

Professor Hollander and Ricardian Economics

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I shall argue that statements concerning the "essence" of Ricardian economics have followed certain trends and fashions; among them is the "consensus view" of Ricardian economics (stemming from the marginal productivity approach of neoclassical economics) that locates the original element in Ricardo's analytic system in his agricultural theory of profits. In the writings of the modern Cambridge, U.K. school, the consensus view has been used to mold Ricardo into a forerunner of Piero Sraffa's reproduction models and an opponent of the older supply-and-demand approach of neoclassical economics. This delivery of Ricardo to the Sraffians encouraged Samuel Hollander to suggest still another interpretation of Ricardianism—one that Hollander insists brings Ricardo back to the neoclassical camp. In this article, I wish to define the consensus view, summarize Hollander's reaction to it, and argue that Hollander's Ricardo is, in fact, compatible with the consensus view regardless of the outcome of Hollander's debate with the modern Cambridge, U.K. school. In order to focus our attention on these recent developments in doctrinal history, I review the early history of Ricardian criticism in section I. In section II, I summarize the "consensus view" of Ricardian economics and Hollander's criticisms of that view. Section III defends the consensus view by explaining in what ways the agricultural theory of profits was essential

to Ricardian economics. The concluding section maintains that while Hollander's interpretation of Ricardo's system differs from the consensus view in important ways, it is wholly consistent with it.

I

According to those who view the history of the science in terms of methods of analysis, Ricardianism (the "Ricardian Vice" as Schumpeter called it) consisted of basing policy conclusions on slender abstract arguments rather than immersing oneself in a sea of statistical facts and then fearlessly rowing to shore.¹ This interpretation reflects the pervasiveness of the fashion of making much of the distinction between inductive and deductive economics.² My own feeling is that the distinction between inductive and deductive reasoning is largely overdrawn and is essentially unilluminating. Modern scientific reasoning involves a blending of deduction and induction at many important junctures.³ The reasons for declaring Ricardo a "deductivist" as contrasted, let us say, with Richard Jones who inspired both the historical school on the continent and the institutionalist school in the United States have more to do with matters of style and emphasis than substance. I think it could be easily demonstrated that Jones is far more "deductive" than some of his supporters imagined, and Ricardo far more "inductive" than a cursory reading of his writings might suggest.

An alternative interpretation follows John

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Maynard Keynes and associates Ricardianism with some version of "Say's Law of Markets."⁴ But this understanding of Ricardianism also leaves much to be desired. First of all, the basic idea that "savings"—defined as the portion of (disposable) income that is not spent on consumption—is quickly spent in other ways in activities that generate employment opportunities, certainly did not originate with Ricardo. The idea occupies an important place in Adam Smith's *Wealth of Nations* (especially Book 2) and other eighteenth century sources also. Furthermore, if by "Say's Law" we mean that what is not spent on consumer purchases is instantly and/or simultaneously respent in some other way, then not even Say consistently adhered to Say's Law. Now it is true that Ricardo was, at times, prone to some strong statements of the savings-is-spending form of Say's Law, but most of this had to do with Ricardo's generally unannounced practice of comparing long-run equilibrium positions of the economy. If Say's Law is interpreted as denial of secular stagnation, then most economists of the age, including Ricardo, were Ricardians!⁵ On the other hand, if we mean by Say's Law the claim that individuals never build up or draw down their cash balances, then no one was a Ricardian including perhaps Ricardo himself.⁶ In short, Keynes' interpretation of what constitutes the novel ingredient in Ricardo's thinking, and classical economics in general, served his oratorical purposes well. The interpretation formed the controversies of the thirties which principally centered on disruptions in the flow of money income and how the real economy readjusted thereafter. While the "Say's Law" interpretation of Ricardianism continued to survive in the debates of the forties and fifties, I doubt that it really helps us form an accurate appraisal of Ricardo's place in the history of theoretical economics.

There have been many attempts to connect Ricardianism with the labor theory of value

and by this route to Marx and Marxian economics, and by a more circuitous route still, the Bolshevik Revolution in Russia. In its sophisticated form we learn that there have been two traditions in the science from Aristotle's time down to the present day. One tradition emphasized the role demand plays in the pricing process and leads through the scholastic writers (especially the Spanish sixteenth century Scholastics) through Galiani, Pufendorf and the French writers to the discovery of "marginal utility" in the latter part of the nineteenth century.⁷ The other tradition, rooted in the cost of production interpretations of Aristotle's natural price analysis, lead to the heresy of Sir William Petty's search for a "labor measure" of value and surplus through Adam Smith, Ricardo and Marx to the labor theory of value.⁸ Several writers go so far as to argue that the utility tradition flourished among writers educated by Catholic savants while Protestants (and Jews?) gravitated toward the labor theory approach.⁹ For my own part, I do not believe that by claiming relative prices correspond in some patterned way to the total of "real resources" needed to produce (marginal) units of supply, one becomes committed to any particular school of thought or ideology in economics. Though a great many theses and books have been constructed about the "two traditions thesis" (and the distinction does carry Joseph A. Schumpeter's approval), still, I think its limitations outweigh its benefits in understanding how economic theory developed, especially in nineteenth century.¹⁰

Surely there is nothing to prevent one from using labor as a measure of value and at the same time emphasizing the role utility plays in market pricing. Thomas DeQuincey "rode both horses" at once to paraphrase Marian Bowley, and did not fall off.¹¹ So did Longfield, though he did not have the concept of "marginal utility" as is often erroneously reported in the literature.¹² The Archduke of

the Austrian (utility) school, Eugen von Böhm-Bawerk could reason in terms of labor units when he found it necessary to do so and still insist that utility determines market values.¹³ Finally, Gottfried Haberler, a twentieth century member of the Austrian School, was able to restate Ricardo's labor-oriented discussion of comparative costs in terms of "opportunity costs" realizing that the inverse of Ricardo's labor coefficients was simply the amount of product foregone by removing labor from the activity.¹⁴ If we go the route of making adherence to some version of the labor theory of value the hallmark of Ricardianism nearly every economist with a predilection for measurement and a belief that relative market prices provide important information about relative resource scarcities would be a Ricardian!¹⁵

II

The interpretation of Ricardianism that I find most useful and the one that became (and perhaps still is) the "consensus view," insists that the truly unique or novel element in Ricardo's theorizing was his "agricultural theory of profit" that is, the notion that the marginal productivity of labor in the agricultural sector of the economy determined the rate of return earned on investments in other sectors of the economy. Stated boldly, agriculture rules the roost! I attribute this understanding of Ricardian economics to George Stigler, Mark Blaug, J. R. Hicks, William Baumol, Paul Samuelson and many other neoclassical economists.¹⁶

According to the "consensus view," a fundamental theorem of Ricardian economics is that the increased application of labor to land will (in the absence of improvements in agricultural technology) lower the marginal productivity of labor in the agricultural sector of the economy and, by the way of a decline in profits, push the economy toward what Ricardo termed the "stationary state." In the

"stationary state" the size of the population as well as the amount of capital-per-worker is constant—the system has arrived at a long-run flow equilibrium. Furthermore, the "consensus view" holds that Ricardo's strictures about returns at the margin in agriculture affected most of his important policy conclusions (such as Repeal of the Corn Laws); thus, the "agricultural theory of profit" is the essential analytic proposition in Ricardian economics. Blaug surveyed the economic writings of many nineteenth century writers and found that nearly every important economist subscribed to the view that the behavior of returns in agriculture determined the return earned on other investments in the economy. To Blaug's list we should add Alfred Marshall who wrote in 1886 that:

We shall . . . see that a fall in the rate of interest is to be expected in the distant if not in the immediate future of the world's history, in consequence of the law of Diminishing Return; and this ultimately check the accumulation of capital.¹⁷

It is one thing when a large number of neoclassical economists agree about what constituted the novel feature of Ricardian economics, and it is quite another thing when they are supported in their interpretation by prominent members of the modern Cambridge, U.K. school, as it has come to be called. The emphasis on Ricardo's agricultural theory of profit is also the dominant theme in the Piero Sraffa, Maurice Dobb, Luigi Pasinetti and John Eatwell interpretations of Ricardian economics.¹⁸ When the so-called neoclassical writers and Cambridge, U.K. writers agree on any point of analysis or doctrinal interpretation, the truth cannot be far out of hand, or so it would seem!

According to the Sraffa-Dobb-Pasinetti-Eatwell account, some time around 1815, it occurred to Ricardo that the agricultural sector of the economy had a special place in the analysis of the economy as a whole.¹⁹ In agriculture the output was corn, and the

input, labor, was ultimately paid in corn. By looking at the difference between what labor produces at the margin of cultivation and what labor must be paid by social convention (Ricardo's "subsistence wage" is determined by the habits and customs of the working class), the amount of profits earned on that much labor investment is *technologically* determined. Furthermore, both the amount of profits and the value of labor are measured in corn units, so the percentage return on investment is determined independently of market prices, supply-and-demand, utility and the market process in general. The long-run (equilibrium) values of wages and profits are established outside the sphere of market valuation. The role of competition and the reshuffling of resources in search of high entrepreneurial rewards, (only) serves the purpose of bringing all rates of return in other industries into line with agriculture. We may regard the agricultural sector as setting the rate of return on investment throughout the economy by way of a technological relationship between the returns to labor at the margin of cultivation and the real cost of feeding the laborer. This interpretation is consistent with the general Marxian claim that the material or *objective* conditions surrounding the production process affect the development and future viability of capitalist institutions, rather than the *subjective* expression of individual wants in the marketplace.²⁰ The Cambridge U.K. economists do admit, however, that Ricardo moved away from the simple agricultural theory by the time he came to publish his *Principles*.

In recent years, Samuel Hollander has assembled a sizeable amount of textual evidence suggesting that the "consensus view" about what constituted the distinguishing feature of Ricardian economics is misleading and overdone.²¹ According to Hollander, what is fundamental to Ricardo's thinking is not the agricultural theory of

profit (which is alleged to be quite secondary to Ricardo's policy and theoretical analysis), but rather the view that there *always* exists an inverse relationship between profits and wages. A careful study of Ricardo's early works and correspondence supports the view that gradually (sometime before 1815), Ricardo adopted the view that a rise in money wages will not raise prices but rather lower profits. This position, Hollander rightly explained, was in radical opposition to Smith's view in the *Wealth of Nations* that a rise in wages will boost prices. To admit Smith's point of view would be the same as admitting the possibility of cost-push inflation, a position that is really at odds with the entire quantity theory tradition of which Ricardo was one of the foremost advocates.

If, in Ricardo's system, (nominal) profits fall *only* when (nominal) wages rise, what is it that causes wages to rise? Certainly a major consideration boosting money wages is the rise in the price of corn and corn-related commodities consumed by the workers brought about by diminishing returns in agriculture.²² This is the principal reason for falling profits mentioned by the "consensus view" group of writers. But this is by no means the only reason Ricardo found for a rise in wages and a fall in profits: Wages rise and profits fall whenever a tax is imposed on corn or farm output.²³ The tax boosts corn prices and this acts like diminishing agricultural returns to raise wages and lower profits. Furthermore, profits often fall when the worker's wage is taxed and there is no change at the margin of cultivation in the productivity of agricultural labor.²⁴ Finally, in a dynamic economy, when capital is accumulating and the wage fund expanding, nominal wages are bid up and profits lowered, ahead of the decline in the productivity of labor employed in agriculture.²⁵ By pointing to these important details of Ricardo's analysis, Hollander insisted that diminishing returns in agriculture is not the

sole or unique determinant of the profit rate in Ricardo's theoretical system.²⁶

Not only is diminishing returns in agriculture not a *necessary condition* for a decline in profits, it is not a *sufficient condition* either! There are scattered places in his writings, especially in the *Principles*, where Ricardo insisted that workers do not spend their entire wage income on corn or corn-related products. If manufactured goods requiring little raw produce fall in price as agricultural prices rise, the workers' cost-of-living can remain unchanged, and there need be no off-setting change in money wages.²⁷ In the end, it seems that changes in the productivity of labor employed in agriculture are neither a necessary nor sufficient condition for a fall in the profit rate in Ricardo's writings and the consensus group's emphasis on returns-at-the-margin represents poor doctrinal history.

According to Hollander, it is the inverse-profit-wage relation that constituted the novel analytic feature of Ricardo's economics. As Ricardo himself, explained:

It has been one of the objects of the work [*Principles*] to show, that with every fall in the real value of necessaries, the wages of labour would fall, and that the profits of stock would rise. . . .²⁸

In his article, "The Reception of Ricardian Economics," Hollander showed how nearly every economist of the period agreed with Ricardo's fundamental theorem about distribution that wages and price vary inversely. Since this proposition is the distinctive feature of Ricardian economics, Hollander insisted that every economist of the period may be termed "Ricardian."²⁹

Before we follow Hollander by putting the agricultural theory of profit in second place and making the inverse-profit-wage relationship the "essence" of Ricardian economics, we must distinguish two forms or versions of Ricardo's inverse-profit-wage theorem that are found in the nineteenth century literature and in Ricardo's writings as well. First, there

is a tautological version that, if wages plus profits equal output and output is held constant, then a rise in wages will lower profits. To deny the validity of this proposition is surely tantamount to denying the basic logical law of noncontradiction. I insist, against Hollander, that most (if not all) of the economists of the day who defended Ricardo's fundamental theorem, defended only this definitional and unimportant version of the theorem. For example, this is true of Longfield who opposed the agricultural theory of profit and substituted a marginal productivity account of capital goods pricing.³⁰ Not only did Longfield accept the fundamental theorem about wages and profit varying inversely but his *Lectures on Political Economy* was cited by Robert Torrens as turning him back to Ricardo's teachings after years of doubt. According to Hollander, not only was Longfield a Ricardian, he was an important *proponent* of Ricardian economics!³¹ But all Longfield did when responding to Torrens' earlier objections, was to demonstrate that Ricardo's fundamental theorem must be true if all values are *arbitrarily* reduced to a labor measure. Longfield's attitude was simply that there was nothing controversial about the inverse-profit theorem since it is mostly a matter of definitions rather than an empirical proposition.³²

It turns out, however, that Ricardo developed a second sophisticated version of the "fundamental theorem" that constituted part of the analytic core of the *Principles*. This version, unlike the first, is not a *definition* but rather a *description* of how the market process operates. Consider a rise in nominal wages across the board in all industries. Since money wages appear as an expense in all lines of production, those commodities embodying a relatively high labor-capital ratio will rise in price relative to other commodities. Labor intensive industries will report lower rates of profit while capital-intensive industries will

attract resources with their high profits. As resources move among the industries, inter-industry differences in profit will be eliminated, and the whole economy moves toward a new equilibrium. In the new equilibrium position, money wages are higher, and the rate of profits lower in all industries. Furthermore, against Adam Smith's teachings, any rise in the average level of prices due to a rise in nominal wages can be only temporary. The fall in the purchasing power of money will discourage its production and lead to a deficit on the trade accounts encouraging a general price deflation back to the original price level. Clearly this version of the inverse profit-wage theorem, complete with the accompanying analysis of the market process involved in the restoration of equilibrium, is a crowning achievement in analytic economics and one for which Ricardo must receive lasting recognition.³³

It is well known that Ricardo searched throughout his career for an "invariable measure of value."³⁴ That is, he tried to isolate the characteristics a commodity needed to possess in order to have a basic measurement property that, when output in a base period (that is, before nominal wages have risen) is compared with output after wages have risen and a new equilibrium attained, the two aggregate monetary measures are identical. As a matter of convenience, Ricardo assumed that gold was such an "invariable measure" and proceeded to build much of the argument in the *Principles* around the idea that the amount of value is constant in the economy so long as the quantity of labor (that is, population) is constant. This is especially apparent in situations where the removal of some market barrier, say, tariffs on internationally traded goods, may promote a more efficient allocation of resources. What happens is that the total of value (read, "labor") in the economy remains unchanged, but the total quantity of real

output (what Ricardo called "sum of enjoyments" in the economy) increases as the economy achieves greater allocative efficiency.³⁵

After Hollander's interpretation of Ricardo, the traditional assumption that Ricardo searched for an "invariable measure of value" in order to measure the extent to which diminishing returns in agriculture brought about a rise in the relative price of corn is in need of some qualification.³⁶ Ricardo's search for such a measure was much more basic. By specifying the conditions under which market prices revealed the underlying inverse relationship between wages and profits, Ricardo actually gave expression to the elements of his theoretical system and the conditions under which relative prices would reveal its operations.

III

Are we to accept Hollander's conclusion that what goes on at the margin of cultivation is relatively unimportant to Ricardo? Does diminishing returns play a minor role and the inverse-profit-wage theorem a major role in Ricardo's analytic system? Consider a situation in which the competitive process might lead to a conclusion that contradicts the claim that the returns in agriculture regulate the returns on investment throughout the economy. Suppose there is a sudden unexpected increase in profits in manufacturing or commerce due, say, to either the introduction of technical improvements or the discovery of new markets.³⁷ One might expect this to attract resources from agriculture into commerce and manufacturing thereby raising agricultural profits. Eventually a new equilibrium will be reached, characterized by a *higher* rate of return throughout the economy. As Hollander explains in great detail, Ricardo did not accept this conclusion. To hold that profits can be changed without a change in money wages would contradict his

"fundamental theorem" that profits fall only when wages rise.³⁶ What to do? What Ricardo did do bears directly on the question of what is essential to Ricardian economics.

Apparently, Ricardo emphatically denied that the rise in profits in either commerce or manufactures would feed back and raise the overall rate of profit throughout the economy. Ricardo pointed out that resources could not exit from farming without lowering total agricultural output. Given the current size of the population and the special assumption that, unlike the demand curves for practically everything else, the individual demand curves for corn were inelastic—corn output could not fall. Ricardo wrote, "We cannot abandon the use of (marginal land) for it is the condition on which we obtain the food necessary for our population."³⁹ But why cannot the farmers disinvest on the marginal lands in response to better investment alternatives elsewhere in the economy? Certainly, no central planner is present to set production targets and require farmers to ignore profit incentives! In his early writings, Ricardo is somewhat ambiguous about the market mechanisms guiding the farmers in their decision-making.⁴⁰

If we insist, however, the agricultural profit rate cannot be permanently affected by events taking place outside of agriculture, then it is imperative to explain how a rise (fall) in profits outside agriculture is eventually brought back down (up). If, say, the discovery of new markets raises the return on international investment, then the trade sector must expand in such a way as to change export and import prices so as to bring the return on international investment back into line with the return in agriculture. In the *Principles*, Ricardo devoted remarkable ingenuity and a sizeable portion of his chapter on foreign trade (chapter 7) to explaining the market processes involved here. At all times it was the changed profit rates outside of agriculture that readjusted to the agricultural rate.⁴¹

According to Hollander, to have the agricultural rate adjust to the new rate outside of agriculture would be tantamount to conceding that the general rate of return on capital can change without a change in wages—a violation of the inverse-profit-wage theorem. But certainly there were other choices available to Ricardo. Ricardo could have reasoned that it is the wage rate that adjusts (downwards) to make the profit rates equal. For example, suppose the discovery of a new source of foreign supply of textile dyes raises the profit rate on international investment from the established rate of, say, 10% to 14%. Why could not the increased importation of foreign dyes lower the price of manufactured textiles? Inasmuch as Ricardo understood that workers do not spend their entire disposable income on food but budget some portion toward manufactured goods, a drop in textile prices could lead to a fall in nominal wages (since with lower textile prices the worker need be paid fewer units of money to achieve the same real income). The drop in money wages would (according to the inverse-profit-wage theorem) raise the profit rate in both agriculture and throughout the domestic economy. In this case the domestic profit rate could adjust upwards to equal the international rate of 14%. Here we have a case where not only is the inverse-profit-wage theorem upheld but the international rate of return determines (in Ricardo's sense of the word) the domestic return on capital as well. But Ricardo did not take this route!

Instead Ricardo chose to construct some elaborate examples of reciprocal international demand designed to show that it is the higher international rate that gets pulled down to the domestic (agricultural) rate. Why was Ricardo so attached to a doctrine that, according to Hollander, was really not essential to his theoretical system? Hollander has simply not answered this question in a satisfactory way.

On the other hand, if we are to support the consensus view about the doctrinal importance of the agricultural profit theory we must establish a "motive" on Ricardo's part for holding on to that theory of profit. In what sense did the agricultural theory play a strategic part in Ricardo's total system of analysis? I shall answer this question by recalling an interesting distinction first advanced by Archbishop Whately in 1832. Whately explained that contemporary economists, (Malthus and Ricardo being among them), often used the word "tendency" in two different ways when analyzing the economy. Sometimes it meant "the existence of a cause which, if operating unimpeded, would produce [some specified] result," while in other contexts, it meant "the existence of such a state of things that the result *may be expected to take place*."⁴² Apparently, in Malthus' *Essay on Population*, the claim that the population *tends to grow* more quickly than the food supply is interpreted as a prophecy that warns of an impending state of doom that every society must sooner or later experience. On the other hand, Malthus also spoke of the "tendency" for population to exceed the food supply as something that would occur *only in the absence of certain "preventive checks"*.⁴³ So long as the preventive checks are operating the "impending state of doom" might be avoided indefinitely.

Let us develop this interpretation further. One category of Malthus' checks on population growth consisted of delayed marriages and voluntary abstinence from sexual union—so-called "preventive checks." Other checks—the positive checks—consisted of vice and misery and are always present to some degree in all societies at all times in history. Now in any particular historical situation, both categories of checks work together to keep the size of the population in balance with the quantity of food but not to the same extent. If, for example, some unwise

government legislation lessened the effectiveness of one category of checks, then the other category becomes more decisive in its operation. This idea of a trade-off between the categories of checks and the implied value judgment that certain types of checks are more desirable (or consistent with our moral sensibilities) than others, furnished Malthus with a scientific basis for evaluating government legislation. Most notoriously, Malthus condemned the "poor laws" because they weakened the preventive checks and placed the greater burden of adjustment on the positive checks, misery and vice.⁴⁴ As an approach to policy analysis Malthus urged the state not to encourage malevolent historical trends.

In light of Ricardo's admiration for Malthus' theories about population, it may be assumed that, when Ricardo spoke of a "stationary state" and the "natural tendency of profits to fall (when) the additional quantity of food required is obtained by the sacrifice of more and more labour," he was employing a methodological device similar to Malthus' for evaluating broad changes in legislative policy.⁴⁵ Ricardo's "motive" then was to use the agricultural theory of profit which emphasizes the impact of diminishing returns or the return of investment to advocate certain legislative reforms.

It is hard to read the *Principles* without believing that when Ricardo spoke of a tendency for diminishing returns in agriculture to raise the price of corn, raise nominal wages, and lower the profit rate, he was describing what he believed was an unfortunate historical trend. Also, I have no doubt that Ricardo believed the accumulation of capital and population growth would eventually end and society arrive at the "stationary state."⁴⁶ However, both constructions served another purpose in the *Principles* besides historical prediction or prophecy. They served as reference points or standards against which

the desirability of certain government policies was judged. More specifically, the government should do nothing to accelerate those tendencies toward the stationary state and instead do everything in its power to retard their operation. In his *Principles*, Ricardo recommended that legislators not (1) retard agricultural improvements, (2) encumber the transfer of land titles, (3) discourage the importation of foreign grain, (4) subsidize large working class families or (5) tax the annual revenue of society too severely.⁴⁷ Insofar as it was the unfortunate impact of diminishing returns in agriculture on the accumulation process that informed these legislative recommendations, the tendency toward the stationary state and diminishing returns in agriculture play a similar methodological role in Ricardo's analysis as the "law of population" played by Malthus. As the foundation for Ricardo's policy analysis, diminishing returns at the margin of cultivation occupied a central and decisive position in Ricardo's analytic system.⁴⁸

IV

What is left of Hollander's challenge to the consensus view of Ricardianism? Certainly Hollander has distilled the *modus operandi* of Ricardo's theoretical system more accurately and in greater detail than nearly every modern writer on Ricardo. Hollander shows that Ricardo offered a systematic account of how relative prices move to guide the market economy from one equilibrium state to the next in order to uphold the inverse-profit-wage theorem. Hollander is especially critical of corn model accounts of Ricardo's system and the variety of related mathematical formulations of the Ricardian system that date to Whewell in the nineteenth and blossom with Pasinetti's work and that of the Cambridge U.K. school in the twentieth centuries, because they make the general profit rate depend entirely on conditions of

production in the wage goods sector and imply a rigid distinction between wage and nonwage goods.⁴⁹ This last distinction was simply not part of Ricardo's account of the market process.

In Hollander's view, an important part of this adjustment process is the role demand plays along with supply in determining output levels and relative prices. So long as (opportunity) costs vary with the level of production, demand must play an important part in the establishment of equilibrium prices and quantities. In recent years it has been fashionable among Cambridge, U.K. economists to locate the embryonic vision of Piero Sraffa's model of an economy where relative prices affect the distribution of income but not the pattern of physical output, in Ricardo's early writings.⁵⁰ This has required a general downplay of the role consumer demand plays in Ricardian economics. Alfred Marshall, the founder of the Cambridge, U.K. school, made Ricardo and J. S. Mill the pioneers of the general supply and demand approach, Sraffa and his students represent Ricardo as a pioneer of the reproducibility model approach in which supply and demand play an unimportant role in establishing long run equilibrium. Hollander's Ricardo is the Ricardo of Marshall not Sraffa. Hollander's Ricardo exists in the world of changing relative prices and outputs and the reshuffling of resources in response to considerations originating on both the demand and supply sides of the markets that leave their marks on long run equilibrium. And it is the inverse-profit-wage theorem that provides the unifying device for understanding how Ricardo's adjustment process was designed to operate.

Fortunately, all of this is quite consistent with the consensus view about the importance of the agricultural profit theory to Ricardo's entire theoretical system. As I see it, Hollander is irritated by the recent attempt on the part of Cambridge, U.K. to declare Ricardo a

"pre-Sraffian." In opposing this interpretation of Ricardo, Hollander is suggesting still another interpretation which centers about the inverse-profit-theorem. But surely diminishing returns in agriculture and its impact on the accumulation of capital cannot be relegated to second place in Ricardo's system. The behavior of returns at the margin of cultivation was essential to Ricardo's normative analysis of the long-run consequences of government policies. In conclusion, I would insist that Hollander has not dressed Ricardo in a new suit of clothes but rather helped us appreciate the embroidered fabric out of which the old suit of clothes was manufactured. This is no small achievement and this aspect of Hollander's contribution is not likely to pass out of fashion!

References

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3. See, for example, Oskar Morgenstern, *On the Accuracy of Economic Observations* (Princeton; New Jersey: Princeton University Press, 1963); see also W. Leontief, "Theoretical Assumptions and Nonobserved Facts," *American Economic Review*, 61 (March 1971): pp. 1-7.
4. See John Maynard Keynes, *The General Theory of Employment Interest and Money in Collected Writings of John Maynard Keynes*, 16 vols. (London: MacMillan, 1973), 7:364. This is also the definition of "Ricardianism" used by Barry J. Gordon in *Non-Ricardian Political Economy Five Neglected Contributions*, Boston: Baker Library, Harvard, 1967. See the review of the early literature in Thomas Sowell, *Say's Law: An Historical Analysis* (Princeton University Press, 1972), pp. 3-38.
5. On this point see William Baumol, "Say's (at least) Eight Laws, or What Say and James Mill May Really Have Meant," *Economica* 44 (May 1977): 145-61; and Hollander, *Economics of Ricardo*, pp. 474-539.
6. See Hollander, *The Economics of David Ricardo*, (Toronto: University of Toronto Press, 1979), pp. 474-500.
7. This thesis is explicitly stated and developed in Marjorie-Grice Hutchinson, *The School of Salamanca* (Oxford: Clarendon Press, 1952), see esp. pp. 59-78. See also, Emil Kauder, *A History of Marginal Utility Theory* (Princeton, Princeton University Press, 1965).
8. Ibid. See also Murray N. Rothbard, "New Light on the Prehistory of the Austrian School" in Edwin G. Dolan, ed. *The Foundations of Modern Austrian Economics*, (Kansas City, Sheed and Ward, 1976), pp. 52-74.
9. See Emil Kauder, "The Retarded Acceptance of the Marginal Utility Theory," *Quarterly Journal of Economics*, 67 (November 1953): pp. 564-75.
10. See my *Mountifort Longfield: Ireland's First Professor of Political Economy* (Ottawa: Ill: Green Hill, 1976), pp. 29-49.
11. Cf. Marian Bowley, "Predecessors of Jevons: The Revolution That Wasn't," *Manchester School* 60 (March 1972): 9-29.
12. See my *Mountifort Longfield*, pp. 39-44.
13. On Bohm-Bawerk's theory of value and emphasis on utility in price determination, see his *Positive Theory of Capital* in idem, *Capital and Interest*, trans. George D. Huncke and Hans F. Sennholz, (South Holland, Illinois: Libertarian Press, 1959, pp. 121-256. On his use of labor units in his presentation of interest theory, see *ibid.*, pp. 347-98.
14. See Gottfried von Haberler, *The Theory of International Trade with Its Application to Commercial Policy*, (New York: MacMillan, 1936), pp. 125-44.
15. See my *Mountifort Longfield*, pp. 42-43.
16. See George Stigler, "The Ricardian Theory of Value and Distribution," in *Essays in the History of Economics*, (Chicago: University of Chicago Press, 1965), pp. 156-197; Mark Blaug, *Ricardian Economics: A Historical Study* (New Haven: Yale University Press, 1958), pp. 6-37; William J. Baumol, *Economic Dynamics: An Introduction* (New York: MacMillan, 1959), 13-23; and J. R. Hicks, "Ricardo's Theory of Distribution," in M. Preston and B. Borry, ed., *Essays in Honour of Lord Robbins*, (London: Weidenfeld and Nicolson, 1973), pp. 160-167; Paul A. Samuelson, "The Canonical Classical Model," *Journal of Economic Literature* 16 (December 1978), pp. 1415-1434.
17. Alfred Marshall, *The Economics of Industry* (London: MacMillan, 1886), p. 42. Blaug, *Ricardian Economics*, pp. 38-46.
18. See esp. Piero Sraffa, "Introduction: in David Ricardo, *Principles of Political Economy and Taxation in Works and Correspondence of David Ricardo*, 11 vol. (London: Cambridge University Press, 1966).
18. (Continued) 1:xxx-xxxvii; Maurice Dobb, *Theories of Value and Distribution Since Adam Smith: Ideology and Economic Theory* (Cambridge: Cambridge University Press, 1973), pp. 65-95; Luigi Pasinetti, *Growth and Income Distribution: Essays in Economic Theory* (Cambridge: Cambridge University Press, 1974), pp. 1-28; and John Eatwell, "The Interpretation of Ricardo's *Essay on Profits*," *Economica* 42 (May 1975): pp. 182-87.
19. See Sraffa, "Introduction," pp. xxxi. Sraffa explains that while the "agricultural theory of profit" was part of Ricardo's *Essay on Profits* it was not carried over into his *Principles*; cf. Hollander, *The Economics of Ricardo*, pp. 695-705.
20. The most sophisticated statements of this thesis are in M. Dobb, *Theories of Value and Distribution Since Adam Smith*; and Ronald L. Meek, "Value in the History of Economic Thought," *History of Political Economy* 6 (Fall 1974): 246-260.
21. See for example, Hollander's "The Reception of Ricardian Economics," *Oxford Economic Papers* 29 (July 1977): pp. 221-57; "Ricardo and the Corn Laws: A Revision," *History of Political Economy*, 9 (1977): 1-47; "Ricardo's Analysis of the Profit Rate, 1813-15," *Economica* 40 (August 1973): 260-82; "Ricardo and the Corn Profit Model: Reply to Eatwell," *Economica* 42 (May 1975): 188-202; "Review of Sraffa and the Theory of Prices," *History of Political Economy* 11 (Fall 1979): 454-58; and also Hollander's *Economics of Ricardo*, esp. pp. 101-307 and 540-642.
22. See Ricardo, *Principles*, pp. 98-99; 108-109; 120; 125; 126-127; 132-33; 159; 161; 289; 292; 296; 307; 328; 335; 373; and 406.
23. *Ibid.*, p. 159.
24. *Ibid.*, pp. 215-42.
25. *Ibid.*, pp. 94-95. Cf. David Levy, "Ricardo and the Iron Law: A Correction of the Record," *History of Political Economy* 8 (Summer, 1976): 235-251; and John Hicks and Samuel Hollander, "Mr. Ricardo and the Moderns," *Quarterly Journal of Economics* 91 (Aug 1977): 351-69; and Hollander, *Economics of Ricardo*, pp. 375-95.
26. Hollander explains, "We must recall at this stage of the argument a distinction between the 'strong' proposition that the agricultural profit rate determines the profit rate elsewhere or a more sophisticated variation thereof that the state of agricultural productivity on the margin of cultivation is the unique determinant of the general profit rate; and the 'weaker' proposition that the state of agricultural productivity exerts an influence on the general profit rate although not to the exclusion of other forces. We have already demonstrated that Ricardo's position in the correspondence of 1814 implies the 'weak' formulation," ("Ricardo's Analysis," p. 275). See also Hollander, *Economics of Ricardo*, pp. 301-307 and 643-89.

27. Ricardo, *Principles*, pp. 305–306; and see also, Ricardo, “Letter to Malthus, 17 March 1815” in idem, *Works and Correspondence*, 6:194; and “Letter to Malthus, 18 December 1814,” in idem, *Works and Correspondence*, 6:162.
28. Ricardo, *Principles*, p. 420.
29. See Hollander “The Reception,” p. 221; and idem., *The Economics of Ricardo*, pp. 660–672.
30. This is the principal thesis of Mountifort Longfield, see esp. pp. 95–126.
31. Hollander, “The Reception,” and his “Review of Mountifort Longfield: *Ireland’s First Professor of Political Economy*,” *Canadian Journal of Economics* 11 (May 1978): 378–80.
32. See my *Mountifort Longfield*, pp. 120–22.
33. Hollander, *Economics of Ricardo*, pp. 191–269.
34. Ricardo, *Principles*, pp. 43–47.
35. Hollander, *The Economics of Ricardo*, pp. 191–269; and Ricardo, *Principles*, p. 128; and pp. 273–88.
36. See for example, John M. Cassels, “A Reinterpretation of Ricardo on Value,” *Quarterly Journal of Economics* 49 (May 1935) in J.J. Spengler and W.R. Allen, ed. *Essays in Economic Thought: Aristotle to Marshall* (Chicago: Rand McNally, 1960), pp. 431–441.
37. As early as mid-1813 correspondence, Ricardo can be found arguing against Malthus’ view that the rate of profit can be raised by a discovery of more profitable investment opportunities outside of agriculture. Ricardo denied that profits could be raised in any way except by a fall in nominal wages throughout all his writings and especially in the *Principles*; see Hollander, “Ricardo’s Analysis of the Profit Rate, 1813–15.”; and idem, *Economics of Ricardo*, pp. 175–183 and pp. 652–660.
38. Hollander has no difficulty documenting many instances where a disturbance outside agriculture causes a specific sector’s profit-rate to rise relative to agriculture. In all cases Ricardo’s position is the same; namely, that the profit-rate that has risen must be brought down into line with the profit rate in agriculture. The reason the profit rate in agriculture cannot increase is because the “margin is determined.” But why is the margin determined? Hollander is correct when he explains that Ricardo must justify this statement (Hollander, “Ricardo’s Analysis of the Profit Rate, 1813–15,” p. 281. Ricardo’s “justifications” are discussed in Hollander, *Economics of Ricardo*, pp. 293–307.
39. Ricardo, *Principles*, pp. 00.
40. See Hollander’s discussion of how prices fall to cost without any increase in output in *Economics of Ricardo*, pp. 290–98.
41. *Ibid.*, pp. 30–47.
42. Cited in N.B. deMarchi, “The Empirical Content and Longevity of Ricardian Economics,” *Economica* 37 (August 1970); p. 261.
43. Thomas Robert Malthus, “An Essay on the Principle of Population,” 7th ed. (London 1872) in idem., *On Population* (New York, Modern Library, 1960), pp. 158–165.
44. I owe this interpretation to Anthony Flew, “Introduction,” in Thomas Robert Malthus, *An Essay on Population and a Summary View of the Principle of Population* (Baltimore; Penguin Books, 1970), pp. 23–40; see pp. 38–39.
45. Ricardo, *Principles*, p. 108.
46. See *Ibid.*, p. 98; 108; 120; 125; 335; 373; and 406. Hollander agrees that Ricardo considered the “stationary state” something that would occur in the far off distant future; see, *Economics of Ricardo*, pp. 599–605.
47. *Ibid.*, pp. 80–84; pp. 154–55; pp. 312–14; pp. 105–108; and pp. 150–55.
48. This is not to say that Ricardo did not use other evaluative criteria as well such as “allocative efficiency,” and “price stability;” see Hollander, *Economics of Ricardo*, esp. pp. 599–642.
49. Hollander, *Economics of Ricardo*, pp. 695–705. See also Moss, “The Economics of Adam Smith: Professor Hollander’s Reappraisal,” *History of Political Economy* 8 (1976): 566n.
50. Hollander, “Sraffa and the Theory of Prices,” pp. 454–55.