OPEN FIELD CULTIVATION IN DERBYSHIRE

By JAMES C. JACKSON

DERBYSHIRE lay on the margins of the area in which the Midland system of open field cultivation was most fully developed. Whilst little has so far been written about its medieval agriculture, the discovery of traces of former open arable fields in numerous settlements shows that an open field system was once widespread. The position and geographical make-up of Derbyshire offer excellent opportunities to suggest answers to some of the questions still attending this system of cultivation. What features of the Midland system occurred away from the English Plain? How far did open fields penetrate into the English uplands? How much was the system affected by differences in physical environment? What were the most important factors limiting its expansion? In this article such questions will be considered in their proper physical setting and the influence of geographical factors made more explicit.

THE MIDLAND OPEN FIELD SYSTEM

Two important features in this most widely used farming system in medieval England were that it was communal or co-operative and that arable land was of special importance. Normally the settlement unit was a nucleated village, around which lay the arable divided into two or three large, hedgeless fields. The arable land of a villager consisted of a number of small, elongated strips intermixed with those of other farmers in each of the large fields. These strips were arranged in groups usually called *furlongs*. It is often presumed that each large field formed a cropping unit, with one left fallow each year, but it has been suggested recently that the furlongs may have been cropping units.[1] Villagers had the right to pasture stock on the fallow, as they did on the stubble after harvest. Apart from the arable, often over two-thirds of the village land, there was the important, but limited, meadow used to produce hay for winter stock-feed. This was also divided into strips and was jealously preserved. On common pastures villagers could keep specified numbers of stock. At several places in Derbyshire this pasture was intercommoned by adjoining villages.[2] In this closely organized system,

1 W. G. Hoskins, *The Midland Peasant*, 1957, 69.

2 Breadsall and Morley intercommoned the land between Breadsall Wood and Morley open field, which "shall lie in pasture common to both vills for ever." C. Kerry, "Early Breadsall Charters", *D A.J.*, XVI (1894), 167.

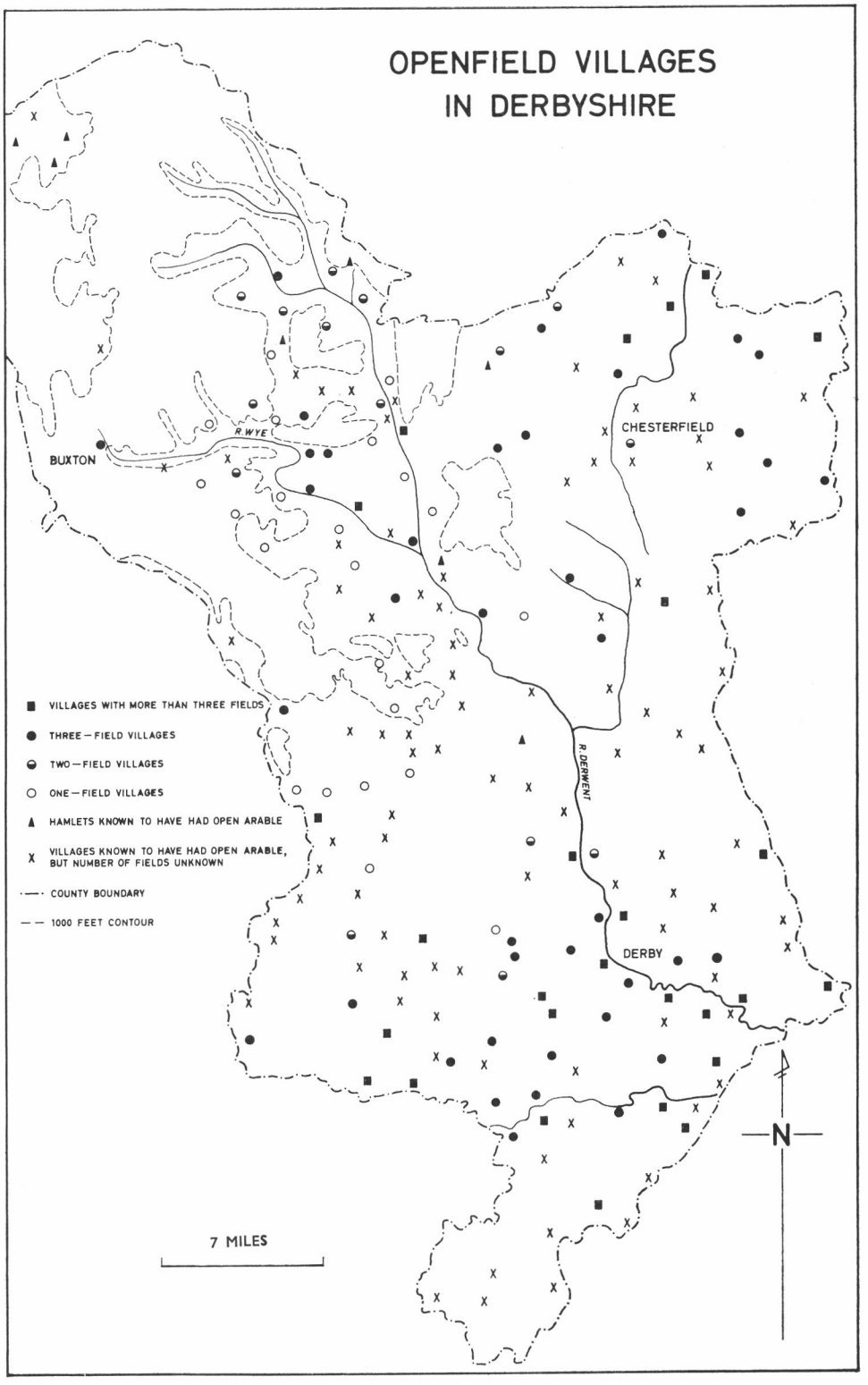
OPENFIELD VILLAGES
IN DERBYSHIRE
BUXTON
R. WYE
CHESTERFIELD
R. DERWENT
DERBY
VILLAGES WITH MORE THAN THREE FIELDS
THREE—FIELD VILLAGES
TWO—FIELD VILLAGES
ONE—FIELD VILLAGES
HAMLETS KNOWN TO HAVE HAD OPEN ARABLE
VILLAGES KNOWN TO HAVE HAD OPEN ARABLE, BUT NUMBER OF FIELDS UNKNOWN
COUNTY BOUNDARY
1000 FEET CONTOUR
7 MILES
N

FIG. 15.

both stock and crops played their part, but its basis was arable farming. The chief crops were wheat, rye, oats, barley, beans, peas and vetches, the exact combination varying according to local conditions, as did the amount of arable land.

Where a Derbyshire settlement is known to have had some or all of the characteristics of the Midland open field system listed below, it is presumed to have once cultivated its lands in this way.

1. Large open fields — often several hundred acres in extent.
2. Holdings scattered in small strips or parcels throughout the arable fields.
3. Grazing rights exercised in common in the arable fields when fallow, and on the stubble after harvest. This custom, peculiar to the open fields of the Midlands, was probably found in the open field villages of lowland Derbyshire. Whether it was usual in the uplands is uncertain, but it did occur at the two-field village of Abney.[3] In the uplands grazing was often so plentiful that this special arrangement was not necessary.
4. The existence of virgates and bovates, each responsible for a fixed quota of rents and services.[4] Gray believed that a virgate represented "a holding of long standing, designed to support a peasant family which could muster two oxen for the plough."[5] Bishop suggested that a tenurial system based on the bovate indicated open field cultivation, for "we may fairly assume that, like the bovates and virgates of the Central English Plain, the bovate (in Yorkshire) consisted as to its main arable of a bundle of strips in the open fields."[6]
5. The division of the meadow into strips.

All these usual features of the Midland open fields have been found in Derbyshire, and it is therefore thought that most of the open arable in the county was cultivated under this system. Documentary evidence reveals that more than 200 settlements in all parts of Derbyshire, about two-thirds of those known in the Middle Ages, formerly had some open arable.[7] About 300 of the 500 open fields that most probably existed are recorded, but only in about 150 cases can the actual area of the fields be established. Where the documents are silent, the modern landscape may provide evidence of open arable from field-names,[8] field-boundary patterns and the controversial ridge-and-furrow.[9] The open field system was more widespread in Derbyshire than was once thought with almost every village and hamlet possessing

[3] In 1654 the Great Court Baron for Abney ordered that "the next day after the corne is shorne and last load lead out of the Townefield aforesaid . . . the inhabitants . . . shall putt in for every acre of land a beast untill Martlemas Day then next followeing and then to put in till St Andrewe's for every acre twenty sheep . . ." C. E. B. Bowles, "The Manor of Abney: its Boundaries and Court Rolls", *D.A.J.*, XXIX (1907), 136.

[4] Bovates were the more usual units in Derbyshire. although virgates are found, e.g. in Allestree. R. R. Darlington, *The Cartulary of Darley Abbey*, 1945, 16.

[5] H. L. Gray, *English Field Systems*, 1915, 41.

[6] T. A. M. Bishop, "Assarting and the Growth of the Openfields", *Econ. Hist. Rev.*, VI (1935-6), 16.

[7] About 300 settlements are noted in Domesday Book.

[8] The most frequent field-name elements in Derbyshire, which indicate former open arable, are *field, flat, furlong, butt, dole* and *shutt.*

[9] These forms of evidence are considered in two articles by the present writer in the *Amateur Historian*, "Fossil Field Boundaries" (IV, no. 2, 1959) and "The Ridge-and-Furrow Controversy" (V, no. 1, 1961).

some open arable in the Middle Ages (Fig. 15). In some areas it had disappeared by the 16th century, whilst in others it survived until the 19th century.

TYPES OF OPEN FIELD VILLAGE

Open fields in Derbyshire were very similar to those of the Midlands, but from an early date they tended to show variations and to decay. Many villages adapted this system to varying physical conditions to produce striking local differences. Perhaps the most obvious and significant variation was in the number of open fields, and the villages of Derbyshire have been classified on this basis.

Terms like "three-field system" apply in practice only to the farming rotation, which could be carried on in one great field or in four or more. A village with four fields did not necessarily farm on a "four-field system".[10] A four-course rotation did exist in Derbyshire; Chaddesden and Chellaston, for example, had the rotation fallow, wheat, barley, beans or pease.[11] Chellaston is an example of a village with a four-course rotation in three open fields. Nevertheless in the 18th and 19th centuries a three-course rotation — wheat or oats, fallow, barley — was common in south Derbyshire, where there were many three-field villages.[12] Presumably most of these three-field villages used a three-course rotation. Some around Derby had a rotation of fallow, wheat, beans or peas.[13]

A classification based upon the number of fields is in many respects arbitrary, but the following figures have some significance:

Number of fields	*Villages*
4 or more	26
3	42
2	14
1	25

Traces of open arable were also found in eight hamlets, so that at least five different forms of open field settlement existed in Derbyshire. Villages with three or more fields organized on the Midland pattern were predominant. Further evidence of fields will raise villages in this table. The number of fields in over 100 other settlements remains to be discovered.

1. *Villages with three or more open fields.*

Most villages of south and east Derbyshire come into this class. These are the traditional Midland open field villages, with a relatively small but regularly shaped area. The village and home closes near the centre were surrounded by three or more open arable fields, originally of about equal area.

Derby itself was apparently cultivated in several open fields, for during

[10] e.g. Hitchin, Herts., had six open fields, but was organized on a three-course rotation. F. Seebohm, *English Village Community*, 1883, 11.
[11] J. Pilkington, *A View of the Present State of Derbyshire*, 1789, 293.
[12] T. Brown, *General View of the Agriculture of the County of Derby*, 1794, 15.
[13] G. E. Fussell, "Four Centuries of Farming Systems in Derbyshire", *D.A.J.*, LXXI (1951), 20.

the period 1345-1791 no fewer than seven open arable fields are recorded.[14] However this was exceptional, four fields generally being the maximum. An indenture from Mickleover, dated 1746, refers to "arable land lying dispersed in the four common or open fields belonging to Mickleover." Melbourne was another village with four arable fields, of which Wilson End was a small field on the eastern boundary of the parish. These small, subsidiary open fields occur in several four-field villages and may represent the formation of new arable in response to population increase. It is probable that a three-course rotation was used in such cases, the small field being "seasoned" with one of the larger ones, as for example at Stanton-by-Bridge where the small Stone Field was seasoned with the West Field.[15] The 1766 enclosure award plan for Hartshorne shows it to have been a four-field village.[16] The small-

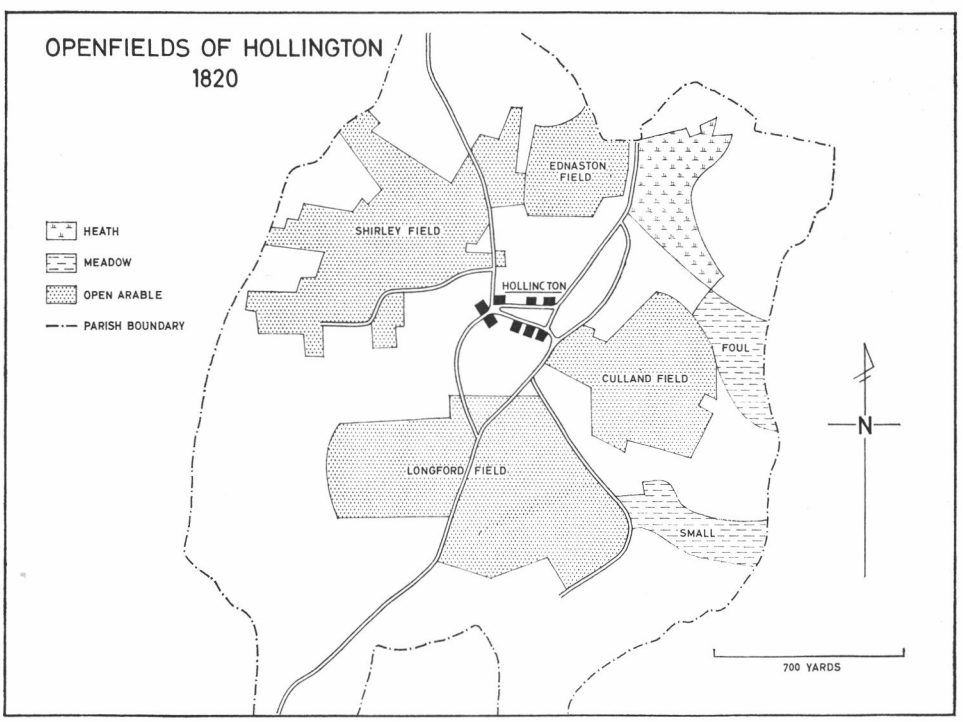

FIG. 16.

ness and juxtaposition of Little Field and Manchester Field suggest that they once formed a single open field, later divided to aid the introduction of a four-course rotation.

Four fields survived at Hollington in 1820 (Fig. 16). In total they covered more than one-third of the village lands, but were very unequal in size. The approximate areas were: Ednaston Field 20 acres, Shirley Field 64 acres, Culland Field 50 acres and Longford Field 99 acres. Whilst much enclosure

14 The early arrangement of open arable associated with larger towns has yet to be studied in detail.
15 W. Fraser, *Field-Names in South Derbyshire*, 1947, 90, 92, 138.
16 County Record Office, Matlock.

had taken place around the edges of these fields, it seems that they were never equal. The size of Ednaston Field suggests that this may have been a subsidiary open field, and a three-course rotation practised.

Allestree had three large open arable fields surrounding the village with the strip division clearly shown (Fig. 17). By the Derwent and between the arable fields were meadows and pastures. In 1737 over half the area of the parish was occupied by open arable.[17] However by the 18th century equality of holdings in the three fields had disappeared (if it ever existed). In 1760 John Bakewell held 12 acres in Black Acres Field, 11 acres in Capersitch Field and 7 acres in Duffield Field.[18] Altogether he held 58 a. 3 r. 33 p., which entitled him to ten beastgates on the common pasture.[19]

A late 18th century survey of Barlborough reveals three large open fields (Fig. 18).[20] There were large areas of common and waste, together with numerous ancient enclosures. Its organization must have differed slightly from Allestree because of the varying amounts of land available for different uses. In many of the Derbyshire open field villages, there was probably land intermediate between open arable and ancient enclosures, cultivated as an integral part of the open fields; "land which was permanently hedged, but definitely termed open field land".[21] Several examples of open field closes have been found. At Whitwell there was "a parcel of land being part of the open fields called Post Hill Closes",[22] and at Ashford "half a close called Stronglow, containing three roods and half an acre, in Longman Furlong."[23] In Leicestershire, Hoskins noted that "scattered throughout the arable fields there were probably numerous temporary enclosures of arable strips to be seen."[24] They seem to have existed also in Derbyshire.

The two Longstones on the carboniferous limestone were also three-field villages in the 17th century. However, no evidence of a three-course rotation has been discovered. Little Longstone was a very small manor with three small, but unequal, fields: South (or Between-the-Towns) Field contained 36 a. 3 r., Makles Field 60 a. 2 r. and Northlowe Field 25 a. 22 p. (Fig. 19).[25] This inequality was due partly to piecemeal enclosure on the margins, although it may be significant that South and Northlowe Fields were together almost equal in area to Makles Field. This suggests a possible two-course rotation. Open arable covered only 13% of the manor, common pasture 52%. The farming economy was based not on arable but on stock-keeping. A significant point is that on a map of 1617, in the extreme south between South and Northlowe Fields, there was a close called Shifting Meadow.[26] This may

17 *Compleat Mapp of the Lordship of Allestrey near Derby being in part the Estate of Edward Mundy Esq of Shipley in Derbyshire*, 1737. Derby Borough Library.
18 Survey of Mundy Estates in Allestree, Markeaton and Mackworth 1760. Derby Borough Library.
19 This may be compared with the figures given by Hoskins for Leicestershire villages. *Essays in Leicestershire History*, 1950.
20 1795-1801 Survey, Fairbank Collection, Sheffield City Library.
21 W. H. R. Curtler, *The Enclosure and Redistribution of our Land*, 1920, 81.
22 1824 Enclosure award, County Records.
23 Ashford court roll 1643 from G. T. Wright, *Longstone Records*, 1900.
24 *The Midland Peasant*, 95.
25 Survey of Little Longstone and Monsaldale, belonging to the Right Honourable William Cavendish, 1611, from *Longstone Records*, 290.
26 William Senior's Survey of Little Longstone, 1617, Chatsworth MSS.

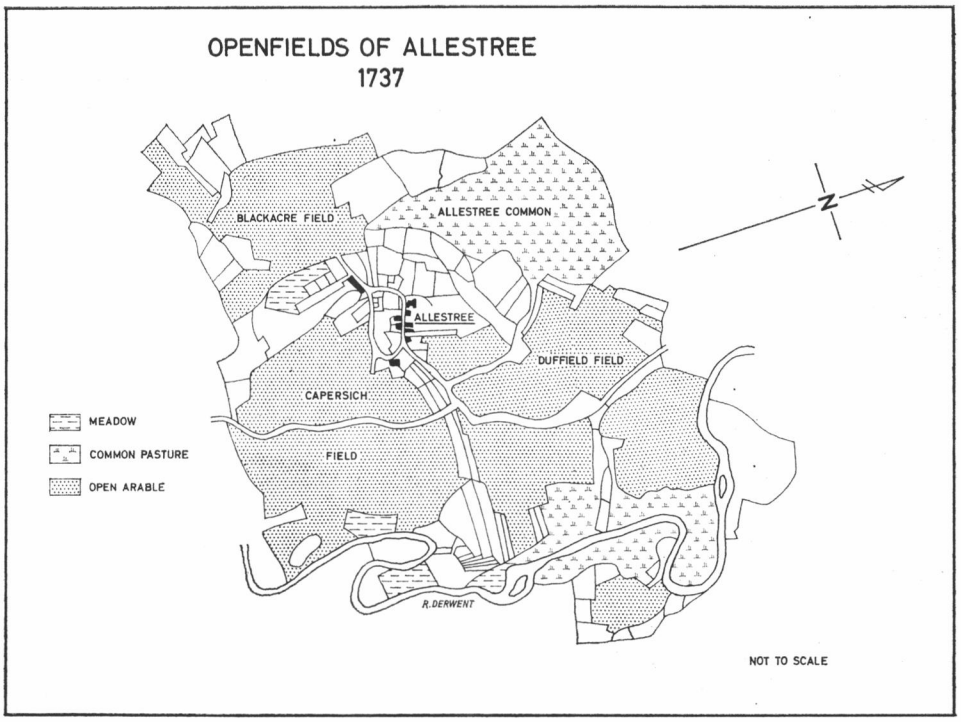
OPENFIELDS OF ALLESTREE
1737
BLACKACRE FIELD
ALLESTREE COMMON
ALLESTREE
DUFFIELD FIELD
CAPERSICH
FIELD
R. DERWENT
N
MEADOW
COMMON PASTURE
OPEN ARABLE
NOT TO SCALE

FIG. 17.

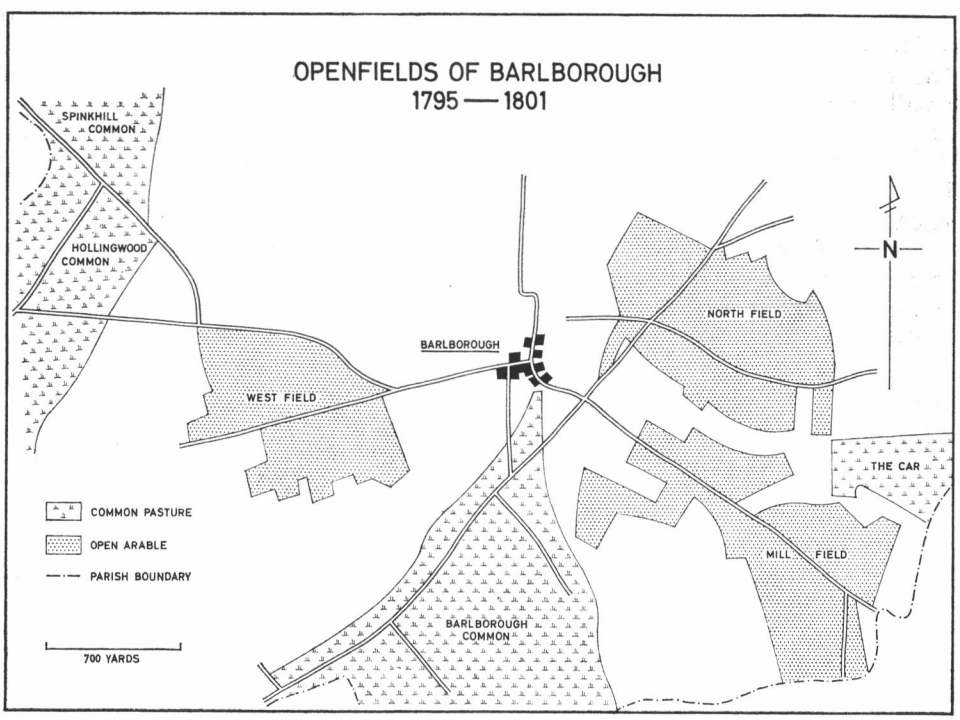
OPENFIELDS OF BARLBOROUGH
1795 — 1801
SPINKHILL COMMON
HOLLINGWOOD COMMON
BARLBOROUGH
WEST FIELD
NORTH FIELD
THE CAR
MILL FIELD
BARLBOROUGH COMMON
N
COMMON PASTURE
OPEN ARABLE
PARISH BOUNDARY
700 YARDS

FIG. 18.

indicate periodic re-allocation of meadow, which was normally at a premium on the limestone. Great Longstone also had three open fields. These were roughly equal in area and covered about half of the manor.

In Leicestershire Hoskins noted the appearance of strips of pasture, leys or meadows, intermixed with the open arable strips. "These leys were quite independent of the meadow ground which went with every farm . . . The meadows were for hay, the leys primarily, if not entirely, for the grazing of tethered beasts or animals and enclosed with temporary hurdles."[27] They existed in Leicestershire before the 15th century and in Derbyshire in the

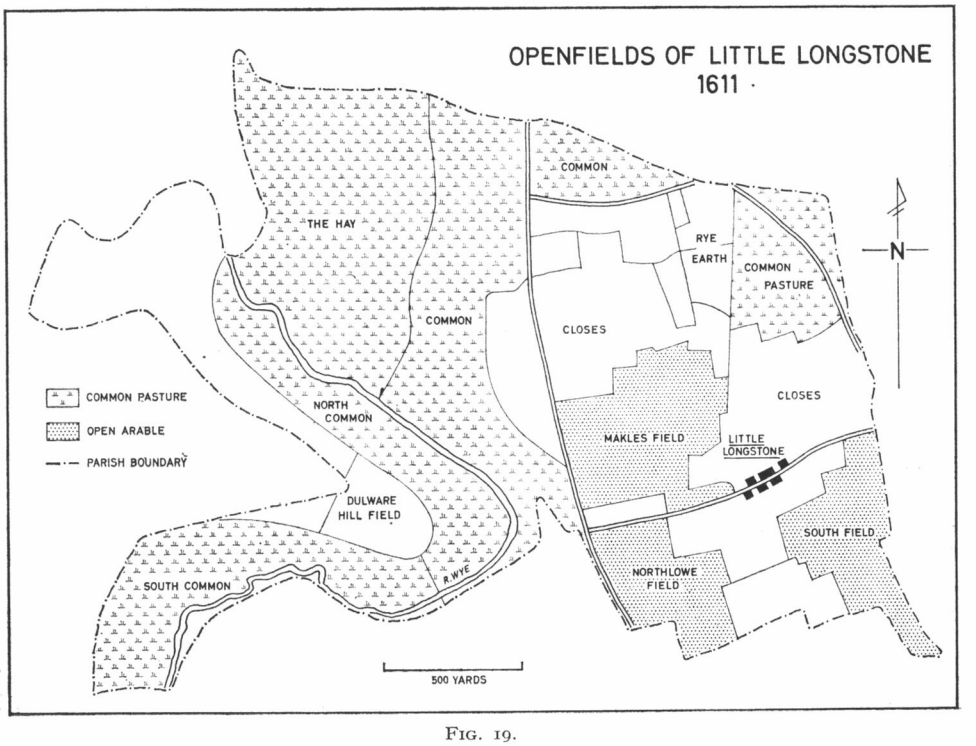

FIG. 19.

13th century, though with a slight difference. Here they apparently took the form of meadow, probably for hay production. Many references occur in several parts of the county; at Alvaston, for example, in 1250 there was "half an acre of meadow in Westmedwe, that is the headland which Geoffrey Papilun once held."[28] At an early date numerous furlongs were referred to as meadows, for example at Normanton by Derby "the furlong called Small-medwe".[29] It is possible that some of the furlong names containing the word

27 *The Midland Peasant*, 152.
28 *Cartulary of Darley Abbey*, 251, no. F.21.
29 *Cartulary of Darley Abbey*, 307, no. G.29.

"meadow" may have had a topographical meaning, that is, they may have been arable but on the floodplain or by the side of a river. This is not, however, very likely for riverside land was usually reserved for meadows proper. That leys and meadows were intermixed at a later date is undoubted. At Repton in the 16th century there was "a piece of meadow containing half an acre in Leyholme, within the lordship of Repingdon, namely in Repingdonfelde."[30] A glebe terrier of 1705 for Ockbrook records "a piece of landmeadow joining Hopwell lordship", for which the rent increased when the Upper Field was sown with winter corn.[31] At Etwall in 1797 there is mention

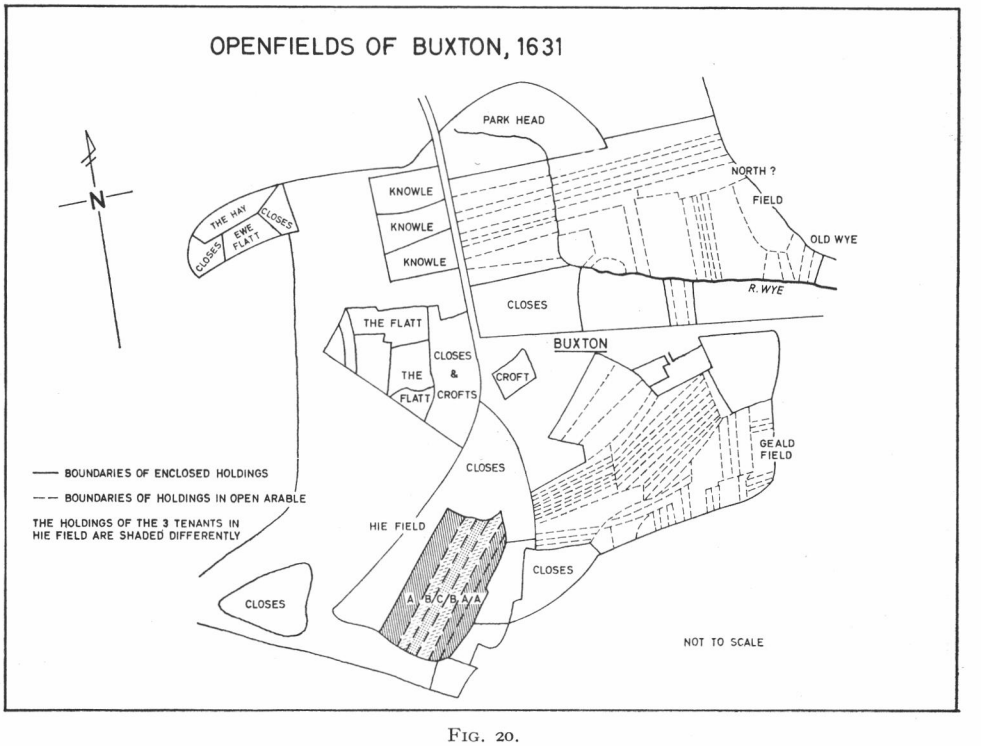

FIG. 20.

of that land "in ley in a piece of land called Gore Flatt" in the open fields.[32] From the 13th century at least this feature may have been caused by the extreme shortage of meadow in many parts of Derbyshire.

Buxton, at a height of 1,000 ft. above sea level, had three open fields on a small scale in the 17th century (Fig. 20).[33] About 125 acres of open arable were divided very unequally between the three fields: Hie Field 17 acres,

30 I. H. Jeayes, *Derbyshire Charters*, 1906, 252, no. 1996.
31 Ockbrook glebe terrier, 1705. Lichfield Diocesan Registry.
32 Enclosure award 1797, County Records.
33 *Buckston in the Countie of Darbie, belonging to the Right Honorable William Earle of Newcastle, surveied by William Senior*, 1631. Bagshawe Collection, Sheffield City Library, C.289.

North Field 37 acres and Geald Field 71 acres. Hie Field contained only six strips, held by three tenants (A, B and C on Fig. 20). Closes appeared amongst the strips, and enclosure took place early.

Nearly seventy villages in Derbyshire probably closely resembled the Midland open field settlements. They were not confined to that part of the county within the Midland Plain, but extended as far north as Hope. There was a marked concentration (Fig. 15) in the south and north-east; elsewhere such villages were closely associated with valleyways. Where physical conditions (relief, soil and climate) were less favourable, variations occurred, pastoralism was more prominent and decay of the open fields began early.

Derbyshire villages of this type display various general features, many of which are characteristic of the Midland open field system:

a. Cultivation in three or more large open fields, divided into a multitude of strips.
b. A tendency, especially in the south, for a large percentage of the village land to be arable.
c. The traditional village plan, with the houses and their crofts in the centre, surrounded by arable fields and the common pasture and waste beyond.
d. Arable closes, the holding of which in severalty was probably an early feature.
e. The disappearance with the increase of closes of any earlier equality in a tenant's holdings between the fields.
f. Some early enclosure.

2. *Two-field villages.*

Several villages in slightly more difficult terrain, mostly in north Derbyshire, have only two open fields. The rotations used here are uncertain, but they probably took two main forms: a two-course rotation with half the village arable fallow each year and a type of infield-outfield cultivation.

Abney in the 17th century had only two open fields — Long Field and Town Field. This manor had vast areas of common pasture especially between Abney and Highlow.[34] The extensive pasturage rights of the villagers indicate a pastoral economy on land mostly over 1,000 ft. above sea level with many steep slopes.

At Tideswell two open fields — Old Field and Wheston Field — appear in a terrier of 1730, although by this date they were mostly enclosed.[35] A rental of 1674 shows a great number of tenants paying money-rents, a practice known to have been widespread in Derbyshire from the 13th century.[36] The presence of a large free peasant class and the absence of any intervention to prevent the disintegration of tenements will account for the frequency with which small pieces of land in the fields were leased for similarly small sums of money, as at Tideswell in 1674.

[34] *D.A.J.*, XXIX (1907), 132, 136-40.
[35] A Terrier of land in Tideswell belonging to Henry Bradshaw, 1730. Bagshawe Collection.
[36] *Cartulary of Darley Abbey*, lxxii.

At Holmesfield the tithe map of 1820 indicates two open fields. West of the village four adjacent closes bear the name of Town Field, and to the south lies what was probably Dale Field. In the late 15th and 16th centuries the Holmesfield court rolls contain many references to open arable.[37]

Hathersage was another two-field village. Intermixed tenancy survived here in 1809.[38] Five adjacent closes south of the village have the name of Town Field, and several others have "rood", "half acre" and "butts" in their names. Open arable certainly existed here. To the north-east of the village field-names and field-boundary patterns indicate the second open field. Town Field was probably the more important and undoubtedly survived longer.

There was a tendency, particularly in the north Derwent valley, for one field to be more important than the other — "the salient feature . . . was thus their one main field".[39] It occurs at Hathersage, and Bamford in 1842 had several unfenced strips.[40] The less well developed second field suggests an approach to infield-outfield cultivation. The infield would be heavily manured every year. The outfield would be used for occasional crops initially, but may have become a subsidiary, permanent field. This infield-outfield system was used here and there in the forested areas of the Midlands, and also in northern England. In Derbyshire the second field possibly became permanent as population increased. At Hathersage, according to the tithe records, no farmer held land in both fields, so the two fields did not mean a two-course rotation.

There is fragmentary evidence for infield-outfield cultivation in Derbyshire. Apart from the suggestive form of some two-field villages, at Carburton, Notts. (only four miles from the Derbyshire border), this system was used in 1615. It has been suggested at Chelmorton, for "the form of arable farming here in the early Middle Ages has not been discovered, but with so much grassland available it would not be surprising to find some form of infield-outfield cultivation."[41] The appearance of "outland" in 1486 in the Holmesfield court rolls, and also of Outlands Road and Outlands Head amongst the present strip-like fields at Bradwell (a two-field village) is suggestive. A solitary Main Field at Thorpe and at Tansley may be a former infield.[42] The "traces of the plough" observed by Glover in the early 19th century may have resulted from earlier outfields.[43] Possibly much ridge-and-furrow in Derbyshire, outside the areas known to be formerly open arable, represents outfield.

The field-name "break" or "breach" is found on many Derbyshire maps. In 18th century Nottinghamshire it was "an immemorial custom for the

37 C. Kerry, "The Court Rolls of the Manor of Holmesfield", *D.A.J.*, XX (1898), 52-128.
38 Enclosure award plan, 1809, Sheffield City Library.
39 L. Wharfe, *Rural Settlement in Upland Derbyshire*, 124. Unpub. thesis, University of Manchester 1955.
40 Bamford tithe survey.
41 M. W. Beresford and J. K. St. Joseph, *Medieval England: An Aerial Survey*, 1958, 46, 97. A 17th century map reveals one field, but no other useful evidence (Duchy of Lancaster Collection, P.R.O., M.P.C. 78).
42 Tithe survey maps 1850, 1855.
43 S. Glover, *History of the County of Derby*, 1829, I, 202.

inhabitants of townships to take up breaks, or temporary inclosures, of more or less extent, perhaps from forty to two hundred and fifty acres, and keep them in tillage for five or six years."[44] The word was regularly used in Norfolk (where the open field system was markedly different from that of the Midlands) for a piece of common pasture broken up for cultivation. When the break had been cropped for a year or two, it reverted to grass, and the process might then be repeated elsewhere. The word "break" therefore signifies temporary or shifting cultivation of an outfield.[45] Breach Field, an open field at Hatton, may thus have originated as temporary arable.[46] The reference to "a piece of ground for plowing formerly sett out in the part of the common pasture called the Breck" at Carsington in 1698 probably points in the same direction.[47]

Apart from a few brief references, the infield-outfield system has not been studied in England.[48] The form suggested in Derbyshire was, however, unlike the widespread Scottish infield-outfield farming. In that distinct system the infield was in permanent tillage, usually divided into three parts and using a crop rotation which did not include fallow. The outfield was a much larger area, part of which was cultivated each year and then left to recover whilst another part was tilled. The holdings in the infield were divided into intermixed strips very much like those in a Midland village. In East Lothian the outfield was divided into "brakes".[49]

The infield-outfield system in Derbyshire was more like a modification of normal open field cultivation, mainly in response to physical difficulties, although other factors may have had an influence. Within the royal forest the area of permanent arable was limited, but temporary enclosures for cultivation were allowed. Village communities for instance in Sherwood Forest were still being licensed by the king's justice of the forests in the 17th century to make such temporary enclosures.[50] Similarly in some areas the manorial lord or freeholders with common rights may have refused to agree to the permanent annexation of part of the waste for open arable, even though temporary cultivation of parts may have been permitted. This happened at Pillaton, Staffs., where in 1676 it was agreed that "the marl piece be plowed at the will of the lord five crops in fourteen years, and so from time to time every fourteen years to till it five years and to lie open when not tilled and the corn taken off."[51] The demands of lead mining may have had similar effects though evidence is lacking. Under such conditions the main open arable, or infield, was probably cultivated like a normal open field on a rotation, including fallow, with the furlongs acting as cropping units. But in many parts of Derbyshire the amount of land available

44 R. Lowe, *General View of the Agriculture of Nottinghamshire*, 1794, 9.
45 W. G. Hoskins and H. P. R. Finberg, *Devonshire Studies*, 1952, 283.
46 Enclosure award 1789. County Records.
47 Glebe terrier 1698. B.M. Add. MSS. 6674/338.
48 e.g. M. W. Beresford, "Lot Acres", *Econ. Hist. Rev.*, XIII (1943), 74-7.
49 Gray, *English Field Systems*, 158-61.
50 From MSS. of the family of Wylde of Nettlesworth, quoted by D. M. Stenton, *English Society in the Early Middle Ages*, 1955, 117.
51 Staffs. Record Office, D 269, 8 (i). The various references to Staffordshire in this article were kindly brought to my attention by Dr. Joan Thirsk.

for permanent open arable was extremely limited; pasture on the other hand was often extensive. With the growth of population, suitable parts of the common pasture or waste were cultivated for a short period, and then allowed to recuperate.[52] One early 19th century writer observed that much of Derbyshire "appeared by the ridges everywhere to have been arable in the past, but this is a snap judgement, and it is much more likely that these ridges were evidence that the waste had been broken up and used for cropping for a few years then going back to grass."[53] A similar form of infield-outfield cultivation has been noted in Nottinghamshire, Warwickshire and Staffordshire.[54] Further research may reveal that this was a widely used modification in such counties where geographical factors limited the full development of the Midland open field system.

3. *One-field villages.*

These villages were mainly on the carboniferous limestone. Their system of farming has not been discovered, but two forms are possible. Firstly, the furlongs in some villages were probably cropping units, and a rotation including fallow used within a single open field. This is suggested by the relatively large size of some of the fields. Secondly, some may have practised the infield-outfield cultivation as suggested at Chelmorton.

A 17th century map shows the open field of Castleton, which is mentioned in several 15th century documents, for example, "a parcel of land called Le Redsettes in Castleton, lying between the King's land called Kytlowegreves and Castleton Field."[55] Several references to open arable in the "fields of Castleton" may indicate a custom of calling a furlong by the name "field" when it was a cropping unit. Labour services are recorded here in the 14th century.[56] However, piecemeal enclosure began early and by 1700 most of the manor had been enclosed.[57]

In 1617 Sheldon contained a single open field of about 175 acres, called the Common Field (Fig. 21).[58] It covered less than a quarter of the total area of the manor, but much land around the edges of the field had been enclosed earlier. Meadows, probably once part of the open arable, lay to the north, and there was extensive pasture in the manor. Edensor was very similar to Sheldon. In 1617 an open field, termed the Arable Field, survived, but it had been much reduced in area. The closes, Mid-Furlong and Close Furlong, may have been enclosures from the open arable or "open field closes". Also the names Breaches and Marples Breaches suggest some infield-outfield farming. Ridge-and-furrow is widespread to the west of the village.[58]

52 It is possible, however, that in some areas this system was used because population was low. To prevent unused land from reverting to waste parts could be cultivated for short periods.

53 C. Loudon, *Encyclopaedia of Agriculture*, 1825. A similar reference is found in W. Pitt, *General View of the Agriculture of the County of Stafford*, 1794, 233.

54 *Medieval England*, 47; *Econ. Hist. Rev.*, XIII (1943), 75. In Staffordshire at Pillaton in 1766 it was "about 60 years since the commons on Teddesley Hay were ploughed, and above 40 years since the common in Stonepitfield in the lower tithing of Huntington was ploughed." About 5 acres were allotted to each messuage, and about 2½ acres to each cottage place when the commons in Teddesley Hay were ploughed. Staffs. Record Office, D 260, 8 (i).

55 Duchy of Lancaster Collection, P.R.O., M.P.C. 15; *Derbyshire Charters*, 73, no. 561.

56 T. W. Hall, *Early Land-Charters relating to the County of Derby*, 1946, 1-3.

57 Map of Castleton 1691. Bagshawe Collection 241.

58 Survey by William Senior 1617. Chatsworth MSS.

Near to Thorpe, another one-field village, are numerous small linear fields in an area known as Main Field, where intermixed tenancy persisted in 1850.[59] Common pasture continues to exist on Thorpe Cloud, as it does at Ashbourne, where certain duties with regard to the common land (Ashbourne Green) survive and a pinder is still appointed at the court leet. Widespread ridge-and-furrow in Thorpe parish suggests much former open arable, possibly

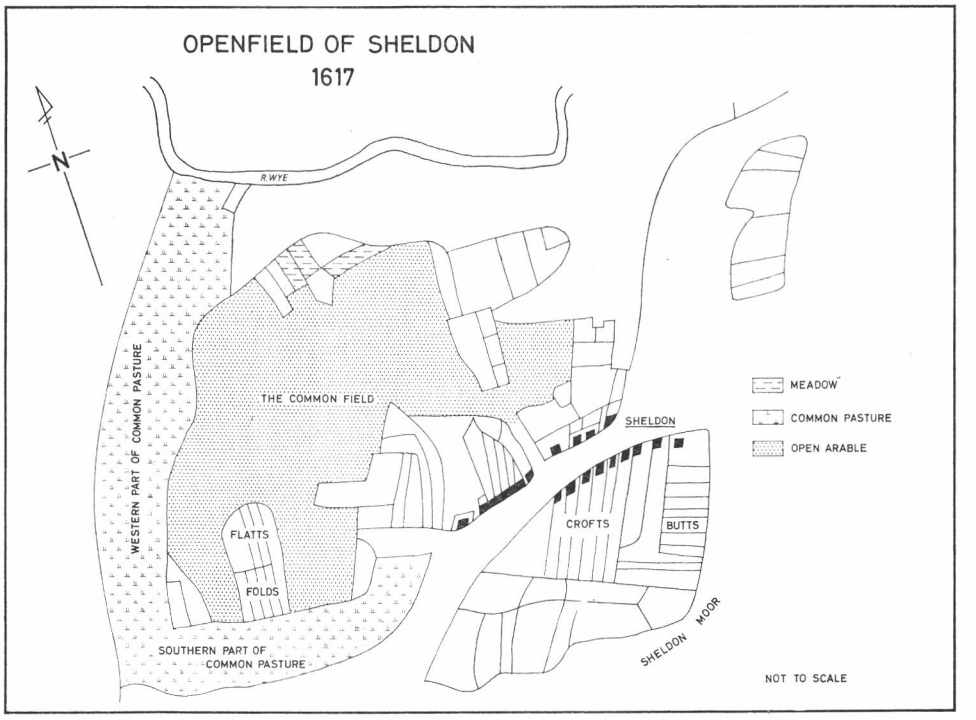

FIG. 21.

cultivated on an infield-outfield basis. The location of this village on the southern margin of the Pennines raises the question of the relationship of the one-field village to the larger villages of south and east Derbyshire. It is suggested that the one-field villages were an adaptation of the Midland system to a more pastoral economy in areas where physical factors did not favour open arable, particularly the soil conditions on the carboniferous limestone. Water-meadow is strikingly limited, but moderately good pasture abounds.

Wherever the open field system appeared in Derbyshire, attempts were made to use all land, especially pasture, to the full extent. The village lands were laid out so as to be, as far as possible, self-sufficient, by including the requisite amounts of all types of land. This influences the shapes of many

[59] Tithe survey 1850.

parishes. The long narrow parishes, for example, by the Dove, Trent and lower Derwent include meadows by the river, arable on higher ground and heath for common pasture (Fig. 22). The significantly larger parishes of north Derbyshire provide large areas of rough pasture with, wherever possible, a small amount of riverside land.

Several hamlets in the north-west (where nucleated villages are not typical except in the larger valleys) are characterized by a small area of less complex arable. The extreme isolation of these hamlets required some arable cultivation for self-sufficiency. Whilst all have Anglo-Saxon place-names, their field-systems may owe something to Celtic influences. An enclosure plan of 1809

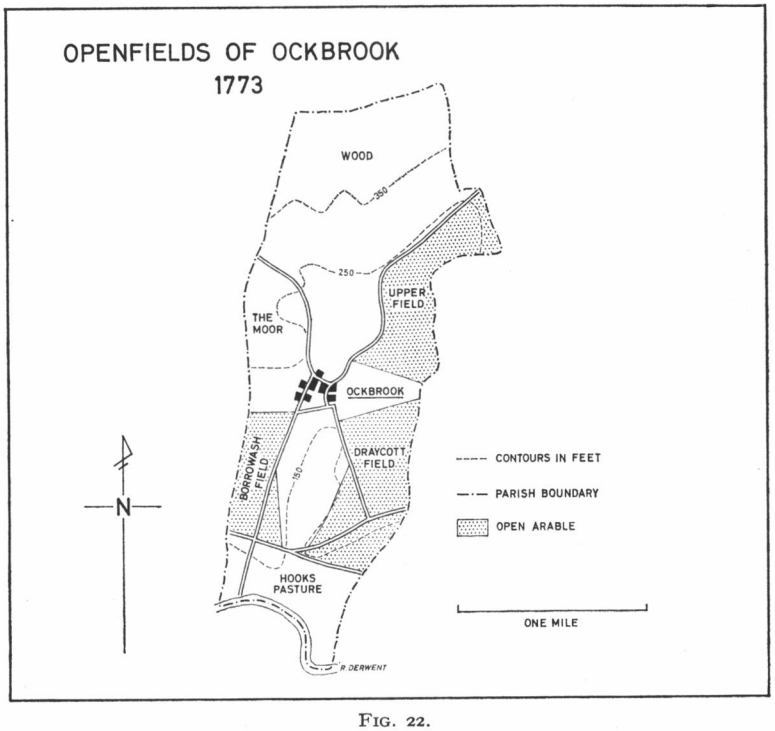

FIG. 22.

reveals some open arable at the hamlet of Hurst in the parish of Outseats, about one mile north of Hathersage; field-names, such as Upper Field, Hall Flatt and Rood, provide clear evidence of a small but well defined open field on the edge of a vast area of moorland.[60] In 1809 both ownership and tenancy were intermixed. The hamlet was not a single, consolidated settlement, but had three dispersed units — Upper Hurst, Nether Hurst and Gatehouse. A few other hamlets of this type may be found. Documentary evidence exists for Offerton and Millthorpe. The hamlet of Chunal, near Glossop, has several

60 Hathersage plan 1809. Sheffield City Library.

adjacent strip-like fields, suggesting former open arable, as have Simmondley and Whitfield in the same area. Field-names at Hazlebadge and Ashleyhay seem significant. Thus, the settlements of the north-west "knew some arable fields — even open fields — but the small area of corn grown was dominated by the larger area under grass, and the preoccupation of the villagers with the grazing of animals."[61]

In Derbyshire there were about fifty small monastic establishments or granges, and some show traces of arable. Meadow Place Grange, south of Over Haddon, had become a large farm by the late 16th century. The arable land was open and divided into four sections or furlongs, each subdivided into thirty-two strips; in addition there was a considerable area of moorland pasture.[62] Hanson Grange and Wigwell Grange also seem to have had open arable. On the carboniferous limestone the monks specialized in sheep-rearing and introduced large sheep-runs. Throughout the county their granges were associated with cattle and sheep farming. Cattle, for example, are mentioned at Derby, Normanton and Osmaston, and sheep pasturing at Osmaston in the fallow fields, where 200 sheep were allowed.[63] In the first year these sheep were put on the fallow in the fields of Osmaston and Litchurch towards the Derwent; in the second year on the fields towards Normanton and Coddington; and in the third year sixty sheep on the common pasture of Litchurch, when the fields of Litchurch lay fallow towards Derby. This arrangement shows the close connexion between the granges and the open fields of neighbouring manors. The monastic concern for stock-farming probably had a considerable effect upon the forms taken by the open field system. Partly because of these granges, stock-farming at an early date became very important in Derbyshire. They "opened the eyes of everyone to the advantages of farming outside the restrictive circle of the medieval system."[64]

OPEN FIELD CULTIVATION AND GEOGRAPHICAL FACTORS

An open field system of cultivation was widely established in Derbyshire, although several variants from the classic three-field system occurred. They show a fairly clear pattern in their distribution. Geographical factors may therefore help to explain these variations and the relationship between the different types of open field village.

Nearly fifty years ago, H. L. Gray recognized that most variations in open field cultivation could be attributed to different physical conditons when he wrote, "wherever natural advantages permitted, men chose the three-field system by preference. The retention of two fields was usually a tacit recognition that nature had favoured the township little."[65] Altitude, slope, soil-type and climate all had important effects. Derbyshire has great variety of relief. Altitudinal variations and the irregular nature of the land, influential in themselves, also have considerable effects upon other factors of agricultural

61 M. W. Beresford, *Lost Villages of England*, 1954, 40.
62 Late 16th century map in Duchy of Lancaster Collection in P.R.O.
63 *Cartulary of Darley Abbey*, 69, 102.
64 R. Trow-Smith, *Society and the Land*, 1953, 52.
65 *English Field Systems*, 73.

importance, especially climate and soils. Landscape variations in the county are basically determined by surface geology.

The highest land, a great stretch of irregular moorland hill country formed of millstone grit, lies in the north-west. This series also forms the broad plateau of East Moor immediately to the east of the northern Derwent valley. In the west an elevated plateau of gently rolling country, formed of carboniferous limestone, is deeply entrenched by the major streams and their immediate tributaries. The surrounding impervious limestone shales are easily eroded and produce a subdued type of topography. Much of eastern Derbyshire is occupied by the coal measures, which produce a landscape characterized by

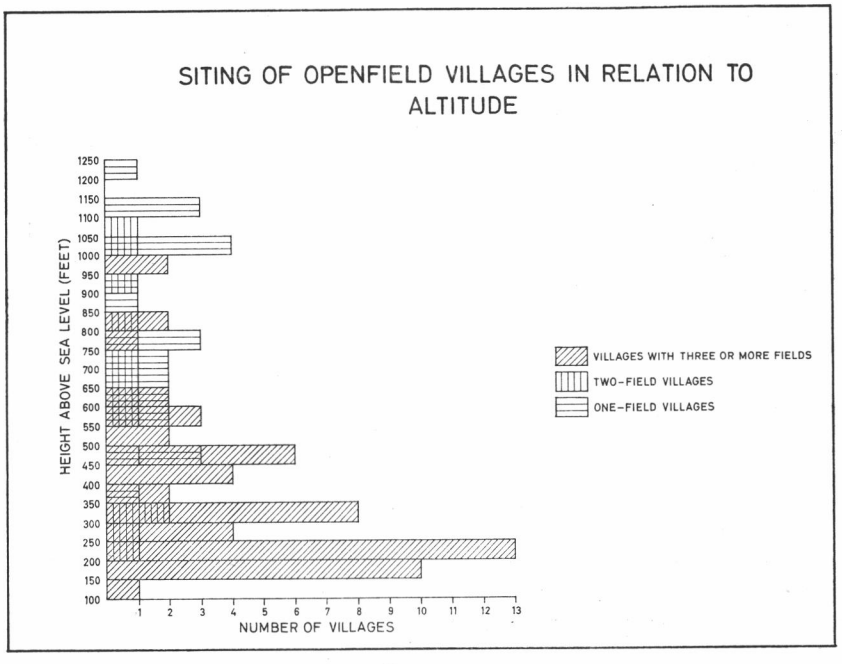

FIG. 23.

ridgy undulations and broad valleys. A small area of magnesian limestone outcrops in the extreme east. Physiographically, south Derbyshire may be considered part of the Midland Plain; little land rises above 500 ft. and rocks of triassic age predominate. Whilst these regional differences significantly influenced the form of open field villages, local variations in relief, especially in altitude, situation and slope, were perhaps more important.

Altitude was an important factor in the siting both of individual fields and of open field villages. Of all the open fields investigated 90% lie below 1,000 ft. With greatly increased altitude, other agricultural factors (soils, climate and slopes) tend to deteriorate. Over 80% of the villages with three or more fields, normally lowland, valley sites, lie below 500 ft. Below this height are

36% of the two-field villages, more usually on valley sides, and only four of the one-field villages, the majority being on the limestone plateau (Fig. 23). These figures suggest a significant relationship between altitude and type of open field village.

The angle at which land slopes is another limiting factor for cultivation. The range of gradient really acceptable to farmers in medieval Derbyshire was a very narrow one. Over 100 open fields have been examined in relation to slope. This shows that 70% lie on an average slope of between 1° and 3·75°; only 10% lie on slopes of less than 1°, because almost all such land (excluding high plateau surface) was closely associated with the major rivers and so liable to flooding. Only one open field has a slope of over 5°, and that is Hathersage Town Field with a slope of 6°. A gradient of about 5° was apparently the critical angle for open field farmers. By measurement only about 48% of land in Derbyshire has slopes of less than 5°, and this includes high level plateau and floodplain. Such widespread slopes undoubtedly helped to promote regional differences in open field farming.

For reasons of insolation the slope orientation of agricultural land is important in these latitudes. The best arable land is usually on south-facing slopes. This orientation was found in 55% of the open fields investigated in Derbyshire; only 16% face in the opposite direction.

The possibility of agricultural progress and the establishment of the open field system lay mainly in the use of the heavier soils. In general terms Derbyshire contains a broad band of these soils, extending over much of the south and east but with many local variations. These are the soils developed on the coal measures and the trias with its drift covering in places. Of the open field villages 60% lie on the clays or heavier loams, which provided the best conditions for this system of farming. On the other hand, the carboniferous limestone with less favourable soil shows a great preponderance of one-field villages; 60% of the villages of this type are on this formation. North-west Derbyshire has thin, poor soils on the slopes, and peat and heather on the plateau surfaces. Only in isolated areas, such as Edale and the Hope valley, is any arable cultivation really practicable, and the characteristic form was a small patch of open arable belonging to a hamlet. Soil-type was thus a great determinant of the forms of open field village.

Climatic differences, especially regional differences in rainfall, also had their effect. North-west Derbyshire, with a high rainfall and relatively low temperatures, is again unfavourable to arable farming. An annual rainfall of over 30-35 in. makes this precarious, but the north-west has a higher figure. By contrast south and east Derbyshire have a climate well suited to grain crops. In fact 90% of the villages with three or more fields have a mean annual rainfall of less than 35 in., and no arable is found where the rainfall reaches 50 in.

The importance of certain geographical factors in limiting the extent of and causing variations in the open field system in Derbyshire has become increasingly obvious. Every area in which altitude, slope, soil and climate were favourable to arable cultivation had at some time open fields. Where

such conditions were less suitable, a more pastoral type of economy became necessary. The resulting variations in open field farming appear as modifications of the Midland system, rather than as distinct systems. As Finberg suggests, "we are on surer ground if we take the open field system to be a genus, of which the two-field system, and its probable derivative the three-field form one species, and the infield-outfield another. The two probably evolved side by side moulded by the contrasting qualities of highland and lowland landscapes.[66] The upland villages show "an agrarian pattern comparable with that of the adjoining lowlands, but modified with increasing slope and altitude to the needs of a more pastoral economy".[67] Undoubtedly the most significant modification was the increasing dependence upon stock-farming in the areas where physical factors militated against the open field system.

ACKNOWLEDGEMENTS

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Mr. Jackson unfortunately was not able to see the article on "Open Field Agriculture in the Peak District" by Dr. W. E. Wightman in the 1961 volume of this *Journal* before his article was in the press.

[66] *Devonshire Studies*, 287.
[67] D. Sylvester, "Hill Villages of England and Wales", *Geographical Journal*, CX (1947), 86.