AERIAL ARCHAEOLOGY AND THE EVIDENCE FOR MEDIEVAL FARMING IN WEST CHESHIRE

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Aerial archaeology, or the use of aerial photographs to interpret the landscape, is not new. The first aerial photographs were taken from balloons in the 19th century, but it was aerial reconnaissance during the first World War that made archaeologists appreciate the possibilities of this technique for their own research. Aerial archaeology had not been seriously attempted in Cheshire until it was realised that the prolonged drought during 1976 was revealing hitherto unknown ancient features throughout Britain. The unusual conditions were producing the well-known crop mark phenomenon, where a buried feature is made ‘visible’ on the surface by premature ripening or differential growth in the crop immediately above it. The conditions obtaining in 1976 were exceptional, but they do occur to a sufficient degree to produce some crop marks in any dry summer in most English counties. In most counties, but not in all; some counties, Cheshire among them, have for many years been pastoral rather than arable, and there have been few crops in which such marks could appear.

Crop growing involves ploughing and this, too, can reveal ancient features which appear as lines or patterns of discolouration in the soil. Unfortunately, for the aerial observer, soil marks, as these features are called, are as rare as crop marks in Cheshire, so that another method of discovery has to be used. This makes use of a very low sun which brings into sharp relief even minor declivities and protuberances on the ground. It will rarely reveal prehistoric or Roman remains unless they are on the surface and, as could be expected, the majority of surface features will be of a later date than these. Ideally, there should be a continuous surveillance over the county because unsuspected features can appear, even on well-known sites, with varying conditions of light and shade,
Location map of sites in Cheshire

Sites referred to in the text

C Chester
M Wirral
1 Wirral
2 Tarvin
3 Diddington
4 Huntington (Old Hall moat)
5 Huntington (Cheekeley moat)
6 Southall
7 Norton Hall
8 Eaton-by-Tarporley
9 Ashford
10 Nittedale
11 Alvanley (Southley Manor)
12 Cuddington
13 Spurthorne (Heycroft Farm)
14 Church Shocklach
15 Sandley
16 Prestbury near Wirral
17 Bradley near Wirral
18 Rode
19 Tatton

Parishes of Bunbury, Huddington, Huxley and Peckforton
type of crop grown, and so on. But there are difficulties in this, apart from the obvious ones of time and money. The greatest problem is that posed by the proximity of the Cheshire border to the international airports of Liverpool and Manchester, the latter’s controlled airspace being especially extensive. The result is that no really systematic aerial observation is possible north of a line drawn from Chester to Congleton, except within a narrow corridor between the two airspaces. This means that about a third of Cheshire can only be explored sporadically, and even then only under the ever-watchful eyes of the Liverpool and Manchester air traffic controllers.

The most obvious features in the Cheshire landscape, as seen from the air, are the fields. Some of them are rectangular, very regular and plainly recent. Others are less regular and are presumably older. A few fields are markedly oval and were either assarts formed at the edges of extensive woodland or, as is more likely, they are the sites of small woods or copses that have been destroyed to provide extra pasture or land for crops. There is, as yet, no certain way of dating the hedges that enclose fields, thereby dating the creation of the fields themselves. Counting the number of shrub species in a thirty yard length, and allowing a hundred years per species, can give a very approximate date. It must be emphasised, however, that the method cannot be very reliable as there may be several local factors to affect the count. It has not been attempted on any scale in Cheshire but, where it has been used, it does tend to confirm the centuries’ old origins of some field boundaries, especially those of parishes and old estates. There are two hedges which perhaps deserve mention in this context, if only because they are long and noticeably straight. They may not themselves be particularly old, but they are interesting in that they follow the known routes of two Roman roads. One, in the Aldford-Edgerley-Kings Marsh area, marks the road formerly running south from Chester (Deva) towards Whitchurch (Mediolanum). The other hedge continues the line of Watling Street eastwards from Stamford Bridge towards Tarvin Sands in the direction of Northwich (Condate). But to return to the age of fields, it has long been the contention of historians that the county’s lands had largely been enclosed by the 17th century, and it is interesting that the scattered farmhouses of west Cheshire, many of which are of 17th-century date, tend to confirm this. Those of them that are of timber-frame construction frequently contain re-used structural timbers, implying the existence of even earlier buildings at the same locations or nearby. As isolated farm-
houses tend to be associated with enclosed parcels of land rather than with open fields, their 17th-century and possibly earlier date lends support to the historians’ belief.

In addition to the numerous roughly square and many-sided fields, there are small groups of long narrow hedged strips, two very good examples of which may be seen immediately north of Malpas, adjacent to Overton Heath. Strip fields of this sort are popularly associated with medieval open-field arable farming, but this interpretation is not always the right one. For example, some groups occur on former peat mosses, as at Coppenhall Moss, near Crewe, or at Congleton Moss, and were presumably moss rooms where peat was cut. A large group of parallel strips, conspicuous from the air, can be seen at Commonwood, about two miles west of Holt, on the Welsh side of the Dee. They could have had a medieval origin but, in this case, they merely represent the division of a former wood into strips as recently as 1848. On the other hand, most of the long, narrow, hedged strips which are still visible in west Cheshire are closely associated with villages and should, therefore, derive from a formerly existing system of farming, presumably arable. The most likely is the manorial open-field system which occurred, during the medieval period, in a broad belt from the south coast of England, through the Midlands, to north Yorkshire. Indeed, several Cheshire historians have made it clear, on historical grounds, that this system, or something closely akin to it, was practised in those very places where hedged strips are still to be found, or were shown on the Tithe Award maps of the 19th century. Those for Haughton and Bunbury are very good examples.

Strip cultivation, however, is only one archaeologically recognisable element in this open-field system. Other major elements are the site of a village or at least a hamlet; the site of a castle, manor house, grange, hall, or other pre-eminent dwelling which was frequently moated; and the site of a water mill, whose mill pool and leat might still be recognisable. (Early windmill sites are less easily seen). This is well evinced in the Nottinghamshire ‘medieval’ village of Laxton where a motte and bailey castle, set in demesne lands, was the equivalent of a simpler manor house elsewhere. The village, immediately south of the castle, was (and still is) a linear one of some size, consisting of farmhouses, many of which are set end on to the road, with the house plots echoing the narrow crofts and the open strips behind. Around the village are several open fields with meadow land along the stream which runs through them. Most of these features can be recognised
from the air, but former meadow land, grazing land and ancient woodland (some of which still exists in Cheshire) are not always easily discovered and assessed. It is, however, possible to identify lowland meadow by the discontinuance of ridge and furrow against hedges running parallel with a stream and several yards from its banks. A good example of this appears on the Bunbury tithe map, the hedges running parallel to the River Gowy probably delineating where ploughing ceased before the land was enclosed. Occasionally, too, the elaborate pattern of water channels bordering a stream will indicate the former existence of a water meadow.

What can aerial archaeology show of this pattern, as a whole, in Cheshire?

RIDGE AND FURROW AND STRIP CULTIVATION
Firstly, there should be evidence of long, curving, cultivation strips; something more than that provided by the hedged examples quoted above near Malpas and at Haughton and Bunbury. Many of these late survivals seem to be too short to have been the full length ridges of an open field. The strips of a medieval open field were separated only by a deep furrow, a balk of turf or a line of pegs, and the chances of identifying them may seem rather remote. Fortunately, however, on the rich clay soils of west Cheshire, as in much of the Midlands, the plough strips were not left flat but were given an undulating surface, apparently to facilitate drainage. This undulation is the feature well known to archaeologists as 'ridge and furrow' and to Cheshire farmers as 'butt and rean'. It was produced by ploughing up and down the length of the strip, the soil being thrown to the right on the up journey and again to the right on the down journey, a process which resulted in the building up of a low ridge that was accentuated by the furrow on each side. These long ridges, which were the units of ploughing, should not be confused with the strips, which were the units of tenure. There could be three or more ridges within the width of a strip holding.

That much of the ridge and furrow to be seen in Cheshire is comparatively ancient, cannot be denied. It is not only cut through by 18th-century canals and 19th-century railways, but in many cases it runs beneath the hedges and clearly belongs to an earlier, less enclosed, landscape. Despite this, great caution must be taken in attempting to date the landscape by such simple stratigraphical means, for ridge and furrow varies in date. Some of it was ploughed within living memory in Cheshire and in some other counties – a practice
which has been going on since its introduction in early medieval times. What is not clear is whether Cheshire farmers were still deliberately ploughing land into this configuration at about the turn of this century, or whether they were merely re-ploughing ridge and furrow that was already there. Nevertheless, and in spite of these difficulties, a broad dating by type can be attempted.

The more modern the type of plough used, and the more sturdy the type of traction, the straighter and more regular the ploughing will be. This is noticeably the case with 19th-century steam ploughing, which is fairly exceptional and most likely to occur on improving landlords’ estates. Examples of it may be seen on the Grosvenor lands in the Dee Valley. Steam ploughing involved positioning a steam-powered traction engine at one end of a field to draw a multiple plough towards it, and then repositioning them for the return run. In practice, this procedure was no more than a mechanised version of the traditional ridge and furrow ploughing and the same features were produced. There was, however, an important difference, namely that the steam-ploughed ridges were very regular, very straight, and very mechanical in appearance. They can sometimes be seen, from the air, interrupting much broader curving ridge and furrow which must, therefore, be of an earlier date. (Plate 1)

At the other end of the typological scale, there are those ridges which are wide, of the order of 25 or 30 feet and sometimes more, and markedly curved. The curve can be a simple arc or it can take the form of a reversed letter S, sometimes short but often elongated into a gently meandering line. Occasionally, towards the end of the ridge, the gentle curve takes a sharp kick to the left. This unexplained peculiarity, together with the dying out of some ridges between others, seems to be rare outside Cheshire. The reversed S-curve is generally regarded as being diagnostic of medieval ploughing in the Midlands counties, and there is no clear reason for thinking it to be otherwise in Cheshire. It probably resulted from the difficulty of turning the large medieval plough-team of oxen when it had reached a headland. To do so with ease necessitated approaching the headland at each end of the strip at a slight angle, which resulted in the ridge and furrow being either an arc or an S-curve. Whatever the significance of its shape, it is beyond dispute that this wide and curving ridge and furrow is the oldest variety in Cheshire, inasmuch as it has often been subdivided at a later date, or is overlain by narrower, less curved, varieties. Furthermore, taking its rela-
tionship to other factors, not least of which are field names, and villages still existing (especially those in north-west Cheshire), it seems fairly conclusive that this variety of ridge and furrow represents the ploughing, during the medieval period, of strips within an open field system. That these open fields were used for corn growing in the valleys of the Dee, the Gowy, and the Weaver, is emphasised by the number of early corn mills recorded in those areas. Where ridge and furrow is generally lacking, e.g. in the Valley of the Dane, there is also a dearth of early corn mills. Unfortunately, this medieval arable landscape only shows through in patches. It is most evident in the Dee and the Gowy Valleys and, at the time of writing, there is an extensive area of it to be seen north-east of Hatton Hall, between Waverton and Tattenhall. (Plate 2).

One of the curious features about the Dee Valley landscape is the abrupt termination of parcels of ridges against others, of the same type and apparent date, which run in another direction. (Plate 3). That is to say, parcels of ridges seem to truncate others which must, therefore, be earlier in terms of successive ploughings. This may represent nothing more than the division of an open field and its strips into the ‘crofts’ referred to by Ormerod and others. In terms of ploughing, the ox team would presumably have had to use the ridge along one side of such a block of ridges as a headland on which to turn. On the other hand, the division into blocks may represent the method of fallowing adopted when a township had only one open field. Parts of it would have been cultivated, while the remainder, with its old ridges and furrows intact, would have remained fallow until the next year. Much of the ridge and furrow which displays these characteristics passes beneath present-day hedges and clearly belonged to once-larger fields. There are many examples, however, where the ridge and furrow is contained between the hedges of existing fields, comparatively small in area, which cannot possibly represent medieval open lands of the usual Midlands pattern. Sometimes the hedges are seen to be along headlands, but whether or not the field was ridge and furrow ploughed between the hedges is problematical. In some cases, what seems to have happened is that small parcels of land (butts), which fell short of full-size furlongs, formed a convenient basis for enclosure, and were simply hedged about. On the other hand, recent research in four parishes in the valley of the River Gowy (Bunbury, Haughton, Huxley and Peckforton) suggested that the ridge and furrow had actually been ploughed between hedgerows, a few of which were several
centuries old. It is, however, the author’s experience that most hedges cut across ridge and furrow and have only occasionally been planted along the side or end of an old furlong. Surprisingly, this applies even in those parts of the Dee Valley where townships, and therefore presumably the open fields, were small. The main difference between the open fields of west Cheshire and those of the Midlands does seem to be one of scale. In the Midlands, fields of 100 acres or more were the norm. Most of those in west Cheshire were considerably less.\textsuperscript{16} The open-field systems of Cheshire and the Midlands need not have been identical. The evidence suggests that they were not, and more detailed archaeological research may well reveal a diversity within Cheshire as there was in Britain generally.\textsuperscript{17}

MOATED HOMESTEAD SITES
The second archaeologically recognisable element in the Midlands pattern of arable farming is the site of the important house on which the community and its open fields were based. This house, if it still exists, is invariably known as the ‘hall’, unless it was formerly the manor house or a monastic grange, in which case these appellations may survive. Sometimes the house stands within the village (e.g. the Old Hall at Willaston, Wirral), sometimes at the edge of it (e.g. Tarvin Hall), but more typically it is very close but a little apart from the village (e.g. Dodleston Hall). If it no longer exists, its former presence may be remembered in such local names as ‘Hall Field’ or ‘Hall Lane’.

On clay soils, such as those found in the greater part of lowland Cheshire, the house would have been moated, perhaps as a status symbol, but more likely partly for security\textsuperscript{18} and partly for purposes of draining the site. The moat was usually connected to a stream or brook by a channel, with a sluice-gate to regulate the level of water. Few moats have been adequately excavated archaeologically, but a good proportion of those that have been had their origins in the 12th, 13th or early 14th centuries and seem to represent a process of colonising the rich but damp, heavily wooded, clay lands. In many cases, both the house and its moat have disappeared. In others, the house has been replaced by another of a more fashionable and probably more comfortable character at a better location, leaving the original site, with its moat silted up and forgotten, amidst later hedged fields. Very often, not a vestige of the moat remains, and its former existence is unsuspected until it is unexpectedly seen, from the
Plate 1  Coddington. Straight ridge and furrow produced by 19th century sean ploughing.

Plate 2  Hatton, near Tattenhall. Medieval type reversed-S ridge and furrow.
Plate 3  Saighton. Ridge furrow with truncated ridges.

Plate 4  Baddiley. Moated site and associated enclosures. Probably the site of Baddiley grange.
Plate 5  Alpraham. Site of Southley Manor. There are two moats (left of centre and extreme left) and green lanes (top right of photograph).

Plate 6  Bruera in the parish of Buerton. A diminished village with a prominent moated site.
Plate 7  Overton, near Malpas. Deserted hamlet with hollow ways and enclosures.

Plate 8  Spurstow. Deserted hamlet with ditched enclosures.
air, as a crop mark or a pattern of shadows in a field. In this way, aerial archaeology has helped to add greatly to the number of known moats in Cheshire. At the end of 1975, they totalled 98, but now the figure is over 120. Amongst the newly discovered ones, are the large moat observed in 1976 immediately south-east of Eaton-by-Tarporley, and the potentially important site found in 1981 at Baddiley, some three-and-a-half miles west of Nantwich. (Plate 4). Field name evidence suggested that the latter site, which consisted of one certain and at least one other probable moat abutting it, was that of the grange of Combermere Abbey known to have existed somewhere at Baddiley. Unhappily, the whole complex was destroyed by thorough ploughing a few weeks after it had been photographed from the air. The Eaton site is interesting in that it affords a fine example (the first in Cheshire) of a fish pond or stew associated with a moat. As is well known, moated sites did not always contain houses. Some contained orchards, gardens or even haystacks. A former use of this kind is quite impossible to determine by aerial observation and the best that can be hoped for is that dwellings or other structures will appear as crop marks. The Eaton moat probably enclosed a house of some importance, as the lane which passes it is still called ‘Hall Lane’, but there is no record of which Hall it was. The site has now been scheduled by the Secretary of State for the Environment as an Ancient Monument.

The dating of moated sites has not yet been seriously attempted in Cheshire but there is every reason for supposing most of them to be medieval, as are most of those in the Midlands. The relationship between moats and wide curving ridge and furrow of the medieval pattern is not always easy to demonstrate, for the latter has often been overlaid and disguised by later ploughing. Nevertheless, there are sufficient examples to show that they do relate one to the other and must be seen as two of the elements of a medieval open-field system of farming. It is not contended, of course, that each moated site was of seignorial status, though some plainly were on documentary evidence. Many moated sites could not have been of the first rank, if only because more than one were sometimes to be found within a township. Huntington, just south of Chester, is a good example of this. There is a large and impressive moated site adjacent to Huntington Old Hall, just north of the centre of the present civil parish, and another relatively small, but by no means insignificant, moated site in the south, almost straddling the Huntington-Saighton parish
boundary. There are two possible explanations for the existence of these lesser, though evidently important, moats. Either they were sub-manorial in the sense that they were those of freemen or another special category of person, or they represent direct attempts by the manor holder to colonise marginal lands within his manor. There is a third possibility, which is a special case, namely that the township concerned was a double one, each element having its own moated hall. Huntington, for example, used to be Huntington-cum-Cheaveley. 21

English moated sites were not always single enclosures. 22 Many had multiple moats, and the Baddiley grange site, previously mentioned, may well have been an example of this. Single enclosure sites seem to be the commonest in Cheshire, but double enclosures are also being found. One very interesting example has been identified at Alpraham, south-east of Tarporley. The site is just south of that part of Alpraham known as Highwayside. The name is perhaps appropriate, for almost all the cottages relate to the present highway (the A51 (T)) and are of 18th and 19th-century date. Two short green lanes come off the highway and may once have crossed its line to link up with other lanes nearby on the other side. In any event, they must predate the road layout as it is today. These green lanes converge at a point near the Chester to London railway line, and an aerial photograph, taken with a low sun, has revealed a much altered moated site at this spot (extreme left of Plate 5). Adjacent to it (and presumably contemporary with it) is a second moat of roughly the same size but with a much slighter ditch (centre of Plate 5). A search among the papers of the Mostyn Estate has shown that this was the moated site of Southley Manor. There is still a Southley Farm nearby and, according to J. McN. Dodgson, a ‘Maner de Soudlegh’ was mentioned about AD 1305. 23 A post-1732 estate map, 24 accompanying the Mostyn papers, shows only one moat, which encloses a building. The other moat, with the larger ditch and presumably the site of the original manor house, had evidently lost all significance by the time the map was drawn. The area between the two green lanes, now bisected by the road to Bunbury, is shown as ‘Southly Common’, and the whole area has the appearance of having been, at one time, a small community in its own right. No clear house platforms, or even crofts, can be recognised now but there are low platforms or plateaus, separated by channels, immediately east of the second moat. They may be, and probably are, of geological origin. It is difficult to relate the site to surrounding areas of ridge and furrow, much of which
seems to be comparatively recent inasmuch as it is straight and covers everything other than the moated sites and the former common. Immediately to the west of the site, however, comparatively broad ridge and furrow terminates on a prominent linear feature, which is either an ancient causeway or, perhaps, an unusually well-defined headland. This may be all that remains of a ‘village envelope’ of headlands and back lanes that once defined the settlement.

The lack of clear crofts and house platforms at the Southley Manor site raises the whole question of the purpose of a secondary moated area. In many examples in the Midlands counties, one moat encompassed the great house (the manor house or hall), while others adjacent to it enclosed ancillary buildings or other appurtenances. The buildings enclosed in this way need not have been ancillary to the hall in the sense that they were stables or barns. They could equally well have been dwellings of those who needed to be near their master. As the second moated area at Southley was a habitation site in or about 1732, it is conceivable that it had always been so in one form or another. That is to say, one moat encompassed the former manor house and the other a small group of houses. Together they would have constituted a small nucleated settlement which apparently lost its identity in favour of Alpraham. Burdett’s map of 1777 suggests that the capital settlement in the township was at Alpraham Green, adjoining Alpraham Hall. It survives, but much diminished. Burdett shows little development at Highwayside in 1777, and none at all (except the Common) at Southley – it had disappeared.

DESERTED SETTLEMENTS

The site of Southley introduces the third element, which might be recognised through aerial photography, in an open-field pattern of farming, namely the site of a village or hamlet. In the northern parts of west Cheshire, the existing settlements are fairly large, mostly nucleated, and have sizeable churches. That is, they are villages in the normally accepted meaning of the word. Few seem to be shrunken and none, of any size, seem to have been lost through desertion since medieval times. Change has been through expansion rather than shrinkage, or is the result of extensive replanning as part of a 19th-century programme of agrarian improvement (e.g. Dodleston and Aldford). One of the few exceptions to this is Brueria in the Dee Valley parish of Buerton (Plate 6). Brueria has a small, much altered, Norman church and a silted-up, though well-defined, moat. This was possibly the site of the
house of Hugh de Pulford, who held lands there in the 13th century. Aerial photographs show that much has changed in the village. The farmhouse now standing within the moat is not aligned with it, and the moat had plainly lost all significance when it was built. Furthermore, the road (Chapel Lane) passing through the village has obliterated one side of the moat, and may be a realignment of an earlier road or, more probably, represents a linking together of a number of former lanes and tracks in the vicinity of the moated house. Aerial photographs show a number of house platforms (low mounds associated with shallow enclosing ditches) aligned along Chapel Lane, almost opposite the moated site, while a hollow way, coming across the fields from the west, joins it a little to the south of the moat. This hollow way, too, has disturbed ground and low house platforms along it, some of them being the sites of farm buildings shown on 19th- and early 20th-century maps. Around this complex of existing and formerly existing buildings (i.e. the village) may be seen the long, curving ridge and furrow of former strip fields.

Several small settlements, in various parts of the county, disappeared altogether during the late 18th and early 19th centuries, either as a direct result of emparkment of lands around large country houses, or through the reorganisation of farm lands belonging to large estates. Well known examples on the Grosvenor Estate are Eaton, Eaton Boat, Belgrave and Cheaveley. Rode, in the east Cheshire parish of Odd Rode, is another interesting example. The papers of the Baker-Wilbraham family describe a small settlement consisting of a hall (the forerunner of the present Rode Hall), a mill, and some other buildings. This was cleared away during the process of creating a park and the resiting of the road between Scholar Green and Rode Heath. The importance of Rode, in the context of this discussion, is that it emphasises the very close association between a hall and a small dependent settlement. Tatton was another settlement, also in east Cheshire, which was finally abandoned as a result of emparkment. This fairly large village stood immediately outside the curtilage of Tatton Old Hall, which still survives within the Park. Only the former lanes now remain, but the village survived long enough for its remnants to be mapped in the 18th century. These settlements were abandoned comparatively recently and their approximate sites are known. The former existence of others can neither be demonstrated by maps nor through aerial photography. Shocklach, in the Dee Valley, is a well known and puzzling example. A small but
fine Norman church stands isolated on a green lane amidst acres of classic medieval ridge and furrow, but no attempt at any time of the year, by observation of crop marks, shadows, or by field-walking, seems to reveal the whereabouts of this postulated village. A perusal of Dodgson's *Placenames of Cheshire* and other writings and documents suggest that there may be as many as 73 lost settlements in what is now called Chester District (i.e. the greater part of west Cheshire, comprising the former Chester Rural and Tarvin Rural Districts). A very well preserved green lane still runs from Castletown Farm in Shocklach to Wetreins Green, a distance of about a mile-and-a-half. It serves nothing, but it presumably did so in the past, including some of these lost places.

Why have deserted Cheshire villages none of the prominent features displayed by their counterparts in other parts of the country? One reason must be that houses in Cheshire, and occasionally even churches, were commonly built of timber framing, wattle and daub and roof thatch, all of which are perishable materials. Furthermore, there is some evidence for such buildings having been erected with earth-fast posts (i.e. with the principal posts stuck into the ground) rather than with the timbers set on a stone plinth. When such buildings are deserted and fall down, these materials rot away quickly, leaving neither solid foundation walls nor turf-covered mounds of debris to be highlighted by a low sun and thus made visible from the air. At best, the former lanes and tracks will show up as hollow ways. There is an exception to this, namely, when a settlement had been sited on clay land which could be unpleasantly wet both for habitation and crofting. This was by no means a rare occurrence and in the west Midlands it was normal in such conditions, to raise large areas of earth between the lanes and roads of a village and upon them to place both the houses and their crofts. Such areas, or platforms, can be recognised from the air.

Another reason why deserted settlements are difficult to locate is that some townships, commonly referred to as dispersed townships, never did have nucleated settlements of any size and it may be futile to look for them. On the other hand, the peasantry of such townships lived somewhere and, if they tilled open fields, there should have been at least one fairly compact hamlet, or a semi-dispersed settlement as opposed to a completely dispersed one.

The usual proximity, one to the other, of the Hall and the settlement has already been emphasised and the lesson to be learned is a simple one. If a lost settlement, large or small, is
being sought, one should look first for the Hall, its abandoned moated site, or for a farmhouse which still bears the name ‘Hall’ (or Manor, Grange, etc.). The settlement should be adjacent to it. Perhaps Hatton Hall, not far from Tattenhall, near Chester, will serve to illustrate the point. The Hall, a comparatively modern building, stands within an ancient moat amidst a largely unspoilt landscape of medieval ridge and furrow (Plate 2). Immediately adjacent to the moat, three or four small enclosures front onto the lane running past. Behind each of them, there seems to be a small separate area of ‘ridge and furrow’, which suggests hand-dug beds within a croft. This is a typical toft and croft arrangement, and the features, together with the Hall, presumably represent what, in medieval times, was the kernel, if not the whole, of Hatton. For what it is worth, this small settlement, and others like it, can only be described as nucleated, although the nucleus was very small indeed. The extent of the wide and curving ridge and furrow round about, seems to require a considerably larger village, and there may indeed be other toft and croft sites not yet identified in the vicinity of the Hall. At present, the evidence is for nothing more than a small group of houses nestling up to an important house.

The same principle can be adopted in seeking a more dispersed settlement. Overton, near Malpas in south Cheshire, is a dispersed township of large farms. It may not always have been so, and the existence of relatively wide, curving ridge and furrow suggests it may have had open fields. Overton Hall only exists as the name of a modern farmhouse. However, an area of land, almost adjacent to the group of farm buildings, has a clear hollow way crossing the formerly ridged and furrowed lands (Plate 7). This lane, against which the ridge and furrow stops, pays little heed to the present road serving the area nor to anything else of the present day. After approaching the vicinity of Overton Hall, it divides, forming a T-junction, at which point there are low platforms indicating the former presence of one or two houses. It is not clear where the southern portion of the lane eventually led, but the northern track, having reached another spot where cottages evidently stood, goes on until it merges with the modern road to Overton Hall. Taken as a whole, it is likely that this was a settlement consisting of perhaps no more than three or four scattered smallholdings, or steadings, near to a hall which presumably stood approximately where the farmhouse now stands. As was the case with Hatton, it can only be supposed that this was the Overton referred to in the historical records.
from Domesday onwards, and that it never was a compact village as popularly conceived. Nor can it be argued that it was ever deserted or lost. It simply became even more dispersed than it had been.

There are two other small deserted settlements which merit discussion. The first is at Haycroft Farm, a quarter of a mile north-west of Spurstow (Plate 8). The farm is the successor to a house named Haycroft which stood, with other small buildings, at this spot. This small group, together with the surrounding fields as they were then, are shown on an 18th-century map of the area. The lane, which now terminates at the farm, is shown continuing northwards in the general direction of Beeston Moss. Many of the field boundaries have since been destroyed but are nevertheless clearly seen from the air. What do not appear on the map, but which are also visible from the air, are a number of low mounds, each of roughly equal width and with a shallow enclosing ditch. The form of this complex is the classic one of crofts fronting onto a lane. The land has a clay soil but the features are almost certainly not the result of water running off; Spurstow itself, nearby, has a sandy soil. While there is no Hall at Haycroft to bestow a name on the site, it does nevertheless seem to have been a small settlement of a date not yet ascertained. Its recognition as such is emphasised by ridge and furrow of which there are two types. The first, which passes over the mounds, is a narrow, rather straight, variety and typologically fairly recent. It is not now readily visible, but can be made out on an air photograph taken by the RAF in 1947. The second variety of ridge and furrow seems to be contemporary with the settlement, and presumably represents the ploughing of strips in the fields associated with it.

The second small settlement site is about one-and-a-half miles south-east of Malpas, in the parish of Bradley. Bradley Hall, a farmhouse which stands on rising ground just north of the Bradley Brook, is a Victorian replacement of an earlier building. Just south of it, where sand outcrops from beneath clay, there is a short line of eight or nine low mounds (tofts ?), roughly equal in width. They front onto the brook, but are separated from it by a strip of level ground, possibly meadow or a former strip green. The mounds are backed by slightly lower mounds (crofts ?) which are themselves backed by a slightly hollow lane. Bradley is first mentioned in AD 1259 as part of the barony of Malpas. It is only fair to point out that the man-made character of this very eroded site at Bradley has been questioned. It has been suggested that the mounds
may be natural, caused by the thinning out and breaking up of a clay capping over a sandy subsoil. Against this, it must be pointed out that the features are confined to a very short length of this clay-sand interface. Furthermore, they are adjacent to an area of land still known as Bradley Common, adjacent to a Hall Farm, and very near to what could be the site of Bradley Mill. To emphasise the point, the site also has associated ridge and furrow, some of which is fairly wide, curving, and stopping short at the complex of low mounds in much the same way as it did at the Haycroft Farm site, near Spurstow. It is suggested, therefore, that the Bradley features represent a hamlet associated with an attempt to exploit rich clay soils, possibly about AD 1259. The attempt may have been abandoned, as it was at many other places in England, a century or so later when the worsening of the climate, rising water tables and other possible factors made the cultivation of some sites difficult and unprofitable. Whilst this is only a hypothesis, it could go a long way towards explaining the high degree of erosion seen in the mounds. If it is true, it does not mean that the whole Bradley area was abandoned, but only this site. The persistence of field names, and the existence of a Hall Farm, imply a continued occupation and arable cultivation, doubtless with a resited settlement, through into the post-medieval period.

While the existence of moated houses on clay soils in Cheshire has long been evident, that of settlements on such uncongenial land has not always been readily accepted. Most, if not all, early settlements in west Cheshire, especially those of a probably pre-Saxon date, seem to be on sandstone outcrops, on patches of permeable gravel, or on sandy loam. The first sites of those founded later, during the 12th-, 13th- and 14th- century incursions into waste land, may well have been on less permeable ground. Indeed, the evidence derived from aerial archaeology is that settlement could be attempted almost anywhere, the sole governing factor being the proximity of the great house upon which it depended.

CONCLUSIONS
The picture that emerges from aerial archaeology confirms that derived from historical research. It provides a considerable body of visual evidence for the existence, in west Cheshire, of an open-field system of agriculture with ploughed strips, manor houses (or their equivalent) which in Cheshire were frequently moated, and generally all the other elements of the system seen in the Midlands during the medieval period.
The pattern is not, however, identical with that of the Midlands. There are, for example, no large deserted villages (with the exception of Tatton) but there are deserted hamlets (vills?), and the sites of small groups of cottages (tofts and crofts) may be found, not only in the dispersed townships, but occasionally in those where the settlement pattern was thought to be well understood. The archaeological evidence, when fully researched, may indicate the presence of more than one system of open-field agriculture and land tenure, thereby lending support to recent historical research.

Former tofts and crofts can be found adjacent to surviving great houses (halls). In many cases, the hall has been moved from its original site to a better, drier, location, usually on slightly higher ground, leaving the old moated site abandoned and often unrecognised. Some moated sites of this sort have the earthworks of a small attendant settlement adjacent to them.

It is tempting to compare the small scale nature of open fields and hamlets in parts of west Cheshire with, for example, areas of Devon or Northumberland and to postulate the survival into the Middle Ages of a Romano-British rural pattern. This possibility cannot be supported at present, however, either by Celtic placename elements or by the available archaeological evidence.

NOTES


2 The author is indebted to Dr. J. Phillip Dodd for calling his attention to these strips.

3 Clwyd County Records Office, Tithe Awards 1848. Record No. QSD/DE/19.

4 Its chief visible features were large arable fields of 50 acres or more, holdings scattered in strips among the fields and fields lying fallow every two or three years. (See I.H. Adams, Agrarian landscape terms: a glossary for historical geography. Institute of British Geographers, Special Publication No. 9, 1976, 79–91).

5 P. Thompson, L. McKenna and J. MacKillop, Ploughlands and Pastures (1982), 24, 30 and 54.

6 Long ridge and furrow is well illustrated in M. Beresford and J.G. Hurst Deserted Medieval Villages (1972), Fig. 12 and Plate 15; Also N. Harvey, Fields, Hedges and Ditches, Shire Album 21 (1976), 8. On the other hand, ridge and furrow can be short eg. Beresford and Hurst op. cit. Plate 6. Both types are found in Cheshire.
Sometimes, ridge and furrow is seen to have been ploughed to facilitate the running of water into meadow land but this is rare in Cheshire. (See W.G. Hoskins, *The Making of the English Landscape* (1955); Also C.C. Taylor, *Fields in the English Landscape*, (1975)).


9 Information from the National Farmers' Union (Cheshire Branch) and personal comments from individual farmers in west Cheshire.

10 I am indebted to the Science Museum, South Kensington, London, for their comments on 19th-century steam ploughing.


15 P. Thompson, L. McKenna and J. MacKillop, *op. cit.*. 19, 41 and 56.


18 S.A. Harrop, 'Moated Sites in North East Cheshire and their links with the Legh family in the Fourteenth Century', *Cheshire History* No. 11 (Summer 1983), 8–15.


20 Verbal communication from P.H.W. Booth of the University of Liverpool.


26 Verbal communication from F.I. Dunn of the Cheshire Record Office.

27 J. McN. Dodgson, *op. cit.* Parts III and IV.

28 M. Beresford and J.G. Hurst, *Deserted Medieval Villages* (1972), 95, 96, 117 and Plate 11.


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