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RICARDIAN ECONOMICS AND THE ECONOMICS OF DAVID RICARDO

By D. P. O'BRIEN

THE interpretation of Ricardo's work is not easy. Some of the best minds in the economics profession have bent their attention to it. A picture of some internal consistency, which showed Ricardo to be a very powerful theorist, had eventually emerged. But now an enormous book by Professor S. Hollander *The Economics of David Ricardo*,[1] which challenges this picture, has appeared. There should be no misunderstanding about the magnitude of the challenge which Professor Hollander is making; he suggests that almost every recent commentator on Ricardo, however eminent, has misinterpreted Ricardo's work so that the book is nothing less than a full scale frontal attack on the existing body of Ricardo scholarship.

There is no new evidence: virtually everything to which Hollander refers in Ricardo's work is in the Sraffa volumes. Hollander has had, however, the benefit of working with the magnificent Sraffa Index which was not published until 1973.

It is undoubtedly a very difficult book to read; but the reasons for this are hard to isolate at first.[2] For the book is baffling. This means that there is a very real danger of doing less than justice to it. It would be easy to say that the trouble is that Hollander uses only words and no algebra; and it would also be satisfyingly modish. I am not, however, sure that the matter is that simple. Words can serve very well. One has only to turn to the work of Popper, or, to take a recent example, Kolakowski, to see how well words can be used. But they do not seem to do very well for Ricardo—at least not here. Yet this is a serious matter for Hollander. The algebraic models of Ricardo are, if I understand the book correctly, comprehensively rejected; but the words representing what is apparently the true interpretation, seem difficult to follow.

The difficulties are compounded by the fact that at times the very subject of the argument becomes obscure. For instance the account of Torrens' Capital Theory of Value (pp. 208–18, and 257) is extremely laborious and does not really make clear the issues involved. Around page 320 the thread again disappears. We start off with waiting as the origin of the agio, and then find that the discussion is about the supply conditions of capital—which is certainly related but not the same thing. The discussion of Ricardo on machinery also seems to be extremely long drawn out (pp. 339 ff) after an earlier foray into the matter (pp. 298–9).

[1] Hollander (1979).

[2] For an account of similar difficulties with Hollander's earlier book on Smith see Corry (1974).

Yet another problem lies in the quite exceptionally free use of italics. As a matter of habit Hollander italicises those words in each quotation which support his particular interpretation of the passage. A few examples will suffice. On p. 613 the words "in time" are italicised in a discussion of the prospect of the stationary state. The words are not however italicised by Ricardo, and in context they merely meant 'not immediately'. As italicised, however, they give the impression of a long run perspective which is not in the original passage—at least I do not read it that way. On p. 619 the words "I am by no means ready to admit that we may not have a more limited measure of prosperity not withstanding the continued operation of our Corn Laws, and the continued existence of our debt" are italicised, giving them far more prominence than they had in the original passage. Hollander is perfectly honest about his addition of 'emphasis'; but the end result is rather confusing and increases the difficulty of interpretation. Hollander does not confine himself to italicising Ricardo. At the end of a confused (or at least confusing) section on profits we find italics used for the conclusion that:

> "*Nevertheless, it appears that there is nothing in the main body of Ricardian analysis which precludes the notion of interest as a reward for abstaining from present consumption*". (p. 326).

The use of italics here seems to me to imply a much stronger conclusion—that Ricardo held such a theory, at least incipiently—than the words (or the preceding text) would justify.

The content of the volume seems to me—perhaps not surprisingly—to be highly contentious. While it is not difficult to agree that the equation of Ricardo with the work stemming from Sraffa's *Production of Commodities* (Sraffa, 1960) is mistaken, it seems to me that, in a number of respects, Hollander's text, which has as its aim to establish that not only the post-Sraffian but indeed almost all other interpretations of Ricardo are wholly or partly mistaken, is equally unpersuasive.

In two rather special senses of the word this could be said to be a reactionary book: on the one hand its interpretation of Ricardo is rather in the spirit of J. H. Hollander; and, on the other, it is reacting against the extraordinarily garbled version of the history of economic thought which has emerged from Cambridge (England), particularly following *Production of Commodities.* I sympathise with Hollander's recoil from the latter—including such propositions as the one that Ricardo saw profit as an exploitation income. But so do authors as diverse as Terence Hutchison and Mark Blaug, both of whom have published on this matter; and both these authors (together with almost everyone else who has written on Ricardo) come in for criticism in the book, essentially for failing to react as far as Hollander. But this reaction has taken him so far that the picture of Ricardo which he produces is not one which most people will find easy to accept.

Hollander's thesis

Despite these difficulties, however, I think that a thesis—or rather a series of theses—can be detected in the book. My interpretation of what Hollander is trying to argue is that it involves the following propositions.

1. Ricardo's work was in the centre of the Classical mainstream and not a Ricardian detour.
2. Ricardo's method was identical with that of Adam Smith.
3. Ricardo's profit theory did not originate in concern over the Corn Laws.
4. The origin of Ricardo's treatment of profits and wages lies in his criticism of Adam Smith's view that a rise in wages increased prices except in agriculture where lower rents resulted.
5. Ricardo made free use of special assumptions which should not be taken to represent a model.
6. The use of models in interpreting Ricardo is not helpful.
7. The corn-input–corn-output model was not used by Ricardo.
8. Ricardo relied on rising *money* wages from 1814, not the corn model, to produce falling profits.
9. The corn model of the *Essay on Profits* was merely a 'strong case'.
10. Ricardo did not regard the Invariable Measure as important.
11. Ricardo had a value theory which was essentially the same as that of Alfred Marshall.
12. In particular Ricardo had a developed theory of demand.
13. This theory of demand was essentially Marshallian.
14. Ricardo's work involved a number of general equilibrium considerations and has links with that of Walras.
15. In particular distribution and pricing are interdependent and not sequential.
16. Wages were not viewed as being at subsistence nor were they fixed in commodity terms.
17. Ricardo relied on marriage rate variation as the control mechanism for population.
18. Ricardo did not think in terms of a pre-accummulated wage fund.
19. The notion of a fixed corn wage was not part of Ricardo's argument.
20. Ricardo's monetary theory was derived from (and close to) that of Adam Smith.
21. Ricardo's monetary theory was not a simple rigid Bullionist position but highly complex and sophisticated in a way not previously recognised.
22. Ricardo was not a quantity theorist in the conventional sense.
23. Ricardo laid emphasis on such matters as variations in velocity of circulation, and the short term transitory effects of changes in the money supply, and allowed for the possibility of temporary excess demand for money.

24. Ricardo believed that the same traded good could sell at different retail prices in different national markets.
25. Ricardo's analysis of the transfer problem is far more subtle than previously recognised.
26. Ricardo gave great weight to the transitional effects which might be associated with abolishing the Poor Law.
27. Ricardo did not forsee a rising rental share.
28. Ricardo did not take the prospect of a stationary state seriously.
29. The Corn Laws did not pose serious problems, in Ricardo's view, for the general level of profit. He merely exaggerated the problem in the House of Commons.
30. Ricardo was primarily concerned about the Corn Laws because of the associated price fluctuations and allocative loss.
31. Ricardo did not attach weight to the possibility of class conflict.
32. The Dissenters from Ricardo merely failed to recognise the full range of his theory—their dissent was unnecessary.

Interpretation

Hollander rejects the Stigler position on textual exegesis—that we reconcile problems of interpretation by seeing how many of the author's main theoretical conclusions can be deduced from any one interpretation. If I understand him correctly, this is on the grounds that we cannot be sure what the main theoretical conclusions *are* until we have solved the problem of exegesis. This is all of a part with throwing away the explicit Ricardian model on the grounds that it is a strong case. But in fact Hollander has gone beyond this to develop his own (very individual) view of Ricardo's work; and in his evaluation of conflicting evidence he seems to me to have adopted precisely 'Stigler's Rule' though taking his 'Ricardo' and not Stigler's. At the same time he seems to have allowed himself to indulge in flights of what might be called 'negative imagination'—because Ricardo did not actually say anything which Hollander regards as inconsistent with (e.g.) marginal productivity theory, it is possible that he (Ricardo) may have had it at the back of his mind, even though there is not actually any textual evidence for this.

Hollander also attaches great weight, in arriving at his 'Ricardo', to the qualifications conceded by Ricardo to his basic view of economic relationships. In fact, because he ostensibly rejects Stigler's position, he is free to attach whatever weight he desires, to particular statements by Ricardo. This freedom Hollander uses. In particular, a good deal of weight is attached by Hollander to his interpretation of correspondence. Thus he concedes that, although in correspondence Ricardo "allowed explicitly for variations in money wages due to productivity increases in manufacturing" he did not "formally" do so in the *Essay on Profits*, but denies that this meant that agricultural profits were given a determining role (pp. 145–6). Thus he is relying on correspondence after the *Essay* was published. This raises a problem because once Ricardo stepped outside his model his predictions did not always follow. That is why it is important for Hollander to attempt to show that Ricardo did not attach much weight to his model. Indeed there was a sort of guerilla warfare in which every time Malthus succeeded in drawing Ricardo from the stronghold of his model he inflicted casualties. Once we step outside the corn model then, arguably, the Ricardian system begins to collapse. As Hollander notes:

> "There obviously exists a one-to-one relationship between the share of labour in the *value* of output and the share of labour in *physical* output in the case where only one product exists. But with a variety of products the one-to-one relationship is not self-evident and Ricardo merely leaves us with an assertion that it holds good. An 'act of faith' was required to accept the proposition that an increase in the labour embodied in wages must necessarily entail an increase in the share of *every* commodity which is devoted by each employer to wage payments. This act of faith is apparent in the ...response to Malthus's critique of his procedures". (p. 252).

Again Hollander agrees that:

> "Ricardo jumped to the conclusion that because in the one-product case an increase in labour input in wage payments implies both an increase in labour's share in *value* and in physical product, the same must be true in the multi-product case as well." (p. 253).

However, Hollander continues:

> "That Ricardo was obliged to revert to the one-commodity case when the analytical difficulties of the more complex model became too great, *must not, however, be interpreted as disinterest in the complex case.*" (p. 253, italics in original).

Hollander clearly believes that Ricardo only used the model on an *ad hoc* basis without taking it very seriously. This leads to the disturbing conclusion that Ricardo's use of the corn model in connection with improvements (I, pp. 79–82)[3] is, despite the attention which it has attracted subsequently, and despite the conclusions which Ricardo himself drew from it, just another piece of *ad hoc* theorising.

More generally, without a corn model, Ricardo's inverse relationship between wages and profits is much more difficult to establish—hence the ambiguity of J. S. Mill's treatment. But this inverse relationship is virtually all that is left after Hollander has thrown out everything else. Of course if that *is* all that is left, it is easier to dismiss Ricardo's critics (a point to which I shall return below) and argue that his work leads directly to that of

[3] References of this form indicate passages in Sraffa (1951–73), where the Roman numeral is the volume number.

Marshall. But such a position can only be maintained at the cost of a picture of Ricardo which I, for one, find hard to recognise.

Nonetheless Hollander feels that Ricardo was often more consistent than he appears. Thus (pp. 248–50) we have an account of what appear to me to be quite significant vacillations in Ricardo's views. For Ricardo had originally accepted that taxes could raise prices (Hollander p. 108). But in 1817 he applied the quantity theory to show than an increase in wages could not affect general prices without an increase in the money supply. Then in 1821, by assuming, in contrast to his normal assumption of zero price elasticity, a price elasticity of demand for corn equal to unity, Ricardo was able to show that a tax on corn could raise prices. But this kind of *ad hoc* theorising does not bother Hollander because he does not see it as a departure from a limited model; rather the modelling apparent in Ricardo's work was itself *ad hoc.*

Thus we can see that Hollander starts from a different position from most of those with whom he disagrees. He is not looking for a consistent model, in the sense in which this term is normally used in relation to Ricardo, and he is not impressed by interpretations which are consistent with a particular model.

Ricardo and Smith

A major theme in Hollander's work is the methodological identity of Smith and Ricardo. Indeed Hollander virtually refuses to accept that there is *any* distinction between the two methodologies. (See especially p. 654). The equation of the two seems to me one of the most questionable premises on which the book rests; and it has come about at least partly because Hollander persistently gives more weight to the qualifications which Ricardo made to his basic vision of economic relationships, especially in Parliamentary speaking, than to the vision itself.[4] Ricardo was not well thought of in Parliament—as is well-known Brougham said that he spoke "as if he had dropped from another planet" (V pp. 56, 85)—and it seems to me that Ricardo had every incentive to play down his analytical conclusions for a Parliamentary audience. But Hollander attaches great weight to the Parliamentary material.

Essentially Hollander is arguing that the role which Ricardo afforded to models was no greater than that afforded by Adam Smith; that the models are occasional strong cases and that we have to look to the main body of the argument, as with Smith. But this is very difficult to agree with. I can recall only one example in Smith of the kind of reasoning to which Ricardo resorted habitually—the case of the passing on of a tax on wages. I suspect

[4] Henceforth I shall refer to this vision as Ricardo's model.

that the fact that Hollander has got this particular piece of Smith out of perspective lies at the root of the version of the history of economic thought which he presents. For he is then able to build upon this and present Ricardo as correcting that part of Adam Smith, while offering the rest uncorrected.

In fact, the methodological identity of Smith and Ricardo seems to me difficult to accept. Smith used short chains of reasoning in the Scottish tradition, while Ricardo essentially used 'as if' methodology but with the status of verification somewhat unclear. Smith had continuous resort to factual material while Ricardo's 1815 *Essay* and 1817 *Principles* contain no facts at all. There is a clear contrast between Ricardo's treatment of taxation and that of Smith. It does not seem helpful to blur over issues of this sort in order to establish the separate point that Ricardo would have had no use for the methodology of Sraffa's *Production of Commodities.*

In part Hollander's view of methodological identity is based upon a simple misunderstanding—that there ever *could* be a wholly inductive methodology. Once he finds that Smith ruled out a *wholly* inductive methodology he feels able to conclude that Smith's methodology was the same as that of Ricardo. Smith is presented as an abstractionist; and this view is supported by a ragbag of quotations from around 1800 concerning contemporary views of Smith's methodology which seem to prove nothing. (Pp. 27–40). But anyone who believes that Smith and Ricardo had an identical methodology should ask themselves the simple question whether Smith could ever have written the *Essay on Profits.*

Hollander is of course anxious to reject the charge, stemming from Schumpeter, of the existence of a Ricardian Vice in methodology; but it is strange that in this encyclopaedic treatment there was not room for a discussion of Ricardo on tithes and taxes on raw produce which in fact show the mechanical nature of his analysis very well.

The supposed identity of Smith and Ricardo in methodological terms enables Hollander to reach two other rather surprising conclusions. The first is that Ricardo and Malthus were really very close—a conclusion which can only be reached not only by equating Ricardo with Smith but also by throwing away Ricardo's models. (Pp. 666–7). Secondly, and more seriously, it enables him to defend Ricardo against the charge of having made predictions that failed—by arguing that Ricardo did not make predictions.

> "I do not believe that Ricardian theory should be interpreted in terms of specific predictions regarding the actual course of events, for Ricardo was thoroughly aware that all depends upon the satisfaction of the *ceteris paribus* conditions...upon which the formal model is constructed." (p. 639).

This leads (p. 640) to a defence of Ricardo which is either tautological or involves admitting that his predictions were falsified. Ricardo was only trying to say what would happen if certain conditions were fulfilled, in Hollander's view. Now either (i) it did not happen because other things (not fully specified *ex ante*) were not equal—which is really tautology; or (ii) it did not happen even though the main '*if*'—the continued existence of the Corn Laws—was satisfied. Then we have falsification. Hollander's main defence however must rest upon the proposition that, because Smith and Ricardo are methodologically identical, Ricardo, like Smith, had two (or *n*) way causation rather than the one-way models with which he is normally associated. Hollander's position (pp. 660, 647, 656) appears to be that Ricardo did not adopt his model because it had predictive content; rather, its form was dictated by the desire to combat Smith's investment-opportunity-exhaustion model—Ricardo being, according to Hollander as we shall see, an extreme optimist about economic growth—and/or by '*dissatisfaction on purely logical grounds*' (p. 647 Hollander's italics) not only with this notion but also with the idea of a dependence of the price level upon profits and wages. But in any case, if there is no specific model there are no specific predictions.

I found Hollander's account of Smith's own work rather odd. I cannot recognise the account of the key features of the Smithian system given by Hollander and which appears to be based on an interpretation of some passages in the Digression on the Price of Silver which do not seem able to bear the interpretative weight placed upon them. All that I read in the Digression is what it purports to be: a digression on the price of silver which cannot avoid the question of its international distribution but does so rather shakily and without the key material on price-specie-flow—even though we know from Smith's lectures that he understood it.

Moreover Hollander attaches far too much importance to Smith's material on the effect of a tax on wages on prices. This was just a particular theory of incidence which occupies no great space in the *Wealth of Nations*. Hollander also commits himself to the view that "the corn-export bounty [is] the issue which...provides the key to any evaluation of the status of Smithian economics in the early 1800s" (p. 31). The emphasis upon the corn price and the general price level in Hollander's account of Smith makes it possible to represent Ricardo as continuing the work of Smith but correcting the mistaken analysis. This allows the rest of Smith's work to be smuggled in largely by implication. It is however upon this last that Hollander bases his 'Walrasian' claims for Ricardo's analysis.

Ricardo's profit theory

It is Hollander's contention that Ricardo's theory of profit developed before the debate on agricultural protection and concern with the Corn

Laws. There seem to be two grounds for this argument. Firstly, the view that the Corn Laws did not become a major issue until 1814; secondly, some speculation, originating in part of an article by Tucker, about the Malthus-Ricardo correspondence in 1813.

Neither of these seems to me persuasive. Firstly, although Corn Laws were not particularly contentious until the latter part of the Napoleonic Wars, this was only because corn prices were so high that even the quite stiff level of protection introduced in 1804 was ineffective. Corn prices were continuously high from about 1795 onwards and the effect was particularly marked from 1808. From 1810 to 1813 the corn price level was nearly double the 18th century level and public concern was reflected in petitions and in the setting up of the Select Committee of 1813. There had been a record price in 1795 and great suffering. Riots followed. It is from this time that the Speenhamland system dates. There was a deficient harvest in 1799 and food riots at the end of the year. By July 1800 the price of corn was about two and a half times the 18th century level and by March 1801 it was three times that level. There were food riots again in 1804. The problem of high corn prices was then one which was present throughout most of the Napoleonic Wars and the extension of domestic cultivation a matter of some interest.

In an interesting article in 1954 Professor G. S. L. Tucker suggested a number of possible origins of Ricardo's theory of profits (Tucker, 1954); one of these was the possibility that it originated in a suggestion by Malthus (not recorded, and Tucker had to rely on material in Malthus' *Principles* of 1820) in which Malthus, following Smith, argued that foreign trade, by widening the market, increased profits. Tucker himself, however, also pointed out that *prior to* the August 1813 letters on which this speculation is based, there had been a debate in the House of Commons (15th June 1813) on the general question of agricultural protection. Hollander nonetheless feels that Tucker's suggestion about foreign trade is sufficiently convincing to provide an explanation of the origin of Ricardo's theory of profit *independent of* corn prices and agricultural protection. However, the scraps of correspondence, related tenuously to material not appearing until 1820, do not seem to me to provide any convincing evidence for Hollander's thesis. Indeed, both the letters of Ricardo which he quotes reject an increase in foreign trade as *evidence* that profits had increased—which is a different matter from *causing* profits to increase. So we have several reasons for being chary about accepting Hollander's view; corn prices had been an issue for 18 years by the date of the correspondence; the correspondence does not support the conclusions which are drawn from it; and the Corn Laws were already an issue in Parliament before the date of the correspondence.

Of course it is highly likely that Ricardo decided that wages and profits moved inversely at quite an early stage. But this hardly amounted to a new theory of profit. The obvious Bullionist objection (that either the money supply or velocity must rise if cost increases are to raise the price level) to Smith's cost-push view of inflation hardly amounts to laying the foundation of Ricardo's later models. Because Ricardo was a Bullionist he would, in his typically single-minded way, have rejected all explanations for price rises that did not involve increases in the money supply.

But in any case, whether Ricardo's theory of profit developed from considerations apart from the high price of corn—and this seems to me highly debatable—the fact is that the full Ricardian system, however far it stretched back (which is one thing) and however free in origins from the influence of the high price of corn (which is quite another) undoubtedly related to a high corn price and the potential role of the Corn Laws in achieving this.

Profit determination

Commentators have seen in Ricardo's work a number of different explanations of the way in which profits in agriculture affect those in the rest of the economy. These include a rise in the price of the manufacturing input—capital in the form of agricultural wage goods—as the corn price rises and agricultural profits fall; a rise in the price of the manufacturing labour input because of a rising price of subsistence; capital moving out of agriculture into manufacturing following a fall in agricultural profits; and a rise in the price of wheat in terms of the invariable measure depressing the relative prices of manufactures and manufacturing profits. The textual support for these interpretations is variable; the second and fourth are clearly to be found, and the third does appear in the *Essay* of 1815. The first explanation is that associated with the Sraffa-Dobb introduction to Ricardo's *Principles*; and Hollander takes very strong exception to it. He is satisfied that the causality works solely through rising money wages.

Such a view encounters two difficulties. The first is that it raises problems of valuation some of which the corn-input corn-output model avoids. Indeed Hollander is forced to conclude

> "that Ricardo did not intend by his formal statement to maintain that the profit rate in agriculture literally determines the rate elsewhere, but rather that agricultural productivity alone influences profits generally in the event that corn alone enters the wage basket; and, secondly, that it does so by way of the effect of the price of corn upon money wages. According to this view, in the event that the wage basket contains manufactured goods, an alteration in the prices of manufactures also may alter the general profit rate by way of precisely the same mechanism." (p. 145).

Such an interpretation of the role of agricultural productivity has to contend with a rather serious problem. It is that Ricardo apparently took the firm view, at least in the *Essay*, that agricultural profits *determined* the general rate of profit:

> "Nothing is more common than to hear it asserted, that profits on agriculture no more regulate the profits of commerce, than the profits of commerce regulate the profits on agriculture. It is contended, that they alternately take the lead; and, if the profits of commerce rise, which it is said they do, when new markets are discovered, the profits of agriculture will also rise; for it is admitted that if they did not do so, capital would be withdrawn from the land to be employed in the more profitable trade. But if the principles respecting the progress of rent be correct, it is evident, that with the same population and capital, whilst none of the agricultural capital is withdrawn from the cultivation of the land, agricultural profits cannot rise, nor can rent fall: either then it must be contended, which is at variance with all the principles of political economy, that the profits on commerical capital will rise considerably, whilst the profits on agricultural capital suffer no alteration, or, that under such circumstances, the profits on commerce will not rise."
>
> (IV, pp. 23–4).

Moreover we have (I, pp. 119–20) the argument that manufacturing innovation will be offset by a capital inflow from other sectors of manufacturing so that profits are lowered again. Even when Ricardo concedes that a fall in the prices of non-agricultural wage goods will lower wages and that this will raise profits, agriculture is again the agency.

> "If by foreign commerce, or the discovery of machinery, the commodities consumed by the labourer should become much cheaper, wages would fall; and this, as we have before observed, would raise the profits of the farmer, and therefore all other profits."
>
> (IV. p. 26n).

The second difficulty is that it is not clear to me that Ricardo would have been very happy about reliance on money wages. I have in mind in particular the statement that

> "Profits, it cannot be too often repeated, depend on wages; not on nominal, but real wages; not on the number of pounds that may be annually paid to the labourer, but on the number of days' work, necessary to obtain those pounds."
>
> (I, p. 143).

Of course this last quotation occurs in the context of a discussion of international trade and it is not conclusive in relation to the particular problem under discussion here. But it certainly raises a question mark in my mind, particularly as Hollander uses material from this same chapter on foreign trade in an attempt to explain Ricardo's belief that a rise in profits outside agriculture could not raise profits generally (pp. 145, 297–8).

Value theory

The picture of Ricardian value theory which Hollander presents is one which will surprise many readers. The first point to note is that, in his view, Ricardo did not attach very much importance to the Invariable Measure. Now there is no doubt that Ricardo's discussion of the Invariable Measure was confused as Hollander (pp. 197–201) is able to demonstrate. His discussion is not exhaustive; and I am far from clear that he has noted that the measure of value has to change as the composition of total output changes, if it is to remain a commodity produced with the average capital/labour ratio. (See pp. 218, 223–7; Hollander deals with factor substitution but (apparently) with a basket of goods in fixed proportion.) But all this does not mean that the Invariable Measure was unimportant to Ricardo. Failure to solve a theoretical problem does not mean that the problem is automatically regarded as unimportant. It is particularly noteworthy that Hollander devotes little attention to the posthumous paper on Absolute and Exchangeable Value in which the Invariable Measure is given a central role. It is perfectly clear (see especially IV, pp. 358–9) that the measure of value was of great concern to Ricardo. Yet Hollander does not seem to me to afford it much weight in his overall picture of Ricardo. It is in the posthumous paper that Ricardo makes the explicit assumption (IV pp. 405–6) that corn and gold have the same period of production—an assumption which Hollander admits (p. 214) is also implied in the *Principles* although at a later stage (p. 256 f) he appears to object to others seeing this implication.

But if the negligible role afforded by Hollander to the Invariable Measure will surprise some readers they are likely to be even more surprised to learn that "Ricardo's treatment of demand turns out to be particularly sophisticated" and that previous formulations which have not attached much weight to this have been mistaken (p. 273). To regard the material upon which Hollander bases this assertion as either important or sophisticated—especially when compared with Senior, let alone Longfield—seems to me highly questionable. From a few scattered remarks he attempts to credit Ricardo with a sophisticated understanding of elasticity, when all that Ricardo had was a commerical man's intuition. Hollander's only support for his view appears to be a quotation (I p. 241) which merely says that the response of individuals to a rise in price is not uniform, one quotation from a speech of 1822 which indicates that total expenditure at first increases then diminishes as price falls, and some other even more fragmentary material. Yet Hollander even goes so far as to claim (p. 277n) that "Ricardo must be considered as one of the 'originators' of the elasticity concept".

But he goes further. For in a subsequent section (pp. 285–93) he seems to be crediting Ricardo with an essentially Marshallian analysis of demand. Yet in this discussion he refers only once (and that only in relation to a special case) to Ricardo's *Principles* chapter 30 which contains some rather key statements in relation to Hollander's thesis. Ricardo wrote:

> "It is the cost of production which must ultimately regulate the price of commodities, and not, as has been often said, the proportion between the supply and demand: the proportion between supply and demand may, indeed, for a time, affect the market value of a commodity, until it is supplied in greater or less abundance, according as the demand may have increased or diminished; but this effect will be only of temporary duration."
>
> (I, p. 382).
>
> "The opinion that the price of commodities depends solely on the proportion of supply to demand, or demand to supply, has become almost an axiom in political economy, and has been the source of much error in that science." (*ibid.*)

Of course, in agriculture the cost of production was variable—this could not be denied—and demand had a role in selecting the marginal unit. But demand was of zero *price* elasticity; and Ricardo's analysis really does not go beyond this. (See especially I, p. 385). Yet Hollander refers (p. 679) to "Ricardo's sophisticated appreciation of demand–supply technique."

Satisfied that Ricardo had a sophisticated understanding of demand theory, Hollander then employs this to defend Ricardo against the charge that his analysis of agricultural improvements left him with two profit rates in the industry. Now it is unfortunate that there is no systematic discussion of such improvements in Hollander's book. He uses no formal analysis in his discussion of this particular issue and this makes it difficult to be sure exactly what he has in mind. For Ricardo there were three kinds of improvement—labour saving, capital saving, and land saving. In the case of an improvement which saved capital and labour in fixed combination together, Hollander's argument is that the displaced demand would re-employ these factors elsewhere at the same rates as before. But suppose that the capital/labour ratio is variable, and that capital is saved, or that there has been a land saving invention. Then profit rates in agriculture should have risen because of the improvement so that even if some displaced factors are employed elsewhere there are still two profit rates. Now I *think* that Hollander is relying upon the idea that profits do not rise because farmers are subject to competition and they will bid up rents. But this is far from clear. The Stigler diagram (Stigler 1941 pp. 90-ln) in which the argument originated, does have increased factor rewards in agriculture. In this case, price will not fall in proportion to the factors released and thus the demand transfer which Hollander apparently envisages (pp. 294–5)—*and* believes that Ricardo envisaged—will not be sufficient to re-employ the factors even at their old rates of return let alone at the new increased rates of return. Hollander, it later turns out (p. 301), believes that profits will *not* rise in the agricultural sector. But I am not clear *how* this is supposed to happen; and it would have been helpful to have the matter treated analytically.

It is by imputing to Ricardo a 'sophisticated understanding of demand' that Hollander is enabled to interpret him in quasi-Walrasian terms. Indeed, on the basis of the material in his chapter 6, he feels able to imply (pp. 679–83) either that Ricardo had a general equilibrium system in mind or that he could have got his results from a general equilibrium system. While I am not sure whether he *could* have really done this, the fact that he *did not* do so seems to me indisputable as a matter of history of economic thought. Indeed this 'Walrasian' view of Ricardo fits ill with Ricardo's remarkable tendency to carve the economy up into one giant farm and one giant firm for the purposes of the corn model.

I feel that the explanation for all this must be over-reaction. To proceed from rejecting Sraffa's new system (and work associated with it) as truly Ricardian to asserting that "Ricardo's model involves the use of something akin to the equilibrium conception of marginalist theory in the context of distribution" (p. 688) seems to me going much too far.

Wages

1. *Subsistence*

Hollander firmly rejects the idea (p. 309) that Ricardo thought of wages as typically at a subsistence level. His view is flatly contradictory to the more or less unanimous view of the secondary literature, including that of St. Clair (1957, p. 120) whose book is still an excellent guide to what Ricardo actually said.

Although Hollander is dissenting from the vast majority of present-day opinion on Ricardo's wage analysis it is nonetheless true that Marshall also believed that wages would not be forced down to subsistence in Ricardian analysis. The argument about this has been going on, as Hollander notes, since Ashley's attack on Marshall (Ashley, 1891). The logic of the argument seems to me to be undoubtedly with the majority, unless we accept that the dubious marriage rate explanation of population control, discussed below, is either valid or important in the context of Ricardo's works as a whole.

In fact the material referred to in Hollander's own discussion of poor relief (pp. 559–66) suggests, to me at least, that Ricardo did indeed believe that wages were at subsistence though, in this context, he blamed the Poor Law for this. In turn, Ricardo approved of harshness in the administration of the Poor Law to stop population increasing too fast, and he was clearly in favour of the abolition of the Poor Law (pp. 563–5). His objections carried over even into private philanthropy. (Hollander seems to attempt to write-off Ricardo's hard line attitude on the Poor Law, on the grounds that prudence would miraculously develop once the Poor Law was abolished (pp. 569–70)).

Hollander commits himself to the view (p. 567–89) that Ricardo did not expect population to increase faster than subsistence, thus equating him with Senior. Yet, as Marian Bowley made clear in her classic study, Senior really had something to attack (Bowley 1937 pp. 311–12). Hollander bases a great deal of his interpretation on the observation in the *Principles* that subsistence may be variable and conventional. Yet it seems to me that one has to see Ricardo as a whole: and if one does then the usual conclusion seems to be valid, particularly as Hollander later concedes (p. 574) that it was Ricardo's opinion that wages 'tended' to be "depressed to the minimum subsistence requirements of the single labourer". For *why* did population increase in this way if the real limit was conventional subsistence? The married labourer was still at minimum subsistence; he had physical subsistence for himself plus the parish provision of physical subsistence (and surely Hollander is not implying that the parish supplied more than physical subsistence) for his family. Moreover Hollander quotes later, and in a different discussion (p. 584), a passage which seems to me to indicate clearly that Ricardo had subsistence wages in mind. "I limited my proposition to the case when wages were too low to afford him [the labourer] any surplus beyond absolute necessaries".

2. *Taxes on wages*

One of the difficulties with which Hollander's view that wages in the Ricardian system were not at subsistence has to cope is discovery of the mechanism by which taxes on wages are passed on. It has normally been assumed that taxes on wages were passed on via population variation because wages were at subsistence. It seems (Hollander pp. 378 ff) that Hollander starts by envisaging that there were variations in infant mortality assumed in Smith's work even when wages were not at subsistence. This is rather puzzling. Hollander then decides (p. 380) that the answer must lie in the postponement of marriage. Yet looking back over Hollander's references, I can find none which would support this interpretation of Smith. There is a short unreferenced quotation on page 377 but Hollander himself concedes that Smith did not lay much emphasis on this—and when one tracks the quotation down and finds it in context (*Wealth of Nations*, Cannan edition I, p. 88) it turns out that the opposite is true and that poverty is not significantly unfavourable to marriage and child-bearing though it is to infant survival.

Starting from a picture of Smith which does not seem to me to accord with the text, or with the later history of economic thought (for it was Senior who substituted 'fear of deficiency' for actual deficiency although Malthus from his second edition onward had paid attention to this point) Hollander then sets about crediting Ricardo with the same mechanism. On p. 381 he gives a quotation from Ricardo which seems clearly to involve physical subsistence. But then Ricardo is held, on the basis of his view that subsistence rates varied between countries, to have "placed somewhat more emphasis than did Smith upon the marriage rate in defining the relation between earnings and population growth" (p. 382). Since Adam Smith placed virtually no 'emphasis' on this matter, and since Ricardo did not appear to have mentioned the marriage rate in the material quoted here, I was not sure what meaning could be attached to Hollander's conclusion.

But Hollander does give four other references and on checking these do turn out to yield statements about variations in marriage rate as wages rise above subsistence. But this is not enough for Hollander's purposes. For he needs to establish that the prospect of variations in the marriage rate produce *changing expectations* and these are what produce the passing on of taxes on wages.

Now Ricardo himself seems clearly to envisage that a tax on wages will be passed on via the subsistence mechanism (I, p. 159). Indeed, he is so satisfied of the effectiveness of this mechanism that he feels that, because such a tax must then fall on profits, this makes it superior to an income tax, for taxing wages thus enables profits to be taxed without any form of enquiry (I, pp. 159–61).[5] It seems to me that some of the material, including some of that quoted by Hollander, indicates clearly that Ricardo was not arguing that a wage tax would be passed on if wages were not already at subsistence (e.g. Hollander p. 384; and I p. 118).

However, (pp. 386–9) Hollander sets out to demonstrate that the wage tax theorems do not depend upon the subsistence wage but upon marriage rate variation. But we very soon encounter a key problem. Hollander quotes Ricardo as saying: "Labour will, therefore, rise, because the demand continues and it is only by raising the price that the supply is not checked when wages are taxed (p. 387)." But the question is *how* does this come about. The answer must surely—though Hollander does not appear to appreciate the problem because he has rejected the view of Ricardo as a simpliste model builder—lie in Ricardo's habitual practice of telescoping the long run and the short run. For it can hardly be argued, even if we accept Hollander's view that Ricardo relied on the marriage rate variation to control population, that employers will raise wages simply because they *fear* a fall in the marriage rate or increased infant mortality. Yet this is what Hollander's argument seems to require.

[5] Hollander himself quotes one such passage on p. 404.

Hollander, it seems to me, fails to show that Ricardo's argument does not depend upon subsistence (whether physical, or conventional as affecting the marriage rate) let alone show that it does not all depend upon telescoping the long and short run. Of course it is possible to find a quotation in which Ricardo slightly qualifies his naive belief in the passing on of taxes on wages (Hollander p. 389); but, as noted above, he was also so happy about such taxes that he thought them superior to an income tax.

Finally (pp. 389–90) Hollander concedes that the 'telescope' exists and then tries to use, in Ricardo's defence, one of Ricardo's own naive pieces of modelling whereby the government demands labour with the proceeds of a tax on wages. The defects in this procedure were pointed out to Ricardo by his contemporaries. At last (p. 393) Hollander concedes: "The precise mechanism he [Ricardo] envisaged in the market remains difficult to grasp". However, he recognises the need for an expectations induced adjustment, for he goes on: "but it would appear that Ricardo allowed for a *forecast* by employers of the consequences of permitting real wages to decline—namely a reduced growth rate of labour supply—and their consequential decision to pay higher money wages unilaterally and thus short-circuit the otherwise lengthy process of adjustment." But the basis for Hollander's belief turns out to be one rather desperate concession by Ricardo when cornered by McCulloch (VIII, p. 196) over his 'government demanding labour with the proceeds of the wage tax' argument.

3. *The wage fund*

Hollander also argues that Ricardo did not use the concept of a pre-accumulated wage fund. Actually Hollander may be right here; but since the evidence which he produces (pp. 334–5) seems to me to show that Ricardo did not think the matter through, and since the wage fund was a straightforward deduction by McCulloch from the implications of Ricardo's reasoning, I am not at all sure how fair it is to blame the model builders for making the same deduction as Ricardo's contemporary.

4. *Fixed commodity wages*

Hollander also finds fault with the model builders for their attribution to Ricardo of a fixed commodity wage. Indeed, according to one of Hollander's italicised assertions:

> "*It is crystal clear that the fundamental prediction of rising money wages upon which so much depends in the Ricardian vision of expansion—particularly the fall in the profit rate—is made despite the decline in commodity wages which is assumed to occur.*"
>
> (p. 398 Hollander's italics).

To this reader, at least, the matter seems less then crystal clear however. Indeed Hollander has to concede in his next sentence that:

> "It is unfortunate that Ricardo chose, in the very next paragraph, to give the famous numerical illustration relating the money-wage rate to rising corn prices which seems, on a casual view, to be based on the assumption that the actual wage basket remains constant."

Having explained this to his satisfaction on the grounds that

> "the illustration was intended to demonstrate the particular proposition that a rise in money wages is not necessarily productive of comforts to the labourer" (p. 399),

Hollander then has to concede that

> "It is true that in the strategic chapter 'On Profits' Ricardo also used these same illustrative data (in his demonstration that the money-wage share out of a product of given value divided between wages and profits will rise secularly)."

For this Hollander has to offer the

> "probable explanation...that he used a set of figures conveniently at hand, taking for granted that little damage was done since he believed that money wages will rise even though real wages decline." (p. 399).

He then gives a quotation from Ricardo which he believes to confirm this 'probable explanation'. I can only say that to me it seems not to do so.

5. *Conclusion on wages*

Hollander is clearly convinced of the validity of his interpretation; and since it is not one which has been arrived at by any superficial study this is something that one must take seriously. But I must say that I found much of the argument concerned with wages unconvincing. This was particularly the case when I learned that Hollander concluded that Ricardo must have made a mistake (p. 404) when he advanced an argument which was clearly at variance with Hollander's 'potential marriage rate variation' interpretation. Hollander believes that some of the quotations to which he refers (p. 403, footnote 265)[6] indicate that Ricardo was assuming constant population growth. If this were true it would be indeed puzzling. But having checked all the references I am not able to draw from them the conclusions which Hollander is able to. All that I can find is that occasionally we have population increasing faster than capital. But this is always what is happening during the down swing of the looped course of market wages in Baumol's well-known diagrammatic treatment. Since Hollander has dismissed the Baumol interpretation he is then forced to interpret some passages from Ricardo as assuming constant population growth and is thus forced to 'correct' Ricardo.

[6] I also checked some other references (VI 303–4, 147) given by Hollander in n263.

There seems to me at times to be an element of special pleading in Hollander's account of Ricardo on wages. Indeed, in a supplementary note on poor relief Hollander, faced with the fact that Ricardo undoubtedly recommended the abolition of the Poor Law, attempts to argue, on the basis, it seems to me, of no real evidence at all, that

> "It cannot, therefore, be excluded that in the event of some *alternative* form of relief for the able-bodied, without these defects, he [Ricardo] might have been prepared to reconsider the issue" (p. 723 Hollander's italics).

Monetary thought

My severest reservations about Hollander's treatment concern his discussion of monetary thought. The first problem relates to Ricardo's use of a cost of production theory of monetary value. This was typical, as it has always seemed to me, of Ricardo as a model builder and user, but it receives very little emphasis in Hollander's treatment, consistently with his general minimisation of this aspect of Ricardo and in particular his playing down of the importance of the Invariable Measure. (pp. 177, 203, 244). Ricardo himself thought that his model applied without commodity money—even with paper; but as Hollander notes (p. 245), this involved "an extraordinary degree of wishful thinking". Nevertheless Hollander defends Ricardo on the grounds (pp. 246–7) that the inverse relationship could work under a paper currency via a diminution in the purchasing power of profits, basing himself on *Principles* pp. 126–7.

I am particularly concerned, however, about Hollander's attempt to establish that Ricardo's monetary theory was somehow Smithian. This involves playing down the importance of David Hume in the history of monetary thought to the point where he virtually disappears. Thus the so-called 'Smithian' (pp. 105–6) position that the rate of interest is not affected by increases in the money supply is not only Hume's (and thus derived from the same place as the rest of Ricardo's monetary thought) but also available in the work of Massie. By inflating the role of Adam Smith vis-a-vis classical monetary theory Hollander is able to give the impression of a continuity between Smith and Ricardo which otherwise does not exist. The account of pre-Bullion-Report monetary theory I found strange. It leaves out Hume (apart from a few oblique references to Hume-type mechanisms) placing Adam Smith in the forefront of pre-Ricardian monetary theory (where he certainly does not belong) and considerably overrating Ricardo's own importance as a monetary theorist vis-a-vis Thornton and others.

Smith's monetary theory was of course close to that of the anti-Bullionists—indeed he offered the Real Bills doctrine. Thus it was that Torrens, in his anti-Bullionist phase, put forward the Smithian argument about a rise in corn prices raising wages and thus general prices which Ricardo, as leader of the strict Bullionists, rejected.

At times the account is startling. On p. 476 we have apparently the attribution to Ricardo of the (anti-Bullionist) position that causality runs from the price level to the money supply. This will seem so surprising to some readers that quotation is necessary here. Hollander begins by quoting Schumpeter who, in his definition of the quantity theory, wrote (not unreasonably) that it included the proposition that "the quantity of money is an independent variable—in particular that it varies independently of prices and of physical volume of transactions". Hollander then asserts "The first proposition is certainly *not* attributable to Ricardo in the case of an open economy. Where a fully operative gold standard is presumed the equilibrium (domestic) level of prices is frequently taken as given and the question posed relates to the corresponding money supply required to assure such a level." It turns out that this attribution is based upon an exchange before the Lords Committee on Resumption of 1819 which, one finds from inspecting the context, was concerned with an exposition of the price-specie-flow doctrine—causality does not run from the price level (as with the anti-Bullionists) but from a money supply dependent on the *world* value of gold.

Hollander also, by laying stress on variations in velocity (which were, in truth, mainly due to institutional factors, so that Ricardo was really a quantity theorist in Schumpeter's sense—a matter I should have thought which was never seriously in doubt) manages to imply (p. 479) that Ricardo had the sort of comprehensive view of variations in velocity that Thornton possessed.

A passage in which Ricardo had actually been trying to argue that an increase in the money supply had only a transitory effect on the rate of interest is used (pp. 480–1) to illustrate Hollander's proposition that Ricardo really attached importance to these transitory effects. But a look at the context clearly indicates that he was trying to minimise them (*High Price of Bullion* in III, pp. 91–2; see also V p. 445). Here as elsewhere, by presenting Ricardo's qualifications as the main argument[7] and the main argument as the qualifications, Hollander manages to achieve a picture which is a complete reversal of the normal—and, it seems to me, correct—view of Ricardo.

Similarly, Ricardo's recognition of the harmful effects of contraction, and his willingness to allow flexibility to the monetary authorities, is greatly overplayed (pp. 488–500, 523–35) by concentrating on the question of

[7] See especially 482 where Hollander, having presented what seems to me a highly misleading picture, concedes

"It should at the same time be recognised that Ricardo frequently played down his allowances for the monetary influence on the interest rate."

Resumption. The attitude displayed by Ricardo in his 1823 *Plan for a National Bank*—which sought to impose completely automatic control on the monetary authorities—is relegated to a footnote.

The section (pp. 484–7) dealing with forced saving fails to make clear the very restricted nature of Ricardo's insights compared with those of his contemporaries, and implies (incorrectly) that there were no inflationists among the latter. It also appears to me (pp. 483–4) to fail to distinguish metallic (Hume) and paper inflation.

Finally, while Hollander seems to me to recognise that Ricardo was far more rigid in his application of 'Say's Law' than was Say, he still attempts to insist that Ricardo

> "adhered to that version of the law of markets labelled 'Say's Equality', which allows for temporary deviations between the money values of commodities supplied and demanded, that is, for temporary excess demand for money."
>
> (p. 513).

This belief is however based upon two quotations which only show that, given inelastic expectations, prices can be sticky downwards, and they do not seem, to me at least, to support at all the position which Hollander is endeavouring to maintain. But in this connection the next two of Hollander's sentences are revealing. For he writes:

> "We are not, however, yet out of the woods. For as we shall now see, in his analysis of the post-war depression Ricardo failed to recognise the relevance of temporary excess money demand."
>
> (p. 513)

It seems to me that Hollander, in his charitable zeal to do the best by Ricardo, is determined to drag Ricardo right out of the woods, even if this means demolishing a lot of the timber in the process.

This impression is further accentuated by something which is very apparent throughout the discussion but particularly in the section on the post-war depression. For, by confining himself to the Ricardo-Malthus correspondence, the notes on Malthus, and the published volumes generally, the wider debate is almost totally omitted. This must explain the curious reference to William Blake as an opponent of the Bullionists (p. 421n) a reference which neglects his earlier (Bullionist) work.

International Trade

Despite its length, the book contains very little about trade theory. Yet there are two matters which seem to call for comment. Firstly, Hollander apparently believes that Ricardo held that wine could sell permanently in two national markets at different prices, despite the absence of tariff and transport costs. Hollander's explanation is in terms of different profit rates with the retail price differing but not the wholesale (pp. 465–6)—although Ricardo does not actually discuss this matter. The contrast with the standard interpretation is clear enough; and it seems to me straining common sense to believe other than that the latter is correct.

The section (pp. 442–57) dealing with the transfer problem seems to me to muddle the issues rather badly. I was not even clear that Hollander accepts the existence of the Ricardian definition of excess. In relation to Ricardo's rejection of harvest failure as an explanation for a depressed exchange Hollander asserts that:

> "In these passages Ricardo recognised clearly that the import of corn *may* be paid for in gold rather than commodities."
>
> (p. 446).

If Ricardo had really recognised such a possibility he could no longer have remained the strict Bullionist he was, applying the Ricardian definition of excess in the way he did. But Hollander seems to me to be offering a very strange interpretation of the quotations on p. 445 which come from III pp. 59–61 (*High Price of Bullion*) and are part of Ricardo's *attack* on Thornton for suggesting exactly what Hollander is crediting Ricardo with saying.

Hollander does throw in (pp. 450–1) an ingenious suggestion about adjustment to the internal price structure following harvest failure—as the price of corn rises, other prices fall and thus exports are stimulated. But I cannot see any support in Ricardo's own writings for this. It really is not good enough to say (p. 451):

> "It cannot therefore be precluded that the altered price structure (and a reduction in the prices of exportables) was taken for granted throughout Ricardo's discussion of the transfer problem even when he does not make explicit reference thereto."

Policy effects and outlook

1. *Transitional effects*

It was noted above that Hollander's account of Ricardo's monetary thought gives far greater weight to transitional effects than the original material would seem to warrant. However this tendency to stress Ricardo's qualifications is not confined to Hollander's discussion of the monetary material or, to take another instance already noted, the neglect of Ricardo's habit of telescoping the long run and the short run in dealing with wage taxation. It is also particularly evident in Hollander's account of Ricardo's views on the desirability of abolishing the Poor Law. Hollander argues that Ricardo waited for the return of prosperity in the manufacturing sector in 1821 before pressing for repeal. I think it is true that Ricardo said on several occasions that abolition should be gradual. (Hollander cites some rather inconclusive references but there is a clear reference in I, pp. 106–7).

Moreover I agree with Hollander's characterisation of Inglis's work (1971) as "a totally distorted picture of Ricardo's position which has recently been presented in a popularisation of the classical view on social policy." (p. 574). But I remain unconvinced that Ricardo deserves much credit in this respect because he, of all the classical economists, seems to me the one who used his 'telescope' to ignore transitional effects. I certainly agree that Ricardo did not, anticipating that wages would fall below subsistence at least for the married pauper, with the abolition of the Poor Law, decide to grit his teeth and put up with suffering to the last pauper—which is what I feel Inglis's picture amounts to. But he was a good deal less prepared to make special arrangements to accommodate the transitional period before wages rose to the level which would restore physical subsistence (the usual interpretation) or the marriage rate (Hollander's interpretation) than Hollander implies. Moreover there is a clear distinction between Ricardo and Malthus—who were undeniably at one extreme of the debate on the Poor Law—and the rest of the classical economists from Senior to McCulloch. This distinction is lost sight of. Here as elsewhere, by giving undue prominence to the reservations and qualifications which Ricardo expressed in correspondence, a rather misleading picture is presented—misleading at least to anyone not already familiar with the wider literature of the period.

2. *The longer run*

(i) *Secular shares*

The conventional view—from Cannan to Blaug—is that Ricardo thought he had demonstrated a rising rental share in total product but had failed to do so. Hollander's position (p. 407) is that "Ricardo denied ever having maintained that the rental share in output rises secularly". This is apparently based on II, pp. 193, 197. This matter has already been dealt with by Barkai (1966) who saw the denial as a device adopted by Ricardo when faced by Malthus with the fact that rental share was actually declining—even though, if followed through, his new defensive position would have led to the abandonment of his model. Barkai's case seems very reasonable in view of the wealth of other evidence in Ricardo's work for the rising rental share, especially in the *Essay on Profits.* What Ricardo actually denied (in II, p. 193) was that rent was rising as a share of *gross* output. However rent as a share of *net* output rises in the *Essay* from 7.3% to 60.4%. As a share of gross output (net output plus cost of production, interpreting capital in the table (IV, p. 17) as cost of production) rent rises from 2.3% to 13%. Rent also rises as a percentage of capital, which was probably the figure which Ricardo meant to indicate the course of rent as a share of gross output. So there are three things which Ricardo could have meant: rent per cent, rent as a proportion of gross produce, and rent as a proportion of net produce. The denial—which only seems to be supported by one passage—relates only to gross produce, which is the least interesting prediction. However Hollander insists, on the basis of this passage, that Ricardo only meant something far less interesting—a rising rental share of gross produce on intra-marginal land. Yet in the end, despite his apparent disagreement with the conventional view, he seems to be forced to conclude that Ricardo's intentions are at best unclear. At the same time he commits himself to the view that "the entire matter was of little significance" (p. 410) a conclusion which I find very hard to swallow—and one which I think Hollander would have found hard to swallow himself had he not neglected Ricardo's treatment of improvements and the conflict of interest between landlords and the rest of the community.

(ii) *The ends of economic activity*

Hollander asserts (p. 550) that a major theme of Ricardo's chapter on Value and Riches was to show how capital accumulation can be financed, without reducing present consumption, by technical progress. Frankly I cannot see the basis for such a view. The theme, both of the chapter and of the quotation which Hollander gives from it, is that the labour of a given number of men, however productive, still has the same total value. This, incidentally, is how Bailey saw it—as illustrating what Ricardo thought he meant by total value.

(iii) *The outlook for economic growth*

Fundamental to Hollander's interpretation of Ricardo is the view that Ricardo was extremely optimistic about the prospects for economic growth. This view results in a chapter (pp. 599–642) on the Corn Law issue which seems to me the most difficult to accept of all the chapters. Schumpeter wrote of Ricardo's pessimism:

> "The most interesting thing to observe is the complete lack of imagination which that vision reveals. Those writers [Ricardo, Malthus, West and James Mill] lived at the threshold of the most spectacular economic development ever witnessed. Vast possibilities matured into realities under their very eyes. Nevertheless they saw nothing but cramped economies, struggling with ever decreasing success for their daily bread."
>
> (quoted in Hollander p. 600).

This is no doubt an over-drawn view—especially as regards Malthus. But Hollander's view seems to me even more extreme in an opposite direction. Quite apart from the correctness of Hollander's interpretation of Ricardo as optimistic—and it seems to me incorrect (indeed, were it correct, Ricardo's theoretical work, even in the attenuated version presented here, would have been pointless)—the interesting point from the history-of-economic-theory standpoint is not so much whether Ricardo really believed his model—and it seems to me that Ricardo believed in simple models more unreservedly than almost any economist in the nineteenth century—but what the model predicted.

Of course, as noted earlier in this discussion, Hollander does not accept that Ricardo's theory 'predicted'. If we agree with this we must then examine Hollander's evidence for the optimism in isolation from the model. Even so the evidence seems to me extremely unpersuasive.

On page 604 we have the assertion, italicised as is Hollander's wont, that:

> "*the case made [by Ricardo] against agricultural protection was not based upon the secular downward trend in the rate of return on capital.*"

I find this about the most difficult thing to swallow in the entire book; and even Hollander apparently realises that this is untenable, because he adds a footnote both qualifying and attempting to justify the assertion.

Hollander appears to be arguing (pp. 606–8) that Ricardo did not detect any depression of the growth rate of capital and was not even clear about the rate of return on capital. Yet it is clear from the 1815 *Essay* that Ricardo not only assumed, for the purposes of his model, which exhibited declining profit, that there were no agricultural improvements which could offset this decline, but did so on the grounds that diminishing returns always got the better of whatever improvements there were. Hollander's view is that when we turn from the 'pure theory' we find there is great optimism. This seems to me a serious misreading of the 1815 pamphlet. The passage in the *Essay* on which Hollander relies is one in which Ricardo concedes to Malthus that technical improvement has great scope in British agriculture. But the balance of the *Essay* is surely concerned with the inevitable depression of profits resulting from Corn Laws. Ricardo wrote:

> "I think it may be most satisfactorily proved, that in every society advancing in wealth and population, independently of the effect produced by liberal or scanty wages, general profits must fall, unless there be improvements in agriculture, or corn can be imported at a cheaper price."
>
> (IV, p. 23).

Again, Ricardo's analysis (at the time) of the commerical distress in 1819 was not that it was due to monetary causes—the 1819 Resumption Act "was totally inadequate to produce such an effect, and therefore the evil must be traced to other sources" (V, pp. 37–41, at p. 37). Rather, distress was due to capital shortage which resulted from low profits due to Corn Laws, and to the weight of the National Debt and taxation. The latter are perhaps emphasised even more; but the role of the Corn Laws does not seem to be in doubt. Ricardo is reported in *Hansard* as saying that

> "He conceived that the distress was chiefly to be ascribed to the inadequacy of the capital of the nation to carry on the operations of trade, manufacture, and commerce.....Now, he thought they had greatly aggravated this evil [of capital export] by bad legislation, and he had formerly mentioned instances. He had referred to the Corn-Laws as one example; and however unpopular the doctrine might be with some gentlemen, he would state his opinion freely that he believed Corn-Laws to have materially increased the evil. These laws had tended to raise the price of sustenance, and that had raised the price of labour, which of course diminished the profit on capital."
>
> (V, p. 38).

This surely contrasts with Hollander's view.

Interestingly enough, the attribution to Ricardo of optimism may link with Hollander's failure to discuss at all properly the question of improvements. I find it surprising that a question about Ricardo debated at length by authors like J. S. Mill, Marshall, and Cannan did not command Hollander's attention. Indeed I find Hollander's view (p. 611) that Ricardo was optimistic about improvements very unconvincing. On checking the references, I find only material which bears the normal interpretation, giving rise to what has been previously understood to be the standard Ricardian thesis of profit decline.[8]

Hollander himself recognises that Ricardo wrote:

> "No point in political economy can be better established, than that a rich country is prevented from increasing in population, in the same ratio as a poor country, by the progressive difficulty of providing food. That difficulty must necessarily raise the relative price of food, and give encouragement to its importation."
>
> (I, p. 373).

Hollander dismisses this as a strong statement because Ricardo is using his model to counter an argument of Smith's. But the subsequent material (I, pp. 373–4) seems to me to contradict the interpretation by Hollander of p. 126 which he uses in support of his belief in 'optimism'.

> "However extensive a country may be where the land is of a poor quality, and where the importation of food is prohibited, the most moderate accumulations of capital will be attended with great reductions in the rate of profit, and a rapid rise in rent; and on the contrary a small but fertile country, particularly if it freely permits the importation of food, may accumulate a large stock of capital without

[8] See in particular I, 126, 120. The reference to improvements on p. 120 seems, to me at least, a parenthetical qualification, perhaps intended to explain why diminishing returns had not already manifested themselves strongly, and a qualification to a straightforward statement of what is normally regarded as the standard Ricardian position:

"The very low rate of profits will have arrested all accumulation, and almost the whole produce of the country, after paying the labourers, will be the property of the owners of land and the receivers of tithes and taxes."

(I, pp. 120–21).

any great diminution in the rate of profits, or any great increase in the rent of land".

(I, p. 126)

Hollander feels that the 'small but fertile country' is "an obvious reference to Britain" and takes this to mean that "there is little emphasis on a falling rate of return." (p. 611). But in I, pp. 373–4 Ricardo makes it clear that Corn Laws are only called for where they are going to have perceptible effect to benefit landlords:

"It is only in rich countries, where corn is dear, that landholders induce the legislature to prohibit the importation of corn. Whoever heard of a law to prevent the importation of raw produce in America or Poland?"

(I, pp. 373–4).

The contrast of these countries with Britain is clear enough.

Of course Ricardo not infrequently tried to have his cake and eat it, notably in his Notes on Malthus: but there seems to me to be no stress on improvements in the third edition of his *Principles*. It is true, as Hollander points out (p. 612), that Ricardo did say (IV, p. 179, I, pp. 108–9) that the richest country in Europe was still far from the stationary state. But the dimension is not clear; it is not clear whether he is referring to distance in time, or population increase, or capital stock, and the phrase is merely a qualification in the general argument that the stationary state is a *very* real possibility. Many of the qualifications to Ricardo's view come in correspondence and relate to discussions with others in which Ricardo fell back on the economist's time-honoured device of appealing to the Long-Run but, as with Hollander's account of the monetary theory, it seems to me wrong to lay so much stress on the qualifications as to make them appear the substance of the argument.

Indeed (p. 614), Hollander concedes that it was Ricardo's objective to persuade Parliament to repeal the Corn Laws. He thus has to explain how it was, and on what Ricardo's case was based. He is also faced with the problem of explaining why Ricardo should adopt a position which reduced the fundamental importance of his model—even in Hollander's formulation of it, the rising level of wages associated with diminishing returns is critical.

Now it seems to me that Ricardo was not particularly optimistic in his speech of 7th March, 1821 (V, pp. 81–91) which Hollander (pp. 615 ff) regards as important evidence for Ricardo's optimism—the optimistic material came right at the end of the speech and was only a device (when seen in context) to be used against those who said that the flood of corn imports would intensify depression. But Hollander's interpretation derives in a substantial measure from correspondence between Ricardo and McCulloch following this speech. Ricardo as quoted (and italicised) by Hollander apparently gives much more weight to 'optimism' than in the quoted letter

(VIII, p. 355–60) when one reads it as a whole. Indeed, in this letter Ricardo had also written (VIII, pp. 357–8):

> "My opinion is this—if we were allowed to get corn as cheap as we could get it, by importation, profits would be very considerably higher than they now are"[9]

Faced with the undeniable fact that Ricardo was frequently not 'optimistic' in Parliament, Hollander's judgement (p. 621) is that in the House of Commons Ricardo had an incentive to exaggerate the prospect of doom and that, accordingly, much weight should be attached to any passages in which he qualified his pessimism. My own judgement is precisely the opposite of this. Ricardo was not highly regarded in the House and he had every incentive to adopt a more moderate tone, in order not to alienate an audience who already regarded him as a visionary out of touch with reality.[10] Moreover this would explain the contrast between concessions that the stationary state might be more distant, and the quotations which Hollander introduces late in the chapter (the chapter starts at p. 598 and these quotations begin at p. 621) in which Hollander very fairly admits that

> "There exist, however, a number of speeches which emphasise low profits and loss of capital abroad in consequences of protection as phenomena *actually responsible for the contemporary depression.*"
>
> (p. 621, Hollander's italics).

Now this material could not be clearer, and Hollander fairly summarises it. He quotes from speeches of 16th December 1819, 24th December 1819, 30th May, 1820 and (in a footnote) 12th May, 1820. He also has to explain (pp. 625–6) the 1822 pamphlet *Protection to Agriculture* in which Ricardo clearly believed that the Corn Laws were depressing the profit rate. In addition he has to explain (p. 626) several pessimistic 'Parliamentary interventions' during the Spring of 1822. The material is simply dismissed (p. 627) as "uncharacteristic of Ricardo's general position". With respect, this is precisely what needs to be proved. To me, on the contrary, it seems wholly characteristic.

Indeed the pessimistic material seems to me to provide a good deal of very clear material to set against the one letter to McCulloch following one speech of 7th March 1821—even if I accepted that that had been interpreted in context, which I do not—and the scraps of correspondence quoted on pp. 610–611. The case for 'optimism' seems to me to rest largely on a construction of a portion of the material, which admits of rather different

[9] The exchange is not helped because McCulloch, with whom the correspondence was exchanged, was using a factor mobility, absolute advantage, model while Ricardo was using a comparative advantage, factor immobility, one.

[10] See especially Ricardo to McCulloch 13th June 1820 (VIII, 197) and Ricardo to Wilmot Horton 19th January 1823 (XI, xv).

(and, to me at least, more obvious) interpretations. However, faced with the evidence which flatly contradicts his own position, Hollander simply asserts that these "interventions" "were *atypical*" of Ricardo's position. (p. 624, Hollander's italics).

The issue is confused by Hollander's implied insistence that the only alternative to the Corn Laws as an explanation for the depression was 'friction' and misallocation of resources. In fact, however, Ricardo blamed the depression in part upon the Bank of England which he believed to have completely mishandled Resumption. Indeed the Bank was an institution to which Ricardo was extremely hostile—hence the *Plan for the Establishment of a National Bank*, a pamphlet which Hollander hardly mentions—(in fact I found only one reference (pp. 492–3n)). Earlier Ricardo had written to Malthus (9 July 1821):

> "I very much regret that in the great change we have made, from an unregulated currency, to one regulated by a fixed standard, we had not more able men to manage it than the present Bank Directors. If their object had been to make the revulsion as oppressive as possible, they could not have pursued measures more calculated to make it so than those which they have actually pursued. Almost the whole of the pressure has arisen from the increased value which their operations have given to the standard itself. They are indeed a very ignorant set."
>
> (IX, p. 15).

I do not myself feel that there is any doubt that, although Ricardo had believed in 1819 that commercial distress was not due to monetary causes, by 1821 he had come to attribute some blame to the Bank.

(iv) *Agricultural price fluctuations*

Hollander's view, in direct contrast with the received one, is that Ricardo was primarily worried about the Corn Laws not because of their effect on profits and economic growth, but because they produced price fluctuations. Hollander's judgement is based largely on the relative weight of material in *Protection to Agriculture* which, he claims, lays more emphasis on price fluctuations than profit depression. This seems to me unconvincing for two reasons. Firstly, the bulk of Ricardo's publications referring to the Corn Laws, prior to 1822, had dealt with the profit issue, starting with the *Essay on Profits* of 1815, so that a concern with price instability was then added to his established concern with profits—an issue which, as Hollander notes, is also dealt with in *Protection to Agriculture.* Indeed the vast bulk of the references which Hollander cites concerning prices dates from 1822 onwards when agricultural prices were depressed to a point which Ricardo could not ignore despite a model which predicted high prices. He was therefore *forced* to add price fluctuations to his concern. Secondly, the price fluctuation argument had already been developed by others before Ricardo's 1822 pamphlet—and I find it surprising that in this section (pp. 629–32) neither Tooke nor McCulloch are mentioned as analysing price fluctuations (despite the fact that Tooke had dealt with price fluctuations before the 1821 Agriculture Committee and his evidence is referred to in Ricardo's pamphlet) and Torrens and Malthus are not referred to at all.

In any case I do not read the balance of *Protection to Agriculture* as Hollander does. The pamphlet occupies pp. 209–266 of Volume IV. Of this only pp. 240–43 are primarily concerned with price fluctuations although there are a few scattered references in other contexts. In other words, the price fluctuations were secondary to the main Ricardian thesis but, as elsewhere, Hollander has emphasised the secondary at the expense of the primary—and thus altered the picture.

(v) *The corn laws and allocative loss*

Hollander also believes that Ricardo attached much weight to the allocative loss resulting from Corn Laws. (pp. 632–7). Now such a loss would be obvious to anyone who had read Adam Smith, let alone been privy to the development of the theory of comparative advantage. But it was hardly in the forefront of Ricardo's picture; and if it had been it would diminish his independent standing as an *original* thinker. But in fact Hollander is not able to muster any substantial collection of references in support of his view that "Ricardo allowed a very conspicuous role indeed for the allocative disadvantages flowing from agricultural protection."

(p. 632).

Coverage

1. *Topics*

This must surely be the biggest book on Ricardo ever written. There is no doubt that it is a product of enormous effort. It is however only fair to warn the reader that on a number of issues its coverage is seriously incomplete. The reader will search in vain for much discussion of what Ricardo had to say on the National Debt—a matter which concerned him—and I did not find at all Ricardo's extraordinary argument that tax finance in war imposed no heavier burden than debt because tax payers capitalised the future value of their income stream in the debt case. Similarly I did not find the argument that people could easily borrow to pay heavy war taxes, or the argument that if taxes fell solely on the property earning classes this would be counter-balanced by adjustment of the rate of entry into the professions. Ricardo's scheme for a levy to pay off the National Debt I found mentioned only briefly and unilluminatingly in another context (pp. 593, 625). The Sinking Fund is mentioned only once (p. 70) and this in connection with

Lauderdale and not Ricardo. The argument over whether government should borrow at 3% or 5% does not appear to be discussed and, as already noted, the plan for a National Bank is only mentioned once and the Ingot Plan only obliquely. The truck system does not appear to be mentioned, and Ricardo's views on emigration are mentioned only briefly in a footnote. Nor did I find the argument about the terms of trade effect of colonial protection. Colonies appear only once in the index; this turns out to be a reference to Bentham, and Ricardo's entire chapter in the *Principles* appears to be ignored by Hollander. The problem of the hierarchy of wages, which involves serious problems for Ricardo's use of labour measures, receives insufficient discussion; Hollander simply attempts to justify it (pp. 193–4) on the grounds that Ricardo was only interested in *changes* in relative values—yet it is precisely because an unfixed hierarchy could produce changes in relative values that the matter is of considerable importance. It is perfectly clear that Ricardo had simply assumed away this problem which also arises in the context of passing-on of taxes on wages—a mechanism which would only apply to the lowest grade of labourer. But Hollander refuses to concede this (p. 386); instead he argues that the concept of what constitutes subsistence must be viewed as varying from group to group in the labour force. This is really only another version of Ricardo's implied assumption that the hierarchy is fixed.

Perhaps the most surprising omission is a failure—or rather a refusal—to recognise the importance of class conflict in Ricardo. It is very surprising that in the section (pp. 586–93) 'Ricardo as a Radical' his attitude towards improvements is not mentioned. Indeed I find it puzzling that Hollander can quote (pp. 590–1) a statement in the Notes on Malthus, that Malthus is not justified in calling Ricardo an enemy of the landlords, while failing to mention pp. 79–82 of the *Principles* in which Ricardo sought to show that the landlord must lose in the short-term by improvements. After all, Ricardo had stated in his 1815 *Essay*:

> "It follows then, that the interest of the landlord is always opposed to the interest of every other class in the community. His situation is never so prosperous, as when food is scarce and dear: whereas, all other persons are greatly benefitted by procuring food cheap."
>
> (IV, p. 21).

Ricardo concluded the same pamphlet with the words:

> "I shall greatly regret that considerations for any particular class, are allowed to check the progress of the wealth and population of the country. If the interests of the landlord be of sufficient consequence, to determine us not to avail ourselves of all the benefits which would follow from importing corn at a cheap price, they should also influence us in rejecting all improvements in agriculture, and in the implements of husbandry; for it is as certain that corn is rendered cheap, rents are

lowered, and the ability of the landlord to pay taxes is for a time, at least, as much impaired by such improvements, as by the importation of corn. To be consistent then, let us by the same act arrest improvement, and prohibit importation."

(IV, p. 41).

In his *Principles*, Ricardo wrote:

"a relatively high price of corn is at all times greatly beneficial to the landlord; for first, it gives him a greater quantity of corn for rent; and secondly, for every equal measure of corn he will have a command, not only over a greater quantity of money, but over a greater quantity of every commodity which money can purchase."

(I, p. 337).

Since Ricardo did not admit that high corn prices were in the interests of the community the implication of this is quite clear enough. In 1821, if *Hansard* is to be believed, Ricardo stated in Parliament that "he would say, as he had said before, that the interest of the landholders must necessarily be opposed to that of the consumers in the present [agricultural] case."

(V, p. 87).[11]

2. *Contemporaries of Ricardo*

Perhaps even more serious is the cursory and unsympathetic treatment given to those who differed from Ricardo. On p. 663 Bailey is dismissed as "outrageous" on the grounds that he criticised Ricardo for failing to appreciate the relative nature of value. This seems to me quite unjustified. For Bailey saw perfectly well what Ricardo was seeking to achieve in his discussions of value—and saw equally well that Ricardo's aim was impossible. Bailey knew very well that value was being used in two senses—hence the acid exchanges with James Mill from which it is clear that Bailey realised this particular point rather earlier than Mill. It also seems to me that Hollander misrepresents the force of Whewell's criticism of Ricardo (p. 248n), and that he blurs the distinction between Ricardo and West (p. 332n75); and I am quite unable to accept what Hollander believes to be the reasonable interpretation of a passage in Barton (p. 351).

The main problem however is simply that the unsatisfactory treatment of the dissenters from Ricardo is possible only because of the particular loose and generalised version of Ricardo which Hollander has presented. It seems to me that Hollander is basing himself on a version of Ricardo which Ricardo's 19th century critics would have recognised no better than I can. As a result, Hollander is able to accuse them of a lack of insight. Having

[11] It should however be added that the newspaper account which Ricardo believed to have reported him best merely reported him as saying that "When he heard that all the interests of the country were equally consulted, he could not help saying, because he felt it, that the interests of landlords were chiefly considered."

(V, p. 81).

recently re-read both Bailey and the *Westminister Review* attack on him, together with Bailey's reply, I find Hollander's endorsement of James Mill's attack very strange. Again, on p. 665 he asserts that "the fact is that in the *Principles* Ricardo had shown a thorough awareness that differential rent is but a special case of a more general phenomenon." But on re-reading Ricardo's rent chapter I found no support for this sweeping assertion. Yet this is quite important because, if Hollander's assertion were true, it would rob Bailey and Senior of credit for generalising the rent concept to which they are surely—and generally held to be—entitled.

Longfield's striking analysis of intensity of demand is hardly mentioned and is brushed aside (p. 671) as of no importance. At times the chapter dealing with Ricardo's critics can give rise to some wry amusement. Thus on p. 670 we learn that "we cannot rule out the possibility" that Ricardo had a marginal productivity theory of distribution at the back of his mind. Similarly on pp. 671–2, Hollander, instead of discussing the McCulloch-Ricardo disagreement on the origin of the interest or profit premium, tells us that "it is by no means certain that he [Ricardo] would have objected to the investigation of the time preference notion which the so-called 'dissenters' insisted upon."

Hollander's attempt to explain away the possibility of taxes falling on wages via *anticipated* reductions in labour supply is then taken for granted and used as a basis for criticising Longfield. Another writer who receives little credit is James Anderson. In an appendix Hollander deals with Anderson on increasing returns but fails to quote and discuss the vital material on diminishing returns which McCulloch believed meant that Anderson should be credited with inventing rent theory; and although this material is mentioned earlier (pp. 41ff) it is only introduced rather grudgingly and as criticism of Adam Smith.

The material on Barton seems to me greatly to underplay Barton's contribution. Indeed at times Hollander seems to be trying to imply that all that Ricardo obtained from Barton was the idea that the capital/labour ratio might not be fixed. He overstresses Ricardo's qualifications to his machinery case and at one point seems to me to get involved in a flat contradiction between the textual evidence (given in a footnote—n100 p. 342) and an assertion in the text that the displacement of employment by machinery was not Ricardo's primary concern. The matter is too complicated to be explored at length here but, as in other cases, I feel that Hollander has read too much into Ricardo's qualifications and hints in correspondence.

Conclusion

This is a beautifully produced book with footnotes at the foot of the page so that the argument, with qualifications and quotations, can be followed.

No reader can fail to have admiration for Hollander's moral courage. I agree that many of the interpretations of Ricardo to which he objects are extreme. But having said that, it seems to me that one must have severe reservations about this book. Surely there is a via media between neo-Marxian interpretations on the one hand, and a return to J. H. Hollander on the other. I think there is a very real danger of throwing out a great deal of material which has been painstakingly built up, simply because of a disagreement with Cambridge. Hollander clearly does not like the kind of economics which, claiming Ricardian ancestry, has been built up in Cambridge since Sraffa's *Production of Commodities.* But neither, so far as I can judge, do many of the people on whom Hollander is so hard in this book. But Hollander feels constrained to throw out all the work that has been done to make sense of Ricardo, and instead to reinterpret Ricardo in a kind of loose general equilibrium framework. Now one of the key features of general equilibrium—which renders it vitually useless—is that it results in a model of complete generality in which virtually anything can happen, and which is almost completely devoid of predictions that can be subject to empirical testing. And this is more or less true of the end-product of Hollander's re-interpretation of Ricardo. The Hollander version goes something like this. 'Wages will no longer be necessarily at subsistence. They may or they may not be. Rental share may or may not increase. It is not clear what Ricardo thought about this. Profits can decline it is true. But this is not an immediate problem'. Almost all the predictive element (and all the rigour) of Ricardo's own thinking have gone. The Ricardian Vice therefore never existed. Ricardo did not really even build models.

In summary then, while admiring the energy and tenacity which went into this beautiful piece of book production, I find Hollander's frontal assault upon the accumulated body of Ricardo scholarship unconvincing, and believe that a more selective approach might have yielded greater benefits. But the assault is a serious one and I hope that I have indicated that it requires serious consideration fully to appreciate what is involved.

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