
NOTES

The origins of regular open-field systems in pre-industrial Europe

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The origins of regular open field systems in pre-industrial Europe have long presented a puzzle.¹ Why and how did such distinctive modes of production emerge from the mists of the dark ages of Europe? Here I use not only the available historical evidence, but also our knowledge of other pre-industrial societies and of how pre-industrial cultivators tend to behave in certain types of situations in order to assess several of the more widely accepted explanations of the origins of the regular open-field system.

Current explanations include those which suggest that the regular open-field system was created in response to problems posed by the scattering of land holdings, rising population, ecological factors, agricultural technology, or some combination of these factors. However, as others have also argued, such factors may provide necessary, but not sufficient, conditions for the creation of the regular open-field system. Alternative explanations suggest that the regular open-field system may have developed as a response to declining, not rising, population, and may have been instituted by manorial overlords as a method of labour control. Kerridge has also invoked the role of the feudal lord. He suggests that the regular common-field systems of Midland England were the result of the «planned and orderly distribution of lands among service tenants (p. 46).»² Here I critically examine and enlarge on these arguments, and

¹ The author would like to thank Joseph Whitmeyer, Robert Stacey, Bruce Campbell and Edgar Kiser for comments on earlier drafts of this paper.

² B.M.S. Campbell, *Commonfield Origins: The Regional Dimension*, in Trevor Rowley, ed., *The Origins of Open-Field Agriculture* (London, 1981); B.M.S. Campbell and Ricardo Godoy, *Commonfield Agriculture: The Andes and Medieval England Compared*, Proceedings of the Conference on Common Property Resources Management, pp. 323-58, (Washington D.C., 1986) ; Eric Kerridge, *The Common Fields of England*, (Manchester, 1992).

conclude that the role of feudal lords in the creation of the regular open-field system must be considered in conjunction with customs of dividing up newly cleared land (or newly conquered land) in a regular fashion.

I.

The Midland plain of England and the great plains of Europe stretching to the Urals were once characterized by a distinctive system of agriculture.³ This agricultural system we may call the «regular open-field system» as it consisted of a regularly organized system of cropping based on two or three large open fields. This system made up the regions of «champion» land in England, «champagne» in France, and large areas of open-field land in southern Germany and Russia. In these regions land stretched out, uninterrupted by fences and hedges, although occasionally punctuated by large, compact villages. In the regular open-field system, each villager had his holding of land scattered in long strips throughout the two or three (depending on whether a two or three course rotation was followed) great fields of the village (see Figure 1). The fields were subject to an enforced biennial, or more commonly triennial, rotation of crops, and each field would lie fallow every second or third year. Animals were grazed in common on the fallow field, on the arable fields after harvest, and on the commons proper (waste land) of the village. The regularity of the system made it distinct from the more irregular agricultural systems found in other areas of pre-industrial Europe, such as much of eastern and northern England, Normandy and parts of southern France.

The essential characteristics of the regular open-field system have been listed by Thirsk.⁴ They are:

- 1) the scattering of the strips of a land holding;
 - 2) common grazing and common cropping on land organized into two or three great fields;
 - 3) common waste (unused land) for village grazing and common meadow;
- and

³ Regular open-field systems in England were generally found in a broad swath running through the centre of southern England, as depicted in H.L. Gray, *English Field Systems*, (Cambridge, MA, 1915). See also A.R.H. Baker, *Studies of Field Systems in the British Isles*, (Cambridge, 1973). On the continent, regular open-field systems were found in France north of the Loire river. See Marc Bloch 1966, *French Rural History*, (Berkeley, 1966). They were also found in Denmark and southern Sweden, in southern Germany, and through most of the plains of Europe to the Ural Mountains in Russia. See G.T. Robinson, *Rural Russia under the Old Regime*, (New York, 1932); G. C. Homans, *English Villagers of the Thirteenth Century*, (Cambridge, MA, 1941), p. 23; Jerome Blum, *Lord and Peasant in Russia from the Ninth to the Nineteenth Century*, (Princeton, 1961); A.V. Chayanov, *The Theory of Peasant Economy*, (Wisconsin, 1986).

⁴ J. Thirsk, *The Common Fields, Past and Present*, 33 (1964), p. 143.

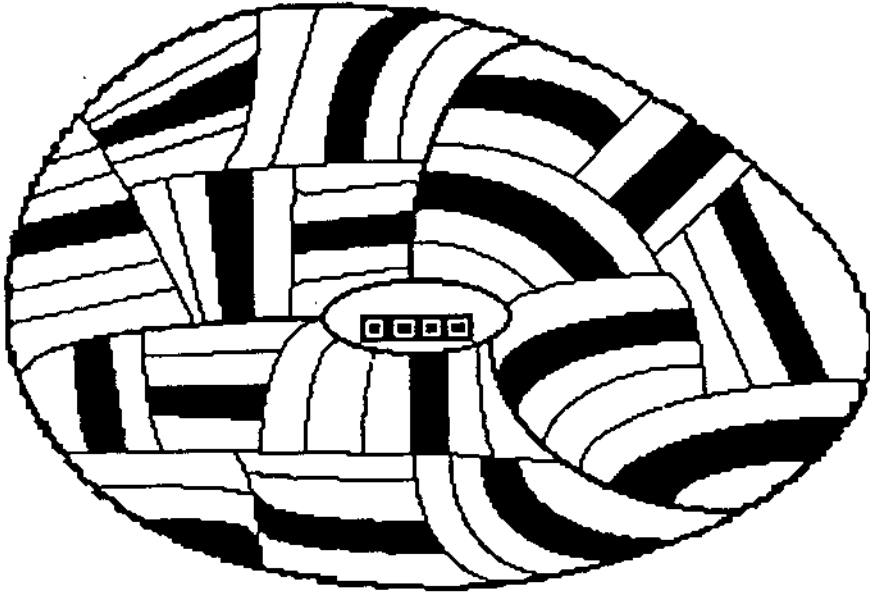


Figure: Regular Open-field system, depicted without common. Adapted from Dodgshon (1980).

4) the presence of disciplinary assemblies to oversee the working of the system.

Any explanation of the regular open-field system must be able to explain all of these distinctive characteristics.

Many scholars interested in explaining the regular open-field system have focused on explaining the first characteristic, the scattering of strips of land, as the essential characteristic of the regular open-field system. To summarize briefly, the explanations of scattering include the suggestion that scattering was a product of joint plough, that scattering was a means of equalizing shares of land among villagers, that it came about through the colonization of new land, or through fragmentation caused by partible inheritance. A risk aversion argument for scattering was put forward by Marc Bloch and later demonstrated mathematically in an influential article by Donald McCloskey. More recently, Fenoaltea has suggested that scattering was an efficient system of land holding because it prevented shirking on ploughing duties by agriculturalists.⁵

However, these explanations are unsatisfactory as complete explanations of the regular open-field system because, although they may help to explain scattering, they do not explain the other characteristics of the regular open-field

⁵ P. Vinogradoff, *Villainage in England*, (Oxford, 1892); F. Seebohm, *The English Village Community*, (London, 1890); J. Thirsk, *The Rural Economy of England*, (London, 1984);

system. These explanations generally assume that given scattered plots of land, the other features of the regular open-field system would soon follow. That is, once a system of scattered strips of land was in place, then an organized and regular rotation of crops and fallow would soon be devised as an optimal solution to the agricultural problems created by scattering.

Yet this assumption cannot be made so easily, as empirical evidence shows that the scattering of plots of land per se does not necessarily lead to the development of a fully-fledged regular open-field system. A comparison with other field systems in pre-industrial Europe shows that scattering by itself was not unique to the regular two or three-field system of agriculture, but was also found in less regular and less communal field systems.⁶ This is supported by a wider comparison with anthropological evidence concerning pre-industrial agricultural systems worldwide, which shows that scattering of land plots is quite common. As McCloskey points out, scattering of farm plots is characteristic of much of the agriculture of contemporary Africa, Latin America and Asia. Yet such scattering is usually accompanied by minimal communal regulation of agriculture and irregular field systems.⁷

In sum, since the scattering of plots of land is prevalent among pre-industrial agriculturalists and does not necessarily lead to communal regulation of agriculture, then to explain scattering is not to explain regular open-field agriculture. The distinctive features of the regular open-field system are its regular organization and the strength of communal control over crops and harvests, not the scattering of strips of land. These characteristics most distinguish the regular open-field system from other field systems in pre-industrial Europe and elsewhere, and thus to fully explain the regular open-field system we must be able to account for them.

T.A.M. Bishop, Assarting and the Growth of the Open Fields, *Econ. Hist. Rev.*, 6 (1935), pp. 26-40; Bloch, *French Rural History*; D. McCloskey, English Open Fields as Behavior Toward Risk, *Research in Economic History*, vol. I, (Greenwich, CT, 1976); S. Fenoaltea, Transaction Costs, Whig History and the Common Fields, *Pol. & Soc.*, XVI, 2-3, (1988), pp. 171-240. For more complete reviews see C. J. Dahlman, *The Open Field System and Beyond*, (Cambridge, 1980) and Robert A. Dodgshon, *The Origin of British Field Systems: An Interpretation*, (London, 1980).

⁶ E. A. Juillard, A. Meynier, X. de Planhol and G. Sautter, *Structures agraires et paysages ruraux: un quart de siècle de recherches françaises*, Annales de L'Est, Memoire No. 17 (1959); Folke Dovring, The Transformation of European Agriculture in H. J. Habbukuk and M.M. Postan eds., *Cambridge Economic History of Europe*, IV (Cambridge, 1965), p. 630; Dodgshon, *Origin of British Field Systems*.

⁷ A. Meynier, *Les Paysages Agraires*, (Paris, 1959); D. McCloskey, The Persistence of English Common Fields in W.N. Parker and E.L. Jones, eds., *European Peasants and their Markets*, (Princeton, 1975).

II.

Let us turn then to explanations of the regular open-field system and other field systems which do not rely simply on explanations of scattering. Several arguments relate different field systems to regional differences in population and ecology and the nature of agricultural technology.

Population growth has often been suggested as the primary catalyst for the development of the regular open-field system in Europe, replacing more extensive systems of agriculture.⁸ This happened earlier with the population growth of the eleventh to the thirteenth centuries in western Europe, and perhaps as late as the sixteenth century in northern Russia.⁹ Archaeological evidence from England and Germany seems to support this argument, as this evidence shows that the nucleated villages characteristic of open-field regions were pre-dated by systems of scattered habitations more characteristic of irregular and enclosed field areas.¹⁰ As far as the regular open-field system represented a more intensive agricultural system, capable of supporting more people than formerly, then this explanation is certainly true. Yet although population growth may have been a necessary condition for the emergence of the regular open-field system, it is not sufficient to explain the particular form the system took.

A variation of this argument put forward by Thirsk attempts to outline the way the regular open-field system took the form it did in response to population growth.¹¹ She suggests that the regular open-field system developed out of systems of enclosures and irregular field systems, through a combination of population pressures and inheritance customs. Thirsk's argument is that population growth caused a shortage of pasture land for grazing animals. In addition, partible inheritance customs (dividing land among all the heirs) led to the fragmentation of land holdings into many narrow, scattered strips. In response to the difficulties of grazing animals on so many scattered fragments of land, the farming community developed the regular open-field system. The village land was rearranged so as to group all the arable land of the village into two or three large fields. This would ensure that every year there would be one large block of land (the fallow field) for the village herds to graze, although it also necessitated communal cropping. Thirsk suggests that this occurred

⁸ W. Abel, *Die Wüstungen des Ausgehenden Mittelalters*, (Stuttgart, 1955); X. de Planhol, *Essai sur la genèse du paysage rural de champs ouverts*, in *Annales de L'Est*, Mémoire no. 21 (1957); Blum 1961, *Lord and Peasant*, p. 23; B. H. Slicher van Bath, *The Agrarian History of Western Europe AD 500-1850*, (New York, 1963), p. 64; F. Braudel, *The Identity of France*, (New York, 1990).

⁹ Robinson, *Rural Russia*; Blum, *Lord and Peasant*, p. 166.

¹⁰ Dodgshon, *Origin of British Field Systems*; Abel, *Die Wüstungen*; Braudel, *The Identity of France*.

¹¹ Thirsk, *Rural Economy*.

gradually, through neighbourly agreements, and as evidence of this process she cites cases of agreements between neighbours in late medieval England. Thus, Thirsk suggests that the regular open-field system was implemented by the village community because it offered advantages in the form of communal grazing to all cultivators.¹²

There are several advantages to communal grazing. First, it would have saved each villager the time, effort and cost of fencing his fallow field individually. By grouping all the village herd into one large field, only one fence would need to be constructed to keep the herd from straying out on to the growing crops. Second, it would have saved on supervision costs as only one shepherd would have been necessary to watch the entire village herd, rather than each villager having to watch to make sure their animals did not stray into fields under cultivation.¹³

However, there were also disadvantages to communal grazing. McCloskey has argued that the costs of common grazing included uncontrolled livestock breeding and endemic disease.¹⁴ Overgrazing was also a possibility, although this was usually prevented by village by-laws (England). Other indirect costs of common grazing were that each farmer was subject to communal control of his planting and harvesting.

Yet other evidence suggests that such a process of gradual evolution in response to population growth did not take place in all regions. Population growth did not necessarily lead to the implementation of the regular open-field system. It has been documented that in eastern England, land was divided into smaller and smaller parcels in response to population growth (as Thirsk's theory would predict), yet these small strips of land never were arranged in a regular two or three-field system through neighbourly agreements. Instead, a chaotic arrangement of small strips of land was the final result.¹⁵ The same process occurred in other areas of Europe which were characterized by dense

¹² Thirsk, *Rural Economy*, p. 56; see also R. Dion, *Essai sur la formation du paysage rural française*, (Tours, 1934); J.V. Beckett, *A History of Laxton — England's Last Open Field Village*, (Oxford, 1989).

¹³ Gregory Clark, *The Cost of Capital and Medieval Agricultural Technique*, *Exp. Econ. Hist.*, 25 (1988), pp. 265-294; de Planhol, *Essai sur la genèse*.

¹⁴ McCloskey, *The Persistence of English Common Fields*; see also Ricardo Godoy, *The Evolution of Commonfield Agriculture in the Andes: A Hypothesis*, *Comp. Stud. Soc. & Hist.*, (1991), pp. 395-14.

¹⁵ Tom Williamson, *Explaining Regional Landscapes: Woodland and Champion in Southern and Eastern England*, *Land. Hist.*, X (1988), pp. 5-13. J.Z. Titow, *Medieval England and the Open Field System*, *P. & P.*, xxii (1965), pp. 86-192; B.M.S. Campbell, *Population Change and the Genesis of Commonfields on a Norfolk Manor*, *Econ. Hist. Rev.*, XXXIII (1980), pp. 174-92. This phenomenon has been reported for many other places, for example twentieth-century Java, see C. Geertz, *Agricultural Involvement*, (Berkeley, 1963). This seems to be the most common outcome of population pressure on land holdings.

population and irregular field systems, for instance, areas in southern France, northern Italy and the Low Countries. For these reasons it cannot be concluded that population growth was the only factor responsible for the creation of the regular open-field system.

Another proposed explanation of regional differences in field systems suggests that they were primarily a result of the local ecology and plough technology. In his classic study of French rural history, Marc Bloch suggests that the shape of the fields, and consequently the field system, was influenced by the type of plough used in the region. This in turn was determined by the regional ecology. In hilly, sparsely populated areas of poor soil, the *araire* or stick plough was used: this gave rise to areas of square fields and irregular field systems or enclosures.¹⁶ The wheeled plough was used in areas of better and heavier soils as the ridge and furrow pattern the plough produced served to drain the soil.¹⁷ As the heavy wheeled plough was difficult to turn, the fields were arranged in long strips, with each strip being the equivalent of a day's ploughing. Scattering of the strips of a holding was implemented so that all cultivators had a share of the different kinds of land and therefore shared the same risks and opportunities in their land holding. The resulting long, narrow, scattered strips of arable were most conveniently farmed in a collective fashion, therefore areas where the heavy wheeled plough was used were areas where the regular open-field system was found.

Bloch's technological/ecological argument does fit the evidence to some extent. There was a correspondence between the use of the heavy wheeled plough, ridge and furrow cultivation, and the regular open-field system.¹⁸ Most of northern France was characterized by both the use of the wheeled plough and regular open-field systems. In southern France, where soils tended to be poorer than in the north, the *araire* was used and irregular, square fields were the rule. However, the argument is not valid for all regions in France or elsewhere. Some areas of good soil in Northern France where the wheeled plough was used were not areas characterized by the regular open-field system, for example areas in Normandy.¹⁹ The same was true in England, as the wheeled plough was used in many different regions, including areas not characterized by regular open-field systems. There was not always a direct correspondence between soil type, plough type, and field system.²⁰ Bloch

¹⁶ See Bloch, *French Rural History*, p. 55; G. Duby, *Rural Economy and Country Life in the Medieval West*, (Columbia, 1962).

¹⁷ Other plough types include the swing and foot ploughs. These ploughs were distinguished from the *araire* or stick plough by the presence of the mouldboard and coulter and were similar to the wheeled plough, except for lacking a set of wheels.

¹⁸ Kerridge, *The Common Fields*.

¹⁹ L. Delisle, *Etudes sur la condition de la classe agricole et l'état de l'agriculture en Normandie au moyen âge*, (Paris, 1903), p. 34.

²⁰ Dion, *Essai sur la genèse*, pp. 96-110; F.G. Payne, *The British Plough: Some Stages in*

himself conceded that fields of long strips alone could not account entirely for the strength of communal regulation in areas of regular open fields, and suggested that communal regulation was the product of «an attitude of mind» which was absent in areas of irregular fields and enclosures (1966, p. 59).

Other ecological arguments, although excluding reference to plough technology, have been made. For instance, Thirsk, expanding on her version of the population growth argument, suggested that the population of a region in turn reflected the regional ecology. Grain-growing areas located in areas of fertile soil and favourable ecology would most likely have been densely populated, and it was here that the regular two or three-field system would most likely have evolved. Pastoral areas of poor soil and unfavourable ecology, however, would have had low population densities and would have tended to exhibit irregular field systems and/or many enclosures.²¹ Such an explanation of field systems is most tenable when applied to areas where the ecology was extremely inhospitable — such as the high altitude, wet and cold areas of Scotland and Wales or the *Massif Central* in southern France. These were sparsely populated, pastoral regions characterized by many enclosures and extensive, irregular systems of cultivation.

However, the ecological explanation does not hold in all areas of pre-industrial Europe. For instance, it breaks down when applied to the eastern corner of England in East Anglia and Kent. Much of this region had fairly good soil and climate and was the most densely populated area of medieval England, yet it apparently was never farmed according to a regular two or three-field system.²² In Northern France, the area of good soil, favourable climate and very dense population in Normandy was not characterized by regular open-field agriculture. Similarly, in Russia, regular open-field systems were not necessarily found in the areas of richest soil.²³

its Development, *Ag. Hist. Rev.*, 5 (1957), pp. 74-84; John Langdon, *Horses, Oxen and Technological Innovation*, (Cambridge, 1986); Doving, *The Transformation*, p. 627.

²¹ J. Thirsk, *The Farming Regions of England*, in J. Thirsk ed., *The Agrarian History of England and Wales*, IV, (Cambridge, 1967).

²² D.C. Douglas, *The Social Structure of Medieval East Anglia*, (Oxford, 1927); Titow, *Medieval England*; H.E. Hallam, *Rural England 1066-1348*, (Sussex, 1981). Hallam has suggested that these regions in eastern England were simply in a higher stage of development than the open-field regions. In eastern England population was dense, the ecology was generally very favourable, and there was access to large urban markets; all of which influenced agricultural practice and served to break down communal agriculture. Yet this theory of the evolution from an open-field system to enclosures and irregular field systems is problematic because it is doubtful that these areas in eastern England were ever characterized by a system of communal agriculture such as that found in the Midlands of England. See Gray, *English Field Systems*; Thirsk, *Rural Economy*.

²³ Blum, *Lord and Peasant*; Chayanov, *Theory of Peasant Economy*; Guy Bois, *The Crisis of Feudalism*, (Cambridge, 1984), p. 7.

III.

In addition to challenging all of these explanations with empirical exceptions, we can also challenge the assumptions they make about the behaviour of pre-industrial cultivators. These arguments all suggest that the regular open-field system was created from less regular and more individualistic systems of scattered strips because the open-field system offered several advantages for cultivators in terms of common grazing and other labour-saving conveniences. However, it cannot be assumed that changing to the new system was relatively unproblematic. On the contrary, there are reasons to doubt that the implementation of an open-field system would have followed easily from the recognition of its advantages for the collective.

There are two possible processes by which the open-field system could have been adopted. First, the regular open-field system could have gradually evolved. This would have occurred presumably in response to a change in another factor — population size being most likely. However, as we have seen, the evidence from eastern England contradicts this hypothesis. In addition, it seems doubtful that a system as regular as the open-field system would have evolved naturally. The system embodies conscious planning and design. The planned nature of the open-field system is perhaps best illustrated by the common use of a «sun division» to designate each villager's holding in the open fields. A person given his land «towards the sun» had his strips in the east or south of each furlong, whilst a person with his land «towards the shade» had his strips in the west or north of each furlong. This practice apparently had religious (or superstitious) significance.²⁴ In the fields, the cultivators' strips occupied a set order, so that each cultivator always had the same persons owning the neighbouring strips. Similarly, the glebe lands — those lands belonging to the church — usually occupied the same position in each furlong.²⁵

The regularity suggests the second process by which the regular open-field system may have been implemented — through a major rearrangement of land at a single point in time. However, the process cannot be simply assumed. Supposing that prior to the reorganization each individual farmer's strips of land were not held in any regularly distributed fashion throughout the land of the village. In order to create the regular open-field system farmers would have had to have given up some familiar plots of land in exchange for unfamiliar strips of land. In addition, cultivators would have had to agree to communal regulation of when and what they planted and when it was to be harvested, and to submit to the rules and regulations governing agricultural practice laid down

²⁴ Homans, *English Villagers*; S. Goransson, Regular Open Field Pattern in England and Scandanavian Solskifte, *Geografiska Annaler*, xliiib (1961), pp. 80-101; Dodgshon, *Origin of British Field Systems*.

²⁵ Homans, *English Villagers*; Trevor Rowley, *The High Middle Ages*, (London, 1986) p. 101.

by the village by-laws. The process would inevitably have involved other short term costs for cultivators the disruption of the year's agricultural schedule, and the time involved in sorting out the logistics of equitable land exchanges.

Moreover, there was little assurance that the newly rearranged system would prove superior to the older, more disorganized system. In addition, no doubt many farmers would fear that such a major land exchange would provide an opportunity for the richer and more powerful villagers to profit at others' expense. Such risks would probably have been unacceptable in a population practising subsistence agriculture, where one failed harvest could spell disaster. The implementation of a regular open-field system required the cooperation of most of the people in the community, yet it is unlikely that almost everyone would have agreed to pay the costs and accept the risks of implementing such a major change.²⁶ In the absence of coercion, it seems that the risks and costs of implementing the open-field system would outweigh the potential benefits to be obtained from it for many farmers, at least enough to prevent such a system from being implemented very often, if at all.

Empirical support for this analysis is found in the fact that, despite the labour-saving benefits of the regular open-field system, it was not universal in northern Europe, as indicated by the more individualistic field systems composed of enclosures or irregular fields. Also, we have no direct evidence of any major reorganization of a village field system from an irregular to a regulated two or three-field system in pre-industrial Europe. The rarity of the two and three field system can be further illustrated by contemporary agrarian societies, where despite scattering of land holdings communal grazing is rare and cultivators often settle for more individualistic and less efficient means of grazing their animals on their own plots of land.²⁷

In recognition of these problems, social factors have been invoked to explain the emergence of regular open-field systems. It has been suggested that individual farmers may have been forced into reorganizing their lands, by a feudal lord or other powerful body. According to Campbell and Godoy (1986), this probably occurred sometime during the ninth and tenth centuries and was implemented as a response to labour shortages caused by declining population.²⁸ There is also evidence that labour control was the motivation for the creation of common-field agriculture in the Andes. Kerridge also suggests that labour shortage was responsible for the manumitting and «hutting» of

²⁶ James C. Scott, *The Moral Economy of the Peasant*, (New Haven, 1976); B.M.S. Campbell 1981, *Commonfield Origins*.

²⁷ M. Despois, Discussion of «Essai sur la genèse du paysage rural de champs ouverts», *Annales de L'Est*, Memoire No. 21 (1957); Bernard Pignede, *Les Gurungs: une population himalayenne du Nepal*, (Paris, 1966) p. 133; Gerard Toffin, *Société et religion chez les Newar du Nepal*, (Paris, 1984), p. 88.

²⁸ Dodgshon, *The Origin of British Field Systems*; Campbell, *Commonfield Origins*; Campbell and Godoy *Commonfield Agriculture*.

former slaves in Anglo Saxon times, and suggests this was an important precursor to the growth of regular field systems in Midland England.²⁹

Some circumstantial evidence for the role of manorial authorities in the creation of regular open-field systems is provided by the fact that areas of regular open-field agriculture tended to be heavily manorialized areas, although this association was far from perfect.³⁰ There are many reasons to suppose that a regular system of agriculture was in the lord of the manor's interest. It made assessment of taxes easier and promoted stability in land holding, both of which were desirable from the lord's point of view. There is much evidence from the late medieval period that it was the monitoring of the manorial court which preserved the regularity of the agricultural system from century to century.³¹

However, such an explanation is not without its problems. Although there is plentiful evidence (from the late middle ages) that the feudal lord maintained and regulated the system, there is little evidence that he was responsible for its original organization. Indeed, the ability of the lord to effect any major changes in established agricultural systems is in itself questionable. Many studies of late medieval villages show that force of custom restrained the lord from abusing his position, exploiting the villagers without limit and having his way in general in the village.³² Thus, it may have been very difficult for feudal lords to have effected major changes in agricultural organization, especially when cultivators were loathe to part with their parcels of land for the reasons discussed previously. However, this would not have been true in the case of conquest, and so perhaps it is in these cases that this explanation is most correct. This also fits the evidence from Midland England, an area which seems to have been overtaken by Anglo-Saxon invaders more violently than other parts of England.³³

Yet there are other problems with the argument that the regular open-field system emerged as a response of the feudal lord to declining population. In a period of declining population, there would have been no necessity for village animals to graze on the fallow field. Animals could have been communally herded on uncultivated lands, which would have avoided some of the problems of grazing on the fallow mentioned previously, and yet still offered the labour-saving advantages of communal grazing. Without the necessity of a compact area of land for fallow grazing, there would have been little reason to organize a two or three field system. In support of this point, there is evidence that the three-field system was actually abandoned in northern Russia for more extensive agricultural systems in the time of declining population of the late sixteenth century.³⁴ Moreover, the

²⁹ Godoy, *The Evolution of Commonfield Agriculture*; Kerridge, *The Common Fields*.

³⁰ Campbell, *Population Change*; Williamson, *Explaining Regional Landscapes*.

³¹ Homans, *English Villagers*.

³² J. Ambrose Raftis, *Tenure and Mobility*, (Toronto, 1964), p. 209; Edwin Brezette Dewindt, *Land and People in Holywell-cum-Needingworth*, (Toronto, 1972), p. 10.

³³ Williamson, *Explaining Regional Landscapes*; Kerridge, *The Common Fields*.

initial change to a more irregular common-field system would have involved less upheaval, and less resistance by cultivators, than a change to a regular system. For communal cropping to succeed, there could have been any number of fields or cropping shifts, as existed in many areas of irregular field systems in pre-industrial Europe, or indeed in other parts of the world.

Alternatively, in response to population growth and a shortage of other pasture land in later centuries, the two or three-field system may have been implemented by the village community in order to enable the village animals to more conveniently graze the fallow fields, as Thirsk argues. Yet, as previously noted in many areas of high population density, a regular two or three-field system was not implemented in response to population growth, even though there was some communal cropping and grazing.³⁵ In fact, in such areas population growth had the opposite effect and led to highly fragmented and irregular systems of landholding. Thus, the problem remains. Why were manorial lords, and/or the peasant cultivators, both willing and able to introduce a regular two or three-field system of agriculture in some regions, whereas in other, ecologically similar regions they were never developed?

IV.

Here I suggest that in some areas it was easier than in others to institute a regular two or three-field system in response to shortages of pasture land created by population growth. This may or may not have involved the feudal lord at some point. The following discussion outlines a speculative, but plausible scenario where it would involve minimal costs and risks for individual farmers to implement a regular open-field system.

The scenario can begin in different ways. For example, imagine a situation where new land for cultivation was cleared by a village as a collective, and then divided up among the individual farmers in a systematic fashion. Or when a group took over another group's lands, they shared the conquered land out among themselves in the same systematic fashion. Alternatively, imagine a situation in which a feudal lord divided up his lands in a regular fashion among his former slaves (as proposed by Kerridge).³⁶

Add to this initial land division a continuation of customs of communal clearing and land division, and add to these inheritance rules which ensured that each plot of land was divided equally among heirs or was inherited by only one person. If such customs were followed, eventually each holding of land would be regularly scattered over the land belonging to the community. Add to this the use of a wheeled plough, which, because it was difficult to turn, meant that

³⁴ Blum, *Lord and Peasant*, p. 166.

³⁵ Campbell, «Population Change».

³⁶ Kerridge, *The Common Fields*.

fields tended to be much longer than they were wide. The division of land under population pressure, in this scenario, would naturally result in long strips of land, rather than shorter, square fields. The strips of land would not compose a regular open-field system, however, as there would be no common rotation and perhaps no communal grazing.

With the passage of time and the growth of population, the number of strips of land would multiply, until at some point the difficulties of grazing animals on the fallow of so many different narrow strips of land would become acute. In other words, the incentive for reorganization into a system with only one large fallow field would increase, perhaps exacerbated by the diminishing area of natural pasture or unused land for grazing animals.

However, in this new scenario, reorganization would involve little upheaval. As each cultivator would already have a plot of land in all sections of the village land, creating large coterminous sectors or fields of uniform cropping and fallowing would involve no land exchange. It would simply involve an alignment of the cropping schedules of the individual farmers. In addition, if these farmers who shared land collectively already had some village administrative apparatus, the process of reorganization would become even simpler. If the village administration then undertook the task of maintaining the regular system of agriculture, for instance by enforcing inheritance rules, then the long-term survival of the system would be assured. In this scenario, therefore, not only might the benefits from the two or three-field system outweigh the costs to each individual farmer of contributing to its formation, but its implementation would involve little or no risk or uncertainty. It would also have been relatively easy for manorial authorities to have brought about the new system, if they had so desired.

Consequently, it is most likely that the regular open-field system emerged among people who adhered to a tradition of communal clearing and the systematic sharing of new land or newly conquered land. Such customs were certainly found in regular open-field regions in the late medieval period.³⁷ But did they pre-date the system itself? There is some evidence that they did. Ine's law of the eighth century equates common land with «deal land» or land divided out in equal shares. That these shares were regular is documented by other evidence from the ninth, tenth and eleventh centuries. For instance, charters from the tenth and later centuries would specifically grant or lease every second, third, eighth or ninth acre in the fields.³⁸ Thus, there is clear evidence that regions of regular open fields were regions where there had long been customs of dealing out land in a regular and equitable fashion.³⁹

³⁷ Dion, *Essai sur la genèse*, p. 45; M.W. Beresford, *Medieval England: An Aerial Survey*, (New York, 1979).

³⁸ See Kerridge, *The Common Fields*, p. 22 for a review.

³⁹ These customs may even date back to the tribal groups of Europe. For instance, the reports of Tacitus suggest that such customs were found among the Germanic tribes

While customs of communal clearing and land division are certainly not uncommon among pre-industrial cultivators, for whatever reason the custom in some areas of northern Europe took a regular form and the regularity of land holding was preserved and maintained by social customs of inheritance. It is quite possible to surmise that both familial and community organization were strong in the face of the severities of winter in the inland areas where regular open-field systems were found. In turn, these strong village communities may have worked to maintain the regular nature of land division, assuming that they operated on democratic or both democratic and hierarchical principles. Alternatively, these customs may have been a somewhat arbitrary cultural characteristic. Feudal lords also had their own reasons for opposing changes in the structure of land holding and the methods of inheritance, and they no doubt played an important role in the maintenance of such customs. We know, for example, that feudal lords typically enforced inheritance rules of primogeniture. The regular system of landholding which resulted facilitated the emergence of regular open-field systems across the plains of Europe.

In conclusion, I have suggested that the regular open-field system in pre-industrial Europe would most likely have been implemented in areas where agriculturalists had collective habits of a regular system of land sharing. An initial regular division of land (by a feudal lord or by the village community itself) and the continuation of customs of regular land division served to lay the

which settled many of the plains of Europe where the regular open-field system was later found (Tacitus, in M. Hadas, *Complete Works of Tacitus*, (New York, 1942), p. 721). Perhaps the Germanic settlers brought these customs with them to their new homes and these customs, in later centuries, facilitated the development of the regular two or three field system. (See also G. C. Homans, *Certainties and Doubts*, (New Brunswick, 1987). This is supported by some circumstantial evidence. For instance, in France, place-name evidence suggests that the region characterized by the regular open-field system was a region heavily settled by Germanic peoples during the invasions of the fifth and sixth centuries (Pierre Bonnaud, *Peopling and Origins of Settlement in Hugh Clout, ed., Themes in the Historical Geography of France*, (Academic Press, 1977). Archaeological evidence shows that Anglo-Saxon occupation of the Midland areas of England was more turbulent than the Germanic take over of other areas, suggesting a greater and more sudden influx of Anglo-Saxons (Williamson, *Explaining Regional Landscapes*; and Kerridge, *The Common Fields*, p. 46). Thus, there is evidence that both Midland England and northern France were subject to the violent incursion of large numbers of Germanic peoples in the early middle ages, and both areas were in late centuries regions of regular open-field systems. However, it is important to note that this argument does not depend on regular systems of land division being a particularly Germanic trait. It was probably shared by many of the tribal groups of early Europe. For instance, the organization of the Russian family commune seems to have shown many resemblances to that of the Germanic tribes (Blum, *Lord and Peasant*, p. 25). Thus, although this explanation may be called cultural in a broad sense it certainly does not appeal to particularly Germanic traits as such, although the German tribes (among others) may have shared them.

basis for the later emergence of the regular open-field system. Such customs and their enforcement by the village community and/or the feudal lord also served to maintain the regular open-field system once it was created.

Such an explanation is complementary to explanations which stress that the regular open-field system was a result of population growth, ecology, plough technology and the action of feudal lords. However, such explanations cannot by themselves completely explain the origins of the regular open-field system, nor how it was maintained over time. Marc Bloch anticipated the social basis of the regular open-field system when he wrote the following:

«Only a society of great compactness, composed of men who thought instinctively in terms of the community, could have created such a regime (1966, p. 45).»

This paper clarifies Bloch's argument. This «attitude of mind» may have been a reflection of a custom of regular land division.

However, we may reach a more general conclusion from the arguments presented in this paper as well. Although economic institutions are shaped by ecological, technological and political constraints, there is some organizational variety in these institutions which is not determined by contemporaneous factors, and which may be a somewhat arbitrary historical legacy. In this case, this legacy may be the structure of land holding resulting in part from a custom of land division. Furthermore, this legacy may be of great import as it may form the basis for diverging paths of social change.

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