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Introduction: Agrarian Fundamentalism and English Agricultural Development

But, without any improper partiality to our own country, we are fully justified in asserting, that Britain alone exceeds all modern nations in husbandry.

Encyclopaedia Britannica, 1797, i 249.

THE boast of the *Encyclopaedia Britannica* was well founded. English farmers led the way in adopting new crops and better breeds of livestock. English corn yields were amongst the highest in the world and had doubled since the middle ages. Output per worker was 50 per cent above the next highest European country. At the end of the eighteenth century, British agriculture was indeed the most productive in the world.

English agriculture differed from the European continent's in other, suggestive ways. The technical revolution in farming had been accompanied by an institutional revolution. The open fields were enclosed, and the small peasant holdings were amalgamated into large farms let to tenants who cultivated them with wage labour. By the nineteenth century, a unique rural society had emerged in England. This new society was characterized by exceptional inequality. English property ownership was unusually concentrated. Rents had risen, while wages stagnated. By the nineteenth century, the landlord's mansion was lavish, the farmer's house modest, the labourer's cottage a hovel.

The revolution in rural life was occurring in an increasingly commercial society. From the sixteenth century, London was one of the most rapidly growing cities in Europe. In the eighteenth century this dynamism extended to the provincial towns. From a rustic backwater at the end of the middle ages, England became Europe's greatest commercial power in the eighteenth century, and the leading industrial nation in the nineteenth.

Was there a connection between these events? Usually the answer is 'yes'. Improved farming, the modern agrarian institutions, the increase in

inequality, and the First Industrial Revolution are often linked in a system of thought I call Agrarian Fundamentalism. It involves three claims:

1. The technical revolution in farming was caused by the 'modernization' of England's rural institutions. The 'traditional' or 'feudal' peasant farms and open fields of the middle ages had stifled progress. Enclosures and large farms created private property and capitalism; they extended markets and spread commercial attitudes. The result was a productive agriculture.

2. The growth in agricultural productivity gave a strong boost to England's early industrialization—in some formulations it was an actual prerequisite. The manufacturing cities were built with savings from the agricultural surplus, they were peopled with labour freed from farming, and they were fed with the food produced by improved methods. The First Industrial Revolution was the result of the Agricultural Revolution.

3. The increase in inequality was an inherent feature of the Agricultural Revolution. The growth in farm efficiency and the expansion of manufacturing could not have been achieved in an egalitarian society. The idea that there is a trade-off between growth and equity is one of the most entrenched ideas of Agrarian Fundamentalism.

These ideas have had an enduring impact not only on the interpretation of English history but on that of the whole world. In the eighteenth and nineteenth centuries, peasant farming was seen as a stumbling block to the development of the European states. In the twentieth century, Agrarian Fundamentalism prompted the collectivization of agriculture in the Soviet Union and other communist countries. Analogous ideas have been applied by non-communist governments in many poor countries of Asia, Africa, and South America. For all those who contrast a traditional society with a modern one, for all those who argue that the traditional society must be overturned for development to occur, for all those who see inequality as the necessary price of growth—England is the classic case. For that reason, English history is of enduring importance.

Enclosure, Large Farms, and Productivity Growth

Few ideas have commanded as much assent amongst historians as the claim that enclosures and large farms were responsible for the growth in productivity. This was the consensus amongst the nineteenth- and early twentieth-century works on English economic and agricultural history. Toynbee (1884: 88–9) accepted that

the destruction of the common-field system of cultivation; the enclosure, on a large scale, of commons and waste lands; and the consolidation of small farms into large

. . . wrought, without doubt, distinct improvement from an agricultural point of view. They meant the substitution of scientific for unscientific culture.

Mantoux (1905) and Polanyi (1944) repeated these sentiments. Lord Ernle (1912: 351–2) concurred: ‘Small yeomen, openfield farmers, and commoners could never have fed a manufacturing population. They could not have initiated and would not have adopted agricultural improvements.’

These views are still standard fare in the textbooks. Thus, Wilson’s (1984: 33–4, 262) survey of the period 1603–1763 contends:

The full benefits of drainage and root crops were not possible without enclosure . . . The land must be freed from communal restrictions that held back the numbers of livestock and technical improvements. The purpose of enclosure was to do precisely this . . . Yields may have been nearly doubled.

Further, ‘peasant ownership had often meant stagnation, poverty, ignorance’. Mathias (1983: 55–6) agrees that the

Enclosure of open fields, engrossing of smaller plots and holdings into larger agricultural units (units of production and tenure rather than units of ownership) established the basis of improvement . . . The break-up of the peasantry was the price England paid for the increased supplies of corn and meat to feed her growing population.

There is always the worry that general texts are out of touch with the understanding of specialists, but in this case the fear is unfounded. Most leading agricultural historians have insisted on the importance of enclosures and large farms when surveying the causes of productivity growth. Thus, Clay’s (1984: 114, 119) recent work dealing with the sixteenth and seventeenth centuries states that ‘the form of organization which imposed a drag on productivity, was, of course, the open field system’. Moreover, ‘there can be no doubt that the larger and more commercially orientated farmers normally secured a higher output per acre than did most peasants . . . the continued aggrandizement of larger farmers at the expense of small must, therefore, have played an increasingly important part in the long term rise in agricultural productivity’. Chambers and Mingay (1966: 52), while admitting some possibility of improvement in the open fields, concluded ‘Nevertheless, enclosure was necessary because not all open-field villages showed much progress or efficiency and because even where there was progress there were limits’. Large farms were also necessary for advance since ‘small farmers generally lacked the acreage and capital to undertake convertible husbandry or improve the quality of their stock and grasslands, and they tended to be ignorant and opposed to change’ (Chambers and Mingay 1966: 45). Even Jones, who is otherwise sceptical about the claims

for enclosure, believes 'the estate system was an essential part of the way new crops, livestock breeds and farm practices were diffused in England' (Floud and McCloskey 1981: i. 82). 'The agrarian organization which evolved in England made production more flexible and far more responsive to the market than a peasant system could have been' (Jones 1967: 17).

While there is widespread agreement that enclosures and large farms promoted productivity growth, there is a deep difference of opinion as to how they did so. This difference marks a cleavage that splits Agrarian Fundamentalists into two factions—Tory and Marxist. The Tories believe that large farms and enclosures maintained or increased farm employment while increasing production even more; the result was a rise in both yields and labour productivity. In contrast, the Marxists insist that the new institutions reduced farm employment, thereby raising productivity. These different views about farm operations have important implications for the analyses of the contributions of agrarian change to manufacturing development and of the causes of inequality.

Arthur Young was a principal exponent of the Tory view. He was impressed by Quesnay's (1756, 1757) distinction between the *grande culture* and the *petite culture* and applied it to England. Young argued that more labour-intensive cultivation and more livestock raised corn yields. Such cultivation required large initial outlays of working capital. Young believed that large farmers had better access to finance than small farmers, so the amalgamation of farms led to increased capital intensity, greater employment, and higher yields. This enthusiasm for large-scale farming turned into a denunciation of peasant proprietorship after Young's tour of France.

Before I travelled I conceived that small farms, in property, were very susceptible of good cultivation, and that the occupier of such, having no rent to pay, might be sufficiently at his ease to work improvements and carry on a vigorous husbandry; but what I have seen in France has greatly lessened my good opinion of them. (as quoted by Mingay 1975: 190)

To their credit, however, he noted that peasant proprietors worked hard. 'The industry of the possessors was so conspicuous, and so meritorious, that no commendations would be too great for it. It was sufficient to prove that property in land is, of all others, the most active instigator to severe and incessant labour' (Mingay 1975: 190). None the less, only large farmers practised capital-intensive agriculture. 'The husbandry I met with in a great variety of instances on little properties was as bad as can well be conceived'.

Enclosure also raised employment and yields, according to Young, since it gave large-scale farmers more latitude to deploy their capital and thus allowed the benefits of large size to be fully realized. This critique of open

field farming has been elaborated by other writers, in particular, Lord Ernle, who identified several features that reduced its productivity. These included: (1) an overcommitment to corn growing, (2) the slow introduction of new crops due to the necessity for group decision, (3) inadequate drainage and weed control due to the intermixture of property, (4) the spread of livestock diseases and the impossibility of selective breeding due to communal grazing (Ernle 1912: 154–6). This indictment remains the standard fare in most modern writing on the subject.

Marxist theory was prompted by the critics of enclosures who contended that they led to employment declines and depopulation. In 1516, for instance, Sir Thomas More had written: 'Each greedy individual preys on his native land like a malignant growth, absorbing field after field, and enclosing thousands of acres with a single fence. Result—hundreds of farmers evicted' (p. 47). How true these claims were we shall see, but they were undoubtedly common, and Marx based his theory of agricultural transformation on them.

In spite of the smaller number of its cultivators [after the peasantry was eliminated], the soil brought forth as much produce as before, or even more, because the revolution in property relations on the land was accompanied by improved methods of cultivation, greater co-operation, a higher concentration of the means of production and so on, and because the agricultural wage-labourers were made to work at a higher level of intensity, and the field of production on which they worked for themselves shrank more and more. (Marx 1867: i817)

Notice here two things: first, the insistence that large-scale, enclosed agriculture reduced employment per acre, and, second, the vague treatment of crop yields. This is an awkward problem for Marxist scholarship. Capital-intensive farming is still the usual explanation for yield increases. 'Agricultural development was predicated upon significant inputs of capital, involving the introduction of new technologies and a larger scale of operation' (Brenner 1976: 49). However, Marxists need to avoid Young's unwanted conclusion that more capital meant more employment. Gone are the armies of turnip hoers. Instead, farmers buy cattle and sheep to heap the land with manure. 'Animal production had to increase in relation to arable in order to provide manure and ploughing to counter the tendency to declining fertility of the soil' (Brenner 1976: 308).

Agrarian Change, Labour Release, and Manufacturing Growth

The second tenet of Agrarian Fundamentalism is that the increase in agricultural productivity led to the growth of manufacturing. There are many possible links—the provision of savings, the supply of food, the

extension of the home market, the release of labour—and they have all been worked into the analysis at one time or another. But labour release has always been the most central, probably because thinking on the subject was prompted by the concern that enclosure led to depopulation. Later I will show that there are other good reasons for this focus.

In the fifteenth and early sixteenth centuries no connection was seen between the depopulation associated with enclosure and the growth of manufacturing. The displaced farmers were assumed to become permanently unemployed. Wolsey's 1517 Commission on Depopulation reports that eighty people were expelled from Stretton Baskerville and that they 'have remained idle and thus they lead a miserable existence, and indeed they die wretched' (Fisher and Jurica 1977: i. 117). In *Utopia* Sir Thomas More (1516: 46–7) asks of such people 'what can they do but steal—and be very properly hanged?'

It was not until the mid-seventeenth century that a link was suggested between enclosure and manufacturing growth. The context was explaining Dutch commercial ascendancy and devising policies for England to emulate it. The political economists who pursued this question developed a two-sector model, in which the economy was conceptually divided into agricultural and commercial sectors, to explain the growth of trade and manufactures. In 1663 Fortrey applied this model to enclosures. He admitted that they destroyed villages and led to the conversion to pasture—'one hundred acres of which, will scarce maintain a shepherd and his dog, which now maintains many families, employed in tillage'. But he denied that the displaced farmers remained unemployed: 'Nor surely do any imagine that the people which lived in those towns they call depopulated, were all destroyed, because they lived no longer there'. Instead, 'they were onely removed to other places . . . and employed in the manufacture of the wooll that may arise out of one hundred acres of pasture'. Thus enclosure led to the growth of industry. 'The manufactures and other profitable employments of this nation are increased, by adding thereto such numbers of people, who formerly served onely to waste, not to increase the store of the nation'. Enclosure led to weaving—not stealing!

Fortrey's argument, with its assumption that enclosure reduced farm employment, fits comfortably with the Marxist theory of technical change in agriculture, and, indeed, Fortrey's argument was accepted without revision by Marx. 'The expropriation and expulsion of the agricultural population, intermittent but renewed again and again, supplied . . . the town industries with a mass of proletarians' (Marx 1867: i. 817). While this statement is often regarded as an inflammatory attack on enclosures, the intent of its seventeenth-century precursor was to defend them.

Arthur Young was keen to argue that enclosure and farm amalgamation were all for the best. He had argued that these changes increased agricultural employment. Could he square the circle by also arguing (with Fortrey) that enclosure and large farms released labour to industry? He found a way by introducing population growth into the analysis of agrarian change.

In *Political Arithmetic*, Young applied Fortrey's argument to the amalgamation of farms and began with the premise 'if the small farms are thrown into large ones, many of the people will disappear: let us (which we need not do) grant this fact' (Young 1774: 70). The conclusion, of course, was that the freed labour increased the production of non-agricultural goods and services. 'The fewer employed [in agriculture] (consistently with good husbandry) the better; for then the less product is intercepted before it reaches the markets, and you may have so many the more for manufacturers, sailors, and soldiers' (Young 1774: 296). But, as the parenthetical qualification in the premise suggests, Young did not believe that farm amalgamation lowered employment. Instead it increased output. So he added, 'we may suppose more people who eat it'. Thus, farm amalgamation (and enclosure) maintained or increased farm employment but led to greater production of food. Population expanded in consequence, and the increment was employed in manufacturing. The theory that population expands as food production expands is now called Malthusian, but it was emerging in the work of Wallace (1753), Steuart (1767), and Young half a century before Malthus's *First Essay*.

In Tory thinking still, population growth is the source of the industrial labour force. Professor Chambers has been the most forceful proponent. 'If agrarian change, as symbolized by enclosure, cannot be regarded as the chief recruiting agent of the industrial proletarian army, where did the new drafts come from?' The answer: 'The movement of population had taken an upward turn in village and town alike and provided an entirely new supply of human material' (Chambers 1953: 338). According to the Tories, the manufacturing work-force was the result of the 'natural' drive to reproduce rather than of social changes like enclosure or large farms.

Income Distribution

Tories and Marxists agree on the facts about income distribution during the agricultural revolution: labourers were so wretched in the first half of the nineteenth century that it is hard to believe they had shared in any advance. On the other hand, landlords raised rents as they reorganized their estates, so they prospered from agricultural productivity growth. The question is

why inequality increased. The Marxist and Tory answers differ because they are elaborations of their differing explanations of productivity growth and labour release.

Marxists believe that the growth in inequality had two immediate causes. The first was the concentration of property ownership that accompanied enclosures and farm amalgamations. 'The depriving of the peasantry of all landed property has beggared multitudes' (D. Davies 1795: 57). The second cause of rising inequality was the employment effects of large farms and enclosures. These reduced labour demand. Not only were most rural people becoming exclusively dependent on wage income, but the demand for that labour was falling. Enclosures and large farms were the cause of the rise in productivity, but they also caused low wages and unemployment for the majority of the population, and high rents for a rich minority. Inequality and productivity growth were inextricably linked.

The Tories dismiss the Marxist suggestion that the gentry and aristocracy might be blamed for the rise in inequality. They discount the concentration in landownership as a cause either by denying that it occurred or by saying that it cannot be blamed because the increase in concentration was lawful and thus also legitimate. Tories also deny that improved agriculture reduced labour demand; instead, they attribute low wages to population growth. Here Malthus comes into his own. He contended that the population would expand if the wage exceeded the 'subsistence wage', that is, the cost of raising a child and supporting him or her through life. Conversely, the population would fall if the wage were below the subsistence level. This demographic assumption implies that the population will converge to the size that maintains wages at the subsistence level. Suppose, as Tories do, that improved agriculture raises the demand for farm labour. Who gains? Initially, the wage rises; in consequence, the population expands. But the growing population drives the wage back to the subsistence level. The result is more wage earners but no increase in their standard of living. As more labourers work the land more intensively, output rises, but landlords receive all the gain as rent. So the Tory concludes that it was inevitable for the agricultural revolution to increase income inequality. That is why economics was called the dismal science.

A Counter-Tradition

While Agrarian Fundamentalism has been the dominant interpretation of English agricultural history, there has been dissent. It began in England but has been strengthened by the confrontation of Agrarian Fundamentalism with the facts of agrarian change in Europe and more recently in Asia,

Africa, and Latin America. This book weaves together and extends several strands of doubt and criticism. Some strands emphasize justice, others efficiency.

The English critics of enclosure and farm amalgamation were persistent dissenters from Agrarian Fundamentalism. From the fifteenth century onward they claimed that enclosure and large farms were unjust—they enriched the large landowners at the expense of the poor. Sir Thomas More (1516: 46–7) objected that ‘The nobles and gentlemen, not to mention several saintly abbotts, have grown dissatisfied with the income that their predecessors got out of their estates. They’re no longer content to lead lazy, comfortable lives, which do no good to society—they must actively do it harm, by enclosing all the land they can for pasture, and leaving none for cultivation’. The same spirit of indignation led Cobbett to curse ‘the system that takes the food from those that raise it, and gives it to those that do nothing that is useful to man’. (Cobbett 1948: ii. 42.) The Hammonds (1932: p. viii) assert that ‘The main question for the historian is this: Were the poor sacrificed or not in the enclosures as they were carried out?’ They answer that the poor ‘were sacrificed and needlessly sacrificed’. ‘Needlessly’, since the more enclosures raised output—an Agrarian Fundamentalist view they accept—the greater was the potential for alleviating mass poverty.

What animated these writers was a sense of injustice and a sense that things might have been different. ‘This state of things never can continue many years! By *some means or other* there must be an end to it’ (Cobbett 1948: ii. 55). This attitude is very different from that of Marx. While he incorporated the facts marshalled by the critics of enclosures and large farms into his theory of historical development, he thought that those changes were progressive and desirable. They created a rich society that would make socialism possible and, indeed, inevitable.

The Marxist position highlights a weakness in the moral condemnation of enclosure. If the critics could say only that it was unfair to the poor, their criticism was vulnerable to the rejoinder that enclosures and large farms were necessary ‘for the economy’, that they promoted economic growth, however much they hurt some people. The second strand of thinking on which this book is based affirms that large farms and enclosures were not necessary for the technical revolution in agriculture.

The leading eighteenth-century thinkers in England and France were hostile to small farms, but a counter-tradition emerged by the mid-nineteenth century. In England a pivotal book was W. T. Thornton’s *Plea for Peasant Proprietors* (1843), which argued that small-scale owner-occupiers were more efficient than English tenant farmers. On the factual level, Thornton pointed to many examples of productive peasantries. On

the theoretical level, he disputed the incentive arguments advanced to explain the superiority of English arrangements. He countered Young's (1771a: iv. 343–5) claim that 'high rents are an undoubted spur to industry' with the observation that proprietorship guaranteed the peasant the full return to his exertions and thereby provided a motive for improvement. He inverted Young's belief that capital-intensive agriculture was labour-intensive agriculture by emphasizing its converse—that peasant proprietors typically devoted their 'leisure' to investing in farm improvements. In his *Principles of Political Economy* John Stuart Mill drew on Thornton's critique as well as on the opinions of continental friends like de Tocqueville, who favoured peasant ownership, and travellers' accounts of improving peasants to argue that peasant agriculture could sustain a revolution in farming technique.

We have surely now heard the last of the incompatibility of small properties and small farms with agricultural improvement. The only question which remains open is one of degree; [and] the comparative rapidity of agricultural improvement under the two systems [peasant proprietorship and English capitalism]. (Mill 1848: 154)

The cogency of Mill's argument, however, was not enough to dislodge the fundamentalist consensus from English thought (Dewey 1974).

By the late nineteenth century, debate about the efficiency of peasant agriculture had shifted to central and eastern Europe, where it was a critical issue. Did modernization require the replacement of peasant agriculture by capitalism (as the Russian westernizers believed) or could an advanced society be erected on a peasant base (as the more traditional thinkers contended)? If small-scale peasant agriculture was so inefficient, why did it persist in the face of competition from capitalist farmers? There were several responses. Lenin (1899, 1908) claimed that capitalist farms were indeed more efficient and, in Russia, were driving the peasants out of business. After the Revolution, the collectivization of agriculture represented the fulfilment of this analysis. On the other hand, in Germany and France, peasant agriculture was not succumbing to capitalist competition, and Marxists in those countries questioned the correctness of Agrarian Fundamentalism. Kautsky's (1900) explanation for the persistence of peasant farming harked back to Arthur Young's observation that French peasant proprietors worked harder than labourers. Another response denied that peasants spurned improvement. In 1939 Doreen Warriner published a comprehensive assessment of peasant farming in central and eastern Europe. She showed that peasants in Holland, Denmark, Switzerland, Bohemia, and western Poland realized crop yields like those in the United Kingdom. Slovakian and Hungarian peasants were not far behind (Warriner

1939: 99). Throughout central Europe the traditional open field system had been abandoned. Only in some parts of Transylvania and Slovakia was a three-field course with one field of bare fallow still followed. In most places, new crops had been introduced, fallows eliminated, commons enclosed, and the village rotation abandoned. Consolidation, however, was rarely pursued, so farms were still split into many fragments (Warriner 1939: 10). 'In general, in European conditions, there is good reason to think that peasant farming is efficient in the sense that the productivity of labour is as high as on large farms, and that peasant farming as such offers no hindrance to technical progress' (Warriner 1939: 7). President Gorbachev's decision in the 1980s to break up collective farms in the USSR and replace them with family farms held on long leases is belated vindication of Kautsky and Warriner.

What of peasant farming outside of Europe? When Sir Arthur Lewis surveyed agriculture in *The Theory of Economic Growth* (1955), he began in Arthur Young's footsteps—'There is almost always some difference [in efficiency] in favour of large size [farms]' (p. 129)—but he also noted that peasant proprietors worked harder than others and so had an offsetting advantage. The novel part of Lewis's discussion was to confront the platitudes of Agrarian Fundamentalism with a new set of facts, in this case, those of Japanese history:

The typical farm in Japan is still only between two and three acres in size; nevertheless productivity per acre on these farms is two to three times as great as in other parts of Asia. Productivity per acre in Japan increased by nearly fifty per cent in the thirty years before the first World War, and had doubled by the middle 1930's, without significant changes in the size of farm. (Lewis 1955: 136)

Lewis rejected Agrarian Fundamentalism and concluded that peasant farming was not an impediment to rising agricultural productivity.

Since the 1950s, the performance of peasant farmers has been systematically studied in many parts of the world. A consensus has emerged that is the opposite of Agrarian Fundamentalism, both Tory and Marxist (Berry and Cline 1979; Booth and Sundrum 1985: 98–125, 186–99). First, production *per se* exhibits constant returns to scale—that is, the views of Young and Marx that large scale is more efficient than small is usually rejected in statistical studies. Second, many family members (e.g. grandmothers) cannot find employment off the farm at the going wage, so they work on their farms, which are consequently cultivated more intensively than farms operated with wage labour. Young's observation about the hard-working French peasant has been repeatedly confirmed. Third, some of this hard work is devoted to capital formation (like drainage, terracing,

ditching), so small farmers have more capital per acre than large farmers in so far as capital can be made by family labour. Fourth, the greater intensity of cultivation on small farms means that they produce more output per acre than large farms. The higher land productivity involves both a higher yield per sown acre of the main field crops and greater total production per acre overall due to the cultivation of additional, labour-intensive crops. Fifth, as *purchased* capital goods and fertilizers become available, small farms lose some of their advantage *vis-à-vis* large farms since the latter usually have access to cheaper credit. Again this was Young's view. As commercial capital goods become available, large farms use them more intensively than small farms. Under this circumstance, the large farms manage to reap the same yield per sown acre as the small farms; contrary to Young's view, the large farms still do not achieve higher yields. Moreover, small farms continue to produce more total output per acre by using otherwise unemployed family labour to produce vegetables and other high value crops. The Agrarian Fundamentalist strictures about large farms and productivity growth have been repeatedly confuted in the Third World.

The other tenets of Agrarian Fundamentalism have given poor predictions in the developing world. The notion that agriculture contributes to manufacturing growth by releasing labour has been continuously refuted by the failure of industry to absorb the mass of unemployed or marginally employed workers. Instead, attention has shifted to promoting development by increasing the employment of labour in agriculture (Booth and Sundrum 1985).

The other prediction of Agrarian Fundamentalism—that development necessarily raises the incomes of rich landowners without benefiting poor labourers—has had a mixed record. When the concentration of landownership has increased and technical change has displaced labour, then the English experience has been replicated. Some countries have avoided this result by land reforms that ensure egalitarian property ownership and limit tenancy. In such cases, income inequality declines as productivity advances. There are many examples of countries repeating the English experience, but the pattern is avoidable.

The failure of Agrarian Fundamentalism outside of England raises the question of whether the doctrine is really a good description of what happened within England. Indeed, a few English historians have expressed dissatisfaction with the fundamentalist model, particularly the importance attached to enclosures. The path-breaking paper was Havinden's 'Agricultural Progress in Open Field Oxfordshire' (1961*b*). It shook the fundamentalist consensus by presenting several examples of common field villages introducing grasses like sainfoin—making exactly the sort of changes that

Young and Ernle thought impossible. Yelling (1977: 166–7) has expanded the evidence by presenting a few examples drawn from the 1801 crop returns of open field villages growing turnips. Kerridge (1967: 19) asserted that ‘whether fields were open or enclosed has little bearing on the agricultural revolution’. While this research has attracted considerable specialist interest, its scope has been limited to enclosure, and it has not dislodged the fundamentalist consensus.

An Alternative Approach to English Agricultural Development

This book criticizes Agrarian Fundamentalism in both its Tory and Marxist versions. The truth or falsity of these views turns on factual issues like the effect of enclosure and farm size on cropping, employment, and yields, the ease with which surplus agricultural labour shifted into manufacturing, the trends in the distribution of landownership, and the movements of wages, profits, and rents.

One way in which this book differs from others is that I shall investigate these issues statistically. My data sets allow open and enclosed farms, large farms and small farms to be compared. Arthur Young pioneered this approach in the eighteenth century, and I will reanalyse his data. (The results are a surprise since they contradict his views.) But Young’s data are not sufficient to answer all of the questions, so many other data sets have been assembled.

Young’s data deal with the whole country, but the data I have collected deal mainly with the south midlands—roughly the stretch of country between Oxford, Cambridge, and Leicester. This is prime agricultural land and it has been at the centre of all enclosure controversies. There is enough geographical diversity within the region for different environments to be compared. There is enough uniformity to ensure that geography does not overwhelm social institutions.

The investigations reported here lead to a rejection of Agrarian Fundamentalism. I contrast my conclusions with the received view by summarizing the argument of the book as follows.

PART I. THE RISE OF THE YEOMAN AND THE LANDLORDS’ AGRICULTURAL REVOLUTION

I argue that there were two agricultural revolutions in English history—the yeomen’s and the much more famous landlords’. Part I traces the rise of the yeomen and their subsequent elimination during the landlords’ revolution.

English rural society in the thirteenth century consisted of lords, free tenants, serfs, and cottagers. The Black Death of 1348/9 ushered in a

century of population decline that destabilized this social system. Labour mobility increased, real wages rose, and rents collapsed. Enclosure and conversion to pasture were the most creative seigneurial responses to the new order. Between 1450 and 1525, about one-tenth of the villages in the midlands were destroyed. These enclosures eliminated small-scale agriculture and represented an abrupt transition to capitalist relations.

Paradoxically, these enclosures led to the consolidation of peasant agriculture in the remaining open field villages. The depopulation that followed enclosure so alarmed official opinion that the Crown began protecting peasant farmers. Legislation, investigation, and prosecution were tools, but the most effective response was the extension of property rights to peasants by the Tudor courts. Copyholds and beneficial leases became secure forms of tenure by which many small farmers held their land. This legal revolution ended the worst abuses and created the tenurial underpinning for the yeoman farmers who flourished under Elizabeth and the Stuarts. The yeomen were owner-occupying family farmers—true peasants. Their economic significance cannot be understated, for they were responsible for much of the productivity growth in the early modern period.

Despite their progressive farming, the yeomen were eliminated in the landlords' agricultural revolution, which consisted of enclosure, the concentration of landownership in great estates, and the creation of large, leased farms. Since the sixteenth century, enclosure has been a favourite culprit in the disappearance of the English peasantry, although its significance has been hotly debated. Marxists have usually argued that enclosure involved the expropriation of peasant property by manorial lords, while Tories have replied that enclosure had little effect on the distribution of landownership. In fact, the relationship was complex. Early enclosures, especially those before the mid-sixteenth century, frequently involved the destruction of villages and the expulsion of their inhabitants as lords seized peasant land. In the seventeenth century, evictions were rare (because of the solidification of yeomen's property rights), but enclosure still usually involved a concentration of landownership and a venting of the population surplus to the needs of agriculture. In the eighteenth and nineteenth centuries, enclosure had little effect on landownership or population. The early enclosures are, therefore, good examples for Marxists, the later enclosures exemplify Tory views, and the seventeenth-century enclosures fall between these extremes.

The real collapse of yeoman agriculture occurred in the eighteenth century, in open field villages as well as in enclosed. Many yeomen were freeholders, and they sold their property to great estates. Other yeomen held their land on copyholds for lives or beneficial leases for lives or long terms of

years, and they lost their land when large landowners stopped renewing these agreements. These real estate dealings were due to the creation of modern mortgages which increased the propensity of great estates to buy land.

PART II. ENCLOSURE AND PRODUCTIVITY GROWTH

I begin my reassessment of the landlords' agricultural revolution with enclosure: agrarian fundamentalists contend that it was necessary for technical advance since they believe that open fields were inflexible and inhibited the adoption of new crops and the conversion of arable land to pasture. I investigate this charge by dividing the south midlands into three fairly homogeneous natural districts—the heavy arable, the light arable, and the pasture. The same management scheme maximized profits throughout each district, so I assess the performance of open fields and enclosures by comparing the diffusion of modern methods district by district.

The diffusion of new techniques bears out the fundamentalist claim that enclosure led to agricultural improvement. In the heavy arable district, the tenacity of the soil meant that poor drainage was a serious problem. The solution was the installation of hollow drains, and, indeed, enclosed villages were far more likely than open villages to undertake this investment. In the light arable district, adopting the Norfolk rotation (turnips—barley—clover—wheat) and upgrading the breed and management of sheep were the bases of advance. Again, enclosure greatly accelerated the adoption of this system of management. In the pasture district, converting arable to grass was the key to progress, and enclosure led to a substantial increase in pasture. In all three districts, open field villages adopted the new methods to some degree, so Lord Ernle's charge that they were 'impervious' to new techniques is an exaggeration. Nevertheless, the open villages were far less innovative than the enclosed.

It is a far cry from that conclusion, however, to establishing that the enclosure movement made a substantial contribution to productivity growth in early modern England. Crop yields and labour productivity (not crop rotations) were the two critical indicators of advance. Both about doubled between the middle ages and the nineteenth century. Enclosure, however, made only a minor contribution to these increases.

I compare crop yields around 1800 in the three natural districts. In the light arable district, yields in open and enclosed villages were identical. In the pasture district, enclosed yields were perhaps a tenth higher than in open villages. In the heavy arable district, enclosure boosted yields about a quarter. Furthermore, most elements of capital-intensive agriculture made

no contribution to the growth in yields. Yields were uncorrelated with the share of land planted with clover and beans, the main nitrogen-fixing crops, or with livestock densities, or the use of exotic or purchased manures. Convertible husbandry was unnecessary for the growth in yields. The only modern technique that raised yields was hollow draining, and its diffusion was indeed responsible for the growth of yields in the heavy arable district. Even there, however, open field farmers had accomplished three-quarters of the growth in yields between the middle ages and the nineteenth century. In the other districts, open field farmers accomplished almost the whole advance. Hence, when yields are used as the yardstick of progress, the enclosure movement played only a minor role.

Next I consider employment and labour productivity. The impact of enclosure on employment is the main battleground between Tory and Marxist fundamentalists. I develop two methods to resolve the dispute. The first involves listing all the tasks in farming and determining their cost; by applying this accounting to the details of open and enclosed farming in each natural district, I can compare the total cost of labour and thus total employment. The second method uses the details of the several hundred 'representative farms' surveyed by Arthur Young in his tours of the 1760s. Since he recorded farm employment, we can compare employment per acre for open and enclosed farms. Despite the radical difference in the procedures, the results are similar. Enclosure had little, if any, effect on employment when it did not affect the balance of tillage and pasture; when it led to the conversion of arable to grass, employment declined. These calculations provide no support for 'optimistic' Tory views. In pastoral areas, the Marxist story is closer to the facts.

This result opens the possibility that enclosure accounted for much of the growth in labour productivity. Its effect, however, was mixed. In some circumstances, output per worker increased considerably, but in most places the gain was only in the order of a tenth. Even though enclosure often led to some decline in employment, labour productivity grew little since output also sagged. This result is not surprising in view of the small boost that enclosure gave to yields, the tendency of enclosure to reduce the share of arable, and the fact that tillage gave more output per acre than pasture. As with yields, the enclosure movement made only a modest contribution to the growth of labour productivity in England.

Early modern discussions about output and employment were usually vague and inconclusive. On two issues, however, there was agreement: enclosure led to changes in cropping and farm methods, and enclosed farmers paid higher rents than open farmers. Both beliefs were true. Tory fundamentalists see these beliefs as connected—the rise in efficiency

increased the farm's capacity to pay rent and thus accounted for the rent rise. My finding that enclosure made little contribution to productivity calls this conclusion into question and suggests that the rent increases represented a redistribution of income from farmers to landlords. I investigate the issue by computing the Ricardian surplus for open and enclosed farms; this surplus is the difference between a farm's revenue and the income that its labour and capital could have earned elsewhere. Ricardian surplus indicates both the overall efficiency of the farm (in technical terms, its total factor productivity) and its capacity to pay rent and taxes.

The agricultural revolution in the heavy arable district worked much as Tory fundamentalists suggest—enclosure led to investment in hollow drains, which raised yields. Ricardian surplus rose as well, and its increase matched the growth in rent. In this district there is no evidence of income redistribution at enclosure. In most other districts, however, the Tory view is inconsistent with the facts. In the light arable district, the growth in productivity was very small, and higher rents required some redistribution of income from farmers to landlords. The evidence for the pasture district is more difficult to interpret, but efficiency gains following parliamentary enclosures appear to have been minor, and there is very strong evidence that open field rents in the mid-eighteenth century were less than the value of the land. The balance of probabilities is that rent increases following enclosure in this district in the eighteenth century involved a considerable redistribution of income from farmers to landlords.

The investigations presented in this book do confirm the two reasons usually adduced for the importance of enclosure. It did lead to highly visible changes in land use and farming methods, and it did lead to higher rents. However, when I measure the effect of enclosure on yields and labour productivity, its importance diminishes, especially when the gains are contrasted with the growth in efficiency across the early modern period. Despite the enthusiasm of many landlords for enclosure, its contribution to agricultural productivity growth was small.

PART III. CAPITALIST AGRICULTURE AND PRODUCTIVITY GROWTH

If enclosure was not responsible for the growth in yields and labour productivity in England between 1500 and 1800, perhaps the other features of the landlords' agricultural revolution can take the credit; namely, the concentration of land in great estates, the concomitant elimination of peasant proprietorship, and the amalgamation of small family farms into large farms dependent on wage labour. The alternative, of course, is that the yeomen themselves were responsible for the rise in efficiency. In this section,

I directly compare the contributions of the yeoman and capitalist systems to the growth in productivity.

I begin with yields. Tory thinkers like Arthur Young claimed that large farms secured higher yields than small farms since the former employed more capital per acre than the latter. I investigate this claim with Young's survey of farms. These data show that capital per acre was either independent of size or declined with size for both arable and pastured farms. Young, himself, used his data to correlate size with yield. He believed they showed a positive relationship. In fact, the correlation is tenuous and too weak to explain the growth of yields in early modern England. Moreover, Young's yield data pertain to villages, rather than farms, and so are poorly adapted to investigate the correlation between yield and farm size.

I use probate inventories to construct a more suitable sample for measuring the correlations between farm size, capitalization, and yield. This sample shows capital per acre declining with size. Of greater historical importance, the sample exhibits no correlation between size and yield. Large farms were not necessary for bountiful harvests. Moreover, the rise in yields preceded the eighteenth-century shift to large 'capital' farms. It was small-scale farmers in the open fields—the English yeomen—who accomplished the biological revolution in grain growing.

Next I use Young's farm survey data to measure the effects of increasing farm size on employment and labour productivity. As with enclosure, Tory fundamentalists expect employment to grow with size, while Marxists expect the reverse. Again, the facts support the Marxist view. The employment per acre of men, women, and boys all declined with size. The decreases were greatest for women and boys. Eighteenth-century farm amalgamation rendered most rural women and children redundant in agriculture.

Labour productivity increased for two reasons in the early modern period. Half of its growth was due to the rise in yields achieved by seventeenth-century yeomen. This increase did not account for England's exceptional productivity *vis-à-vis* the continent in 1800, for yields increased generally in northwestern Europe, raising output per worker throughout the region. Instead, England's superiority was mainly due to the declines in farm employment consequent upon the amalgamation of farms in the eighteenth century.

The investigations reported here imply a radical shift in our understanding of productivity growth in early modern England. The seventeenth-century yeomen were the decisive contributors. They accomplished most of the growth in yields and about half of the rise in labour productivity over the period. The main contribution of the landlords' agricultural revolution

was a further shedding of labour in the eighteenth century. While this did push labour productivity to record levels, it was of secondary importance compared to the achievement of the yeomen.

PART IV. AGRARIAN CHANGE AND INDUSTRIALIZATION

Productivity growth in agriculture is important since it may lay the basis for industrial advance. In this section I contrast the contributions of the yeomen's and landlords' revolutions in this regard.

One way that agricultural productivity growth can aid industrialization and economic growth is by providing savings to finance manufacturing investment. In England, most of the productivity gains of the agricultural revolution accrued to the large landowners as rent increases. Instead of saving, however, they were net borrowers and spent their fortunes on stately homes and elegant living. Agriculture made little contribution towards promoting industrial capital formation.

The main contribution of the agricultural revolution to England's economic growth was, therefore, its immediate impact on the national income. There were two ways in which the rise in agricultural efficiency increased gross domestic product (GDP). The first was by expanding agricultural output; the second was by releasing labour to other sectors. In the seventeenth century, agrarian change made contributions in both ways. The expansion in agricultural output was the more important, and it was the achievement of the yeomen's agricultural revolution. A reduction in farm employment was a consequence of the early phase of the landlords' agricultural revolution. Most of the people forced out of agriculture left the midlands and swelled the population of the Metropolis where their employment expanded output in commerce and manufacturing. This reallocation of labour did boost GDP, but the rise was smaller than the increase attributable to the yeomen's agricultural revolution.

Enclosures and farm amalgamation were more extensive in the eighteenth century, but they made less of a contribution to the increase in national income. Technical change no longer raised yields, so it did not directly raise agricultural output and GDP. Enclosures and farm amalgamations reduced employment per acre, but the labour released was not successfully re-employed in manufacturing. By the early nineteenth century, the agricultural revolution was producing paupers—not proletarians. Samuel Fortrey's dream of industrious weavers gave way to Thomas More's nightmare of thieves. Some of them, indeed, were hanged; many were transported to Australia. The rise in farm productivity through labour release, therefore, did not translate into a rise in the national income. The

overall impact of agricultural change on GDP was very small in the eighteenth and nineteenth centuries. The landlords' agricultural revolution, in its most intense phase, made little contribution to economic growth.

PART V. THE DISTRIBUTION OF THE BENEFITS OF TECHNICAL PROGRESS

Agricultural productivity growth created the potential to raise the incomes of all people in early modern England. In fact, the rich were the main beneficiaries.

Price changes were a principal avenue by which the benefits of productivity growth were distributed. Thus, consumers would have gained had food prices fallen. Indeed, such a development would have reduced the inequality of real incomes since the poor spent a higher share of their income on food than did the rich. However, real agricultural prices rose in England between the late middle ages and the nineteenth century. This trend increased inequality by reducing the real incomes of the poor relative to the rich.

The gains from productivity growth accrued to agriculturalists as rising incomes. Labourers, however, did not gain since the real wage fell, then remained low, as productivity increased. Likewise, farmers (as the owners of working capital) did not gain since the real rental price of livestock and equipment was trendless from the fifteenth to the nineteenth century. All the benefits of rising productivity accrued to landlords—real rents increased about sevenfold between 1450 and 1850.

The tendency to increased inequality was least pronounced during the yeomen's agricultural revolution in the second half of the seventeenth century. The rise in crop yields ensured that the real price of agricultural products did not rise. Likewise, the preservation of farm employment stabilized the real wage. In the eighteenth century, these trends reversed and inequality grew. The cessation of output growth meant that the real prices of farm products increased. The decline in labour demand increased unemployment and lowered agricultural labour income. As a result rents increased sharply during the main phase of the landlords' agricultural revolution.

If the ownership of property had been equally distributed, the fact that productivity growth raised rents would not have increased inequality. But landownership was highly concentrated and became even more so over the early modern period. Most of the income generated by agricultural productivity growth, therefore, accrued to the gentry and aristocracy.

Two Agricultural Revolutions

There were two agricultural revolutions in English history—the yeomen's and the landlords'.

The yeomen's revolution occurred mainly in the seventeenth century, although its legal basis was laid in the sixteenth. This revolution was marked by a doubling of corn yields; it raised England's national income, and the benefits were distributed widely. Small farmers who held their land on copyholds and beneficial leases gained as land values increased. Labourers held their own since employment was maintained.

The landlords' revolution consisted of enclosure and farm amalgamation. This reorganization began in the fifteenth century but occurred mainly in the eighteenth. The early enclosures increased farm output and released labour when the population was low, so they probably contributed to a rise in GDP—a rise that accrued mainly to large landlords through higher rents. Enclosure and the growth in farm size in the eighteenth century did not increase output—they reduced farm employment. The released labourers did not raise the national income since they were not re-employed in manufacturing. The only gainers were large landlords.

The conclusion is unavoidable—most English men and women would have been better off had the landlords' revolution never occurred.