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I would like to express my gratitude for the research assistance of Mrs. D. Ellwood; all mistakes are mine alone.

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These conclusions were set by Chambers in direct opposition to those of a number of earlier writers, in particular Dobb. Dobb had argued that it was incorrect

> "to speak of a proletariat as a natural rather than an institutional creation,"(7)

and that

> "The enclosure movement ... reached a new peak in the orgy of enclosure bills which accompanied the industrial revolution"(8)

not until which time

> "was this rural semi-proletariat to be finally uprooted from the land and the obstacles to labour mobility from village to town removed. Only then could capitalist industry reach full maturity."(9)

Since Chambers published his article its findings have become the basis for a new conventional wisdom in textbook treatments. For example, Jones, using Chambers as his authority, states that

> "It is apparent that enclosure was not the creator of a labour force for industry. Enclosure itself tended to mop up labour from the countryside."(10)

Similarly, Landes, also citing Chambers, rejects the proposition that

> "the enclosures uprooted the cottager and small peasant and drove them into the mills."(11)

He maintains that

> "Recent empirical research has invalidated this hypothesis; the data indicate that the agricultural revolution associated with the enclosures increased the demand for farm labour, that indeed those rural areas that saw the most enclosures saw the largest increase in resident population."(12)

This paper has four purposes:

(i) to clarify the questions at issue in discussions of enclosure and labour supply.

(ii) to examine the relevance of Chambers' evidence to these questions.

(iii) to present additional evidence of the type favoured by Chambers.

(iv) to present empirical results of a different type on the relationship between parliamentary enclosure and migration in the first half of the nineteenth century.

II.

In order to avoid misunderstanding it may be best to state clearly at this stage a fundamental assumption which underlies this paper. This premise is that Chambers' article is properly discussed in terms of the influence of parliamentary enclosure on the demand for and supply of labour

in already existing capitalist rural labour markets and not in terms of the transition from feudalism to capitalism.[13]

From the point of view of an economist's analysis of the workings of a market for labour it would seem there are several distinct questions at issue in the modern reformulation of the role of parliamentary enclosure in the release of labour from agriculture to industry in the first half of the nineteenth century.

(i) In the period following enclosure of a parish did the employment of labour rise or fall?

(ii) Were the technological innovations of the period which often accompanied enclosure relatively labour using or labour saving changes?

(iii) Was the institutional change of enclosure itself a relatively labour using or labour saving change?

(iv) Was enclosure an inducement to outmigration?

Chambers did not clearly distinguish these questions. His implied answers, and the interpretation of his work by such writers as Jones and Landes, seem clear enough, however. Their common position would appear to be that the trends in Nottinghamshire's population, where in the period after 1800 population rose more rapidly in the parliamentarily enclosed villages than the other agricultural villages, support the generalisations that population and employment rose following enclosure, that enclosure and technological innovation both were labour using and that enclosure did not stimulate outmigration.

The questions (i) to (iv) are seldom, if ever, disentangled from each other, which is unfortunate as it is an essential preliminary to understanding the limitations of Chambers' evidence. For example, the faster population growth in the enclosed villages does not necessarily imply that the labour to output or labour to capital and natural resources ratios were higher there than in the non-parliamentarily enclosed villages. Similarly, the tendency for demographic growth to be more rapid in the enclosed villages might be associated with a faster natural increase rather than greater growth of demand for labour. If rates of natural increase were not identical in both groups of villages, then rates of actual increase are an imperfect guide to rates of outmigration.

III.

The generalisation that population increased in the first half of the nineteenth century in villages which had been enclosed by act of parliament, even where waste was not included, is not one which has been in dispute recently and it is not challenged here. Of the agricultural parishes in which common fields were parliamentarily enclosed between 1797 and 1816 in the 5 counties examined later in the paper, only 7 of 433 sampled had a lower population in 1851 than in 1801. The average increase over the half century was more than 55 per cent. Although growing unemployment was a problem in some areas to an extent which cannot be measured, there seems no reason to resist the inference that agricultural employment was generally on the increase in these villages for at least part of the period.

Acceptance of the proposition that agricultural employment rose after parliamentary enclosures had occurred need not entail agreement that the enclosure was "labour-using" in the usual economist's sense, however.

Economists' notions of the factor-saving bias of innovation are, of course, concerned with the effects of the improvement on the relative scarcity of factors of production. For example, the focus of the Hicksian definitions is on changes in relative rates of return to factors of production at a given factor intensity of production, or the obverse, changes in factor intensity of production with given relative factor prices.

This is not the sense in which the term "labour-saving" has often been used in the literature on the English agricultural revolution and accordingly there is a potential terminological confusion which needs to be dispelled. For example, we find the following argument in Chambers and Mingay:

> "the improved methods of farming were not labour-saving (although it is probable that the labour required per unit of output was reduced). And in so far as enclosures encouraged the rise of better farming and an expanded acreage it must have greatly increased the supply of rural employment. Only where permanent pasture increased at the expense of arable was the labour requirement likely to fall off."(14)

Chambers and Mingay, therefore, as did Chambers in his earlier work, really appear to talk about the absolute level of employment in enclosed villages. They do not address the counterfactual questions of whether, in the absence of enclosure, agricultural employment in these villages would have been greater or smaller, or whether the factor intensity of production would have been more or less labour intensive, the questions which might well be the major thrusts of an economist's analysis.

It is perhaps not surprising, therefore, that recently economists have begun to express unease with the conventional wisdom on enclosure and

labour supply. Baack and Thomas have made two important criticisms, which they think should lead to scepticism, though not necessarily rejection, of the accepted view. First they point out that changes in relative factor prices may have accounted for rising labour to land ratios so that

> "the possibility must be confronted of the substitution effect having offset what would have been a lower labour-land ratio due to a labour-saving change in the production function."(15)

Secondly they maintain that the essence of enclosure is the replacement of communal property rights in land with private property rights. They argue that this will imply that now rent will accrue to landlords as labour is now paid its marginal product rather than obtaining average product and labour employment at a given wage rate declines, so that

> "Ceteris paribus the enclosure of land would reduce the quantity of labour employed."(16)

Hence they predict that the institutional change of enclosure would be labour-saving, whatever may have been the factor-saving bias of any technological changes which accompanied enclosure.

Furthermore it appears that during the first half of the nineteenth century the labour to output ratio in agriculture as a whole fell.(17) What may have happened to the "land" to output and "land" to labour ratios in agriculture is not so obvious. This is because from an economist's point of view one would think in terms of a combined land and capital concept not just in terms of the physical acreage of land. Over this period, although there are no precise quantitative estimates, it is a unanimous conclusion in the impressionistic literature that investment in improvement

of land was substantial.[18] Moreover, it is generally held that this improvement activity was especially important in the wake of enclosures.[19] It does not seem clear that observation of population increases in parliamentarily enclosed villages implies a rising labour to land ratio in the economic sense.

Together these criticisms invalidate any inference of labour-using technological or institutional change merely from rising agricultural employment in the villages enclosed by act of parliament. Chambers offers further evidence, however, namely that there were greater increases in population in agricultural villages subject to parliamentary enclosure prior to 1800 than in other kinds of agricultural village. The question arises, therefore, as to whether this comparison is more adequate to demonstrate the factor-saving bias of parliamentary enclosure.

One problem which might be held to be less serious by virtue of making comparison of different villages in the same county is that of changes in relative factor prices. It might be argued that prices for factors of production would be the same throughout a county so that agriculturalists in both enclosed and non-enclosed villages would face the same relative prices. Then, if it was observed that employment grew more rapidly in enclosed villages, perhaps the inference of more labour-using (or less labour-saving) technological change could be justified, even though in all villages at least some of the rise in employment should be put down to factor substitution.

Such a position is not very satisfactory, however, as it does not deal with the problem of differential additions to "land" in different types of villages and, of course, does not permit the identification of the effects

of institutional as opposed to technological change.

Further reflection leads to the discovery of three more difficulties with Chambers' work. First, it should be remembered that the agricultural villages in which he found the fastest population growth were those parliamentarily enclosed before 1800, that is prior to the start of his period. Chambers paid special attention to that category of villages because enclosure often involved waste as well as common field and he wished to avoid the criticism that his figures merely reflected the short term impact of additions to the cultivated area.(20) Unfortunately this procedure invites potentially misleading inferences about the factor-saving bias of enclosure. If it were the case that enclosures involved labour-saving changes, then the general equilibrium effect in a county labour market of enclosures would presumably be to lower the relative price of labour and thus to lead to factor substitution towards labour and increased employment in previously enclosed villages.(21) A priori a part of the increases in population after 1800 in the villages enclosed by act of parliament before 1800 could reflect labour-saving changes in villages currently being enclosed.

Secondly, the other agricultural villages of Chambers' figure 1 mostly represent villages which were enclosed, not which were open-field. True, one of Chambers' categories is villages with open fields in 1800 but many of these must have been enclosed shortly after that date; the other villages would have represented cases of enclosure by non-parliamentary means.

Thirdly, it might be asked whether Nottinghamshire's experience was typical of England as a whole. English agriculture at this time was fairly heterogeneous and it has been claimed that Chambers' study is of

something of a special case.[22]

It would seem that evidence of the type used by Chambers will never by itself yield fully satisfactory results about the factor-saving biases of parliamentary enclosure. Since so much weight has been put on Chambers' findings, however, it does seem appropriate to present what further evidence of this type can be gathered and in so doing to attempt to minimise the difficulties found with Chambers' study.

The census data on population only start in 1801 and this seriously limits what can be done. Fortunately, however, there were a few counties in the south and east of England which still had a fair number of enclosures by act of parliament involving common fields still to be done. Table 1 presents evidence for these counties for the period 1801-1811. It compares the average increase in population in agricultural villages undergoing parliamentary enclosure at that time, where at least some common field was involved, and in those villages which underwent enclosure of common fields in the subsequent decade and could therefore be presumed to be unenclosed in 1801-1811.

This approach is adopted so as to compare enclosed with unenclosed villages, rather than parliamentary with private enclosure. It should also mitigate against the possible general equilibrium effect bias in examining villages parliamentarily enclosed earlier and act as a check on the typicality of Chambers' findings. The procedure adopted will only yield biassed information on the combined effect of technological and institutional factor-saving bias for the reasons discussed above. The most important potential biasses might be greater additions to "land" in the enclosed villages and the possibility of a general equilibrium impact on employment of labour

in the non-enclosed. These tend to offset each other, although most economic historians would probably expect the former to be by far the stronger, especially in this period.

Table 1

	Mean Value of Population 1811/Population 1801[d]		
	Just Enclosed[a]	To be Enclosed[b]	t statistic[c]
Bedfordshire	1.09	1.13	0.75
Berkshire	1.01	1.11	1.89*
Cambridgeshire	1.09	1.09	0.00
Lincolnshire	1.14	1.05	1.55
Norfolk	1.04	1.08	1.54

a. Villages with enclosure acts between 1797 and 1806 listed by G. E. Slater, The English Peasantry and Enclosure of Common Fields (London, 1907) as involving at least some common field. The passage of time from the act to the award was usually about 4 years.

b. Villages similarly listed by Slater for the period 1807-1816.

c. Two-tailed tests of differences of means; *** = significant at 1% level, ** = significant at 5% level, * = significant at 10% level.

d. All villages were agricultural on the criteria that the 1831 census reports more than half of male adult employment as being in agriculture; Parliamentary Papers (1833) vol XXXVI.

Source; 1851 Census, Parliamentary Papers

The results of Table 1 are in sharp contrast with what one would expect from a reading of Chambers and his followers. There is no general tendency for a markedly higher increase in population in the parliamentarily enclosed villages. This is despite the fact that these were generally arable areas and that it would seem this is a comparison biassed towards showing greater rises in population in the enclosed villages than would occur simply through labour-using changes as most enclosures at this time would be likely to involve additions to the cultivated area. This last was, perhaps, particularly important in Lincolnshire and may account for the relatively stronger showing of the population increase in the enclosed villages there.

If it is desired to make a comparison over a longer period, then the only possibility is to compare parliamentarily enclosed villages with a sample of non-parliamentarily, and presumably generally privately enclosed, villages. This was done and the results are shown in Table 2. Once again the results are not quite what one might expect from reading the conventional wisdom.

The message of Tables 1 and 2 can be summarised in terms of two propositions.

(i) Although evidence of this type does not permit identification of the factor-saving bias of the institutional change of enclosure or of the technological changes which may have accompanied enclosure, the figures presented in these tables seem to cast very serious doubt on claims that improvement in parliamentarily enclosed villages

was more labour-using than that which occurred in other agricultural villages.

(ii) A re-examination of the population growth evidence does not support the generalisations that parliamentary enclosure was accompanied by faster population growth than occurred in the short term in non-enclosed villages or in the long term in villages enclosed by non-parliamentary means.

Table 2

Mean Value of Population 1831/Population 1811

	Enclosed 1797-1816	Not Parliamentarily Enclosed	t statistic
Bedfordshire	1.28	1.27	0.15
Berkshire	1.19	1.15	1.00
Cambridgeshire	1.38	1.41	0.41
Lincolnshire	1.35	1.31	0.75
Norfolk	1.24	1.33	2.34**

Mean Value of Population 1851/Population 1831

	Enclosed 1797-1816	Not Parliamentarily Enclosed	t statistic
Bedfordshire	1.15	1.11	0.89
Berkshire	1.10	1.10	0.00
Cambridgeshire	1.23	1.23	0.00
Lincolnshire	1.25	1.23	0.35
Norfolk	1.11	1.06	1.97*

IV.

In this Section we turn to the fourth of the questions distinguished in Section II, namely the role of enclosure as a stimulant to outmigration. At first sight it might seem that the lack of significant differences in demographic trends in Tables 1 and 2 confirms Chambers' inference that institutional structure made no difference to the extent of outmigration. This need not be the case, however. The simple tests used there may not be sensitive enough to detect differential migratory behaviour unless it was very pronounced. This could be particularly likely if, as is sometimes supposed,(23) the natural rate of increase of population rose following enclosure. Then a similar rate of increase in population remaining in the enclosed and non-enclosed parishes might hide a more rapid rate of outmigration in the former. This difficulty appears serious enough potentially to resist Chambers' inferences that enclosure was unrelated to migration.

It appears to have been for this kind of reason that White attempted to improve on Chambers' work by the use of a more direct procedure.(24) His approach was simply to regress the number of net migrants out of a county, as estimated by Deane and Cole, against the number of acres parliamentarily enclosed in that county in the same period. He found

> "population migrations were not significantly related to enclosures. This essay ... provides further substantiation for the Chambers hypothesis that the origin of the exodus to the cities cannot be attributed to the enclosures."(25)

Tomaske later made a number of pointed criticisms of White's specification, but presented no alternative results, rather preferring to remain agnostic on the possibility of a relationship existing between enclosure and migration.(26)

The basic problem with both Chambers and White is that they fail to deal with a classic identification problem which would need to be solved to distinguish the impact of enclosure from that of other influences on the supply and demand for rural labour.

Ideally a simultaneous equations approach is required. For example, suppose migration between two labour markets is a function of the wage differential between the two locations. Then to deal with the wage differential it would be necessary to specify and estimate supply and demand curves for labour in both sending and receiving markets and thereby to take into account the feedback effect of migration on labour supply surves in the two markets. Unfortunately data availability precludes the estimation of this kind of model, in which one could specify enclosure as an exogenous variable influencing the rural demand for labour and use the estimation to calculate its impact on migration.

A "second-best" procedure which may help to advance our understanding of the relationship between enclosure and migration somewhat is feasible, however. This is to rely on a single-equation neoclassical human capital formulation of the migration process. This has been widely used in recent years and was in fact the methodology of two recent studies of nineteenth century British migration, which did not, however, deal with the role of enclosure.(27)

The essence of this approach is to regard migration as the outcome of individuals' utility maximising decisions based on the expected costs and benefits of the move. It is generally hypothesised that among the most important benefits are increased lifetime earnings prospects once employed and that among the most important costs are those incurred by the act of

moving, which are often supposed to be closely associated with the distance involved.

A variant of this approach, adapted slightly to meet the exigencies of the data, has been utilised here to throw further light on the relationship between enclosures and migration. The equation estimated for a cross-section of 33 English counties is[28]

$$\log \frac{gm}{b} = \log \alpha + \beta_1 \log d + \beta_2 \log s + \beta_3 \log u + \beta_4 \log w + \beta_5 \log e + v$$

where v is an error term which is assumed to have the usual properties and the other terms are defined as follows.

$\frac{gm}{b}$ = the number of persons over 20 born in a given county but residing in a different county in 1851 divided by the total number of persons over 20 born in the given county and enumerated in 1851, expressed per thousand persons.[29]

d = the road distance from the principal town of a given county to the nearest town among London, Birmingham, Leeds and Manchester.[30]

s = the total number of persons over 20 resident in a given county in 1851.[31]

u = the proportion of a county's population which was urbanised in 1851.[32]

w = the wage rate of agricultural labourers in a given county in 1833 as reported by Bowley.(33)

e = the proportion of a county's area enclosed by act of parliament after 1801 in acts which included at least some common field.(34)

The hypothesised signs for β_1 through β_4 are all negative; the expected sign of β_5 is discussed below.

This specification requires some comment. As far as the dependent variable is concerned, the nature of English census information on migration is such that the first full scale inquiry in 1851 yields data on the birth-places by county of persons residing in each English county. There is no less aggregated data and no information on yearly flows prior to this date. We simply have information on the cumulated stock of inter-county migrants surviving in 1851. This does not deal with a substantial body of rural-urban migration which must have occurred within county borders. Still this type of information is typical of what has been available for most of the migration studies using this kind of approach.

The dependent variable is in the form of a gross outmigration rate. The choice of gross rather than net migration, rates than than absolute numbers and the use of the double-log functional form have become accepted best practice among migration modellers. In particular, it should be noted that the rate form of dependent variable enables interpretation of the regression in terms of the probability that an individual born in county i will not have remained there, that the use of gross migration avoids complications from cross flows and division by the number born in county i

is helpful in avoiding problems arising from differences in county size.(35)

White in his study preferred to use Deane and Cole's net migration figures which were calculated for periods prior to 1830 from a comparison of the actual increase in a county's population with an estimated natural increase based on corrected baptisms and burials figures given in the parish register abstracts. Unfortunately the satisfactory correction of the parish register baptisms and burials figures for underregistration is impossible at the county level and as a result the Deane and Cole figures are highly suspect at best.(36)

The choice of examining outmigration rather than immigration resulted from the availability of wage data. The only figures given by Bowley with any degree of comparability between locations relate to agricultural labourers. Most migration in this period is presumed to have been rural-urban and the use of outmigration permits the inclusion of a wage rate variable relevant to the earnings opportunities foregone by the outmigrant, whereas no such data is available on the earnings available to immigrants in urban areas. With our present formulation this need not worry us too much, however. Potential migrants from any county would face the same array of alternative earnings opportunities with the proviso that they would, of course,face different costs of moving to particular locations related to distance. Provided these differential costs are corrected for, then the attractiveness of the income differential can be represented by the wage rate in the sending region alone. The inclusion and formulation of the distance variable attempts to capture this aspect of migration decisions.(37)

An alternative to migration from the rural labour market to another county, the kind of migration we can to some extent measure, would be to

an urban labour market in the same county; the attractiveness of this alternative source of employment opportunities is somewhat imperfectly measured by the amount of urbanisation in the home county, as is common in these kinds of model. The size of the population is included as a precaution against heteroscedasticity and as a further measure of the likely richness of the menu of alternative opportunities.

The role of the enclosure variable requires slightly more detailed discussion. The rationale for its appearance is in terms of its impact on the likelihood of a labourer being able to secure employment at a given wage rate and hence on his expected earnings. The argument is based on a hypothesis about the workings of the rural labour market in the first half of the nineteenth century, which is that wage rates did not adjust at all quickly to equilibriate the supply and demand for labour and that this underlies the common observation of a

"permanent surplus of labour in the countryside."(38)

In such a situation the effects of enclosures on the demand for labour might well appear through the existence of a disequilibrium with involuntary unemployment in the rural labour market rather than through the establishment of a new equilibrium wage rate. If it were hypothesised that enclosures tended to lower (raise) the demand for labour at a given wage β_5 would be predicted to be positive (negative).

The results of the regression were as follows.

$$\log \frac{gm}{b} = \underset{}{10.140} - \underset{(-3.943)}{0.212 \log d} - \underset{(-4.262)}{0.184 \log s} - \underset{(-0.326)}{0.001 \log u}$$

$$- \underset{(-2.612)}{0.529 \log w} + \underset{(3.017)}{0.002 \log e} \qquad \bar{R}^2 = .746 \qquad F\,(5,27) = 19.786$$

Before considering these results it is worth stopping to think about the possible problem of simultaneous equations bias. The coefficient on the wage rate would seem to be the most vulnerable as wage patterns might to some extent be a result as well as a cause of migration. Fortunately there are reasons for believing that this is not a serious problem in addition to the earlier a priori discussion of the imperfections of labour markets in this period. First, the rank order correlation coefficient between wage rates reported in Bowley for the relevant counties in 1833 and 1851 is 0.75. Secondly, Jack observes of Britain even later in her history that

> "The dominant characteristic of regional earnings differences is that they are relatively stable ... population movements do not historically seem to have been sufficient to offset exogenous changes which have perpetrated the conditions which led to migration ..."(39)

Thirdly, the outcome of a rather unsatisfactory attempt by the author to estimate a small simultaneous model of rural labour markets using tax statistics to identify the model, was to leave the estimated coefficients in the above equation little changed.

The results of the estimation yield the expected signs on the first four coefficients. A positive association between outmigration and enclosure is also observed and this would appear to be in distinct contrast with the conventional wisdom derived from Chambers and with White's findings. The coefficients are generally significant, including the enclosure one, but excluding the urbanisation coefficient whose failure to achieve significance may be a result of collinearity with the size variable.

There are grounds for preferring these results to White's. First, this specification seems clearly superior <u>a priori</u> and meets the criticisms

levelled at White's by Tomaske. Secondly, it uses a measure of migration much less subject to mismeasurement. Thirdly, the much less complete inquiry into migration of the 1841 census can be used to obtain evidence which is not inconsistent with the findings.

For that year parish breakdowns are available of the fraction of the population born in other counties. If parliamentary enclosure tended to be a stimulus to outmigration one might expect to find on average a smaller fraction of the population of parliamentarily enclosed villages born outside the county. This was investigated for the villages of Table 2 with the results shown in Table 3; they tend to support rather than refute the results of the regression.

Table 3

	Proportion of Residents not Born in Same County		
	Enclosed 1797-1816	Not Parliamentarily Enclosed	t statistic
Bedfordshire	.139	.149	0.43
Berkshire	.111	.138	1.44
Cambridgeshire	.119	.170	2.26**
Lincolnshire	.076	.057	1.51
Norfolk	.035	.043	1.21

Source, 1841 Census, Parliamentary Papers

If we attempt an interpretation of the regression results in the context of the substantive issues of the relationship between enclosures and migration there are several points which can be made.

(i) Chambers' argument that the institutional

structure of different agricultural districts was irrelevant to the rate of outmigration does not receive support; the rate of outmigration was found to be positively associated with the proportion of the county enclosed parliamentarily after 1801.

(ii) If one were to perform Goldberger's test[40] on the relative importance of the independent variables in explaining the variance of the dependent variable, then on a normalised scale s would rate at 32 parts out of 100, d at 27, e at 21, w at 17 and u at 3. In other words enclosure ranks as less important than geographic location but more important than the wage rate.

(iii) It remains true that rural-urban migration was everywhere high in this period. The average probability that an adult of 20 years or over would in 1851 not reside in the county of his birth was 0.35 and this must substantially understate the extent of rural-urban migration. Chambers might well argue that, in the light of the generally high migration, the quite rapid natural increase in industrial areas and the fairly low elasticity of outmigration to enclosure, the essence of his point that factors other than enclosure, such as population growth, were more important as driving forces in the supply of labour to industry after 1801 remains valid.

(iv) This model of migration behaviour is not capable of distinguishing what factors underlay the somewhat greater migration from the enclosed counties or when the greater flows took place. It could be a greater natural increase of population. On the other hand it could be that in parliamentarily enclosed villages there was slightly lower demand for labour; that might reflect the short term impact of enclosure or alternatively that these areas took to mechanisation more rapidly in the years prior to 1851. No doubt other possibilities can be hypothesised and some new detailed micro studies appear to be called for.

V.

This paper certainly does not present evidence which would justify any crude mass compulsory expulsion of labour by parliamentary enclosure thesis. It does, however, raise what appear to be very serious doubts on the validity of the conventional wisdom about enclosure and labour supply in the early nineteenth century as expressed by Chambers, Jones or Landes. In particular the following propositions have been advanced.

(i) When the various issues which are often confused are disentangled, it can be said that agricultural employment increased in all types of villages but Chambers evidence cannot be used to support the inference of relatively labour using improvement in the villages enclosed by act of parliament.

(ii) The claim that population generally grew more rapidly in parliamentarily enclosed villages is erroneous.

(iii) At the county level there was a small but perceptible positive association between enclosure of common fields and outmigration.

This is not the story our textbooks currently tell.

Footnotes

(1) J. D. Chambers, "Enclosure and Labour Supply," Economic History Review, 2nd ser. V (1953), 336.

(2) Ibid., p. 323.

(3) Ibid.,pp. 332-333.

(4) Ibid., p. 338.

(5) Ibid., p. 339.

(6) Ibid., p. 338.

(7) M. H. Dobb, Studies in the Development of Capitalism (London, 1946), p. 223.

(8) Ibid., p. 226.

(9) Ibid., p.231.

(10) E. L. Jones, "Introduction," in E. L. Jones (ed.), Agriculture and Economic Growth 1650-1815 (London, 1967), pp. 23-24.

(11) D. S. Landes, The Unbound Prometheus (London, 1969), p. 114.

(12) Ibid.

(13) This point has been cogently argued in W. Lazonick, "Karl Marx and Enclosures in England," Review of Radical Political Economics, VI (1974), p.29.

(14) J. D. Chambers and G. E. Mingay, The Agricultural Revolution 1750-1880 (London, 1966), pp. 98-99.

(15) B. D. Baack and R. P. Thomas, "The Enclosure Movement and the Supply of Labour During the Industrial Revolution," Journal of European Economic History, III (1974), 415.

(16) Ibid., p. 423.

(17) It has been estimated that overall agricultural output rose by 40 per cent between 1801 and 1851, whereas the labour force in agriculture rose by only about 25 per cent; P. Deane and W. A. Cole, British Economic Growth 1688-1959 (Cambridge, 1962), p. 142, p. 166.

(18) For example, Deane and Cole, British Economic Growth, p. 272.

(19) For example, Deane and Cole, British Economic Growth, p. 276. See also B. A. Holderness, "Capital Formation in Agriculture," in S. Pollard and J. P. P. Higgins, (eds.), Aspects of Capital Investment in Great Britain 1750-1850: A Preliminary Survey (London, 1971), pp. 159-183.

(20) Chambers, "Enclosure and Labour Supply," p. 323.

(21) For a detailed exposition of an argument of this kind see J. S. Cohen and M. L. Weitzman, "A Marxian Model of Enclosures," Journal of Development Economics, I (1975), 325.

(22) Communist Party of Great Britain, Enclosure and Population Change (London 1957), pp. 12-13, and p. 21.

(23) For example, Lazonick, "Karl Marx and Enclosures," pp. 39-40.

(24) L. J. White, "Enclosures and Population Movements in England, 1700-1830," Explorations in Entrepreneurial History, VI (1969), 175-186.

(25) Ibid., pp. 175-176.

(26) J. A. Tomaske, "Enclosures and Population Movements in England, 1700-1830: A Methodological Comment," Explorations in Entrepreneurial History, VIII (1971), 223-227.

(27) For a survey of some of the literature using this approach see M. J. Greenwood, "Research on Internal Migration in the United States: A Survey," Journal of Economic Literature, XIII (1975), 397-433. The papers on nineteenth century Britain are M. J. Greenwood and L. B. Thomas, "Geographic Labor Mobility in Nineteenth Century England and Wales", Annals of Regional Science, VII (1973), 90-105, and R. K. Vedder and D. Cooper, "Nineteenth Century English and Welsh Geographic Labor Mobility: Some Further Evidence," Annals of Regional Science, VIII (1974), 131-140.

(28) The counties were chosen to omit the heavily industrialised and metropolitan receiving regions, i.e. Surrey, Kent, Middlesex, Lancashire, Warwickshire and Yorkshire.

(29) 1851 Census, Parlimantary Papers, 1852/3 vols. LXXXV and LXXXVI.

(30) Calculated from D. P. Bickmore and M. A. Shaw, The Atlas of Britain and Northern Ireland (Oxford, 1963).

(31) 1851 Census, Parliamentary Papers 1852/3 vols. LXXXV and LXXXVI.

(32) Figures communicated privately by Mr. C. M. Law of Salford University and based on the definitions developed by him in his paper, "The Growth of Urban Population in England and Wales," Transactions of the Institute of British Geographers XLI (1967), 125-143.

(33) A. L. Bowley, Wages in the United Kingdom in the Nineteenth Century (Cambridge, 1900), p.145. These figures were preferred to those given for 1851 on grounds of comprehensiveness.

(34) Calculated from G. E. Slater, The English Peasantry and Enclosure of Common Fields (London, 1907), pp. 138-152.

(35) See the discussion in M. Levy and W. Wadycki, "Education and the Decision to Migrate: An Econometric Analysis of Migration in Venezuela," Econometrica, XLII (1974), 378-379.

(36) See the interchange between L. Neal, "Deane and Cole on Industrialisation and Population Change in the Eighteenth Century," Economic History Review 2nd ser. XXIV (1971), 643-647 and W. A. Cole, "Rejoinder," ibid., pp. 648-652.

(37) Various other distance variables were tried which did not yield materially different results.

(38) E. J. Hobsbawm and G. Rudé, Captain Swing (London, 1969), p. 43

(39) A. B. Jack, "A Short-Run Model of Inter-Regional Migration," Manchester School, XLII (1970), 15.

(40) A. S. Goldberger, Econometric Theory (New York, 1964), p. 197.