is assumed that only one species of shrub was planted at that time, then the age of the hedge may be estimated, by present shrub content, as 200 years, which is not so very different from its actual 170 years. The only other hedges which can be accurately aged are those which have grown up within living memory. For example, one hedge in the survey area could not have existed before about 1915, when a fence was erected on the site, thus providing a boundary



where none existed before.

The planting date of the remainder of the hedges may only be guessed. But it is most probable that hedges which mark an important boundary are the oldest. This is confirmed by the estimated age: all the county and parish boundary hedges appear to be 600 years old at least. Hedges lining an old right of way, as well as those with a ditch are also likely to be old. Observations such as these are useful when so few clues exist.

Additional References

8. M.D. Hooper. Disappearing hedgerows in The United Kingdom: the effect on conservation. *Biological Conservation* 2(3) 1970, pp.230-1.
9. D.E. Allen. Bramble-dating: a promising approach. *In Hedges and local history*. 1971.

ASHWELL by David Short

Believing that hedges could tell us something about a parish, in January 1976 a group of teachers made a survey of some of the hedges in Ashwell. Initially it was felt that the hedges would not contain many species, enclosure having come in 1863 when some of the older hedges were uprooted and new hedges planted. However we did hope to find that those hedges which made up the parish boundary, especially where the boundary was a balk, would contain a significant number of species. We also hoped to find that in the area to the north west of the village the hedges would be plentiful and might have a constant amount in them, thus showing when the enclosure of the part of the parish

called Ancient Enclosure on the Tithe Map of 1841 took place.

Thus we set out, some keen, some hopeful and some very sceptical. Needless to say January is not the best time of the year to count species. Even the ecologists amongst us had some difficulty in classifying some of the species. It is worthwhile recording here that one hedge which produced eight species in January produced ten for 10-11 year old children in

October. This, I am sure, says something for doing the exercise in autumn rather than winter.

The survey itself produced only one other problem, namely that many of the hedges marked on the Ordnance Survey maps had disappeared. In one case the recorders had to decide whether they were to count the species of a hedge as it lay on the ground where it had been cut the previous day. They decided not to. Pity we did not record the hedge earlier as it was part of the parish boundary.

The results of the survey were interesting but did not help to convert the sceptics to "Hoopers' Hedgerow Hypothesis". Those hedges which form the county boundary between Hertfordshire and Cambridgeshire produced 5,4,5,4 and 5 species suggesting a date in the region of the 15th and 16th centuries. Most of this hedge followed a shire balk and one would have hoped to have found more species, possibly as many as ten. (Perhaps one must now check to see if the county boundary has been moved?) The parish boundary between Ashwell and Bygrave produced a meagre 4 and 2 species, while the same hedge between Ashwell and Newnham produced 4,4,3 and 3 suggesting a date around the 16th and 17th centuries. Few other boundary hedges were still existing.

Most of the hedges to the south of the village of Ashwell produced only

a few species, as one would expect in an area which was largely open fields until 1863. However one or two did produce more as for example part of the hedge around Arbury Banks, an Iron Age hill fort, which produced eight. Others were where the hedges continued unchanged by enclosure.

To the north west of the village, in the area of 'Ancient Enclosure' we were both encouraged and saddened. Many of the hedges had disappeared as the small fields were combined into larger fields. But it was in this area that the hedges with the most species were found, e.g., 8 and 10 species (as corrected by the school children). This find was interesting as the road which they border is a winding road which by its nature suggests that it has not changed its route for many centuries. This is the road that leads to what is now called Ashwell End and is the probable site of a deserted settlement called Glytton. The shape of the road and the number of species in the hedge would suggest that this was part of the land settled when Edward the Elder created Ashwell as one of his frontier posts in 911/913.

One of the roads in this area produced hedges of 5 and 6 species on respective sides. This seemed at the time to be significant. Some time later while comparing the tithe and enclosure maps I realised that this road had been created by the Enclosure Award and as such was little over one hundred years old. There seemed to be yet another lesson to be learned there.

In the final analysis I think two main facts emerged from our survey. Firstly hedge dating can never be an end in itself, but can be part of the whole jigsaw which makes the local history of a parish. Results have always got to be checked against other available sources and allowances made

for what men have done to the hedges. Secondly the survey was fun. It was fun to make the survey itself and fun considering the results and trying to construct theories to explain the results. Sometimes results will be thrown back at one by those who have good local knowledge, or by further research, but that will just add to the enjoyment.