The Labour Theory of Value: Economics or Ethics?
by
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1.0 Introduction.

The labour theory of value dominated the research agenda of economics for over two centuries, from at least the time of Sir William Petty in the 1660's to the 1870's when Léon Walras, Carl Menger and William Stanley Jevons established the marginal utility theory of value. One generation of economists after another struggled to explain the price of commodities by the labour required to produce them. This became the paradigm of political economy, at least among British economists. Nearly everybody criticized the theory, however, because they saw errors in work their predecessors. Adam Smith, David Ricardo and Karl Marx all made significant modifications and introduced important exceptions to the theory. They wanted to keep the old theory and tried to correct the errors in it, because they believed in the philosophical, moral or ethical implications of it.

The philosophical foundation of the labour theory of value rests on a self-evident truth: all commodities are ultimately produced by labour alone. All the material things that exist on the face of the earth were originally free gifts of nature. According to this theory, things only have value when labour makes them useful to mankind, including tools and machines, which can be used to make new things. The labour employed to produce a commodity today requires tools, materials and supplies made yesterday, which in turn required labour to produce them beforehand, and so on retrospectively back to the age of stone axes and flint knives. From this perspective, all commodities originally arose from mixing labour with the things of nature. Petty tried to measure the value of commodities by the land and labour used to produce them. He treated capital goods as the product of "past labour." John Locke turned this conception into a theory of property rights and established the "political" agenda of classical political economy. Whether classical economics took the form of Liberalism or Marxism, it rests on the moral principle that people are entitled to the fruits of their labour.[i]

The purpose of this paper is to show how the ideas of Petty and Locke can be seen in the works of Adam Smith, David Ricardo, and Karl Marx. It is not a commentary on modern commentaries. Petty may be taken as the starting point on the authority of Karl Marx, who wrote "the founder of modern political economy is Sir William Petty, one of the most gifted and original economic investigators."

2.0 Petty's two measures of value.

Sir William Petty gave his economic speculations an empirical foundation whenever possible. As a medical doctor who served as professor of anatomy at Oxford, he approached economics from the natural science point of view. He called it "Political Arithmetick," because he believed economic policy should be based on social statistics. Petty (1899 [1676]: 244) acknowledged his debt to Sir Francis Bacon and vowed to express himself "in Terms of *Number*, *Weight*, or *Measure*; to use only arguments of Sense, and to consider only such Causes, as have visible Foundations in Nature." He wanted to base his work on observed reality, but the process of classifying observations requires abstract concepts. Theory comes before the collection of statistics and the analysis of data.

His economic theory commanded the attention of his successors, because he asked questions about fundamental issues. He identified the agents of production as land, labour and capital, which he called stock; he constructed national income and national wealth accounts for England and Wales for 1665;[ii] and he considered the

[i]1 Marx (1969: 1, 356) justly maintained that Locke's "philosophy served as the basis for all the ideas of the whole of subsequent English political economy." The influence of Locke on the philosophical foundations of classical economics is treated by James Bonar (1893: 91-103) and by Werner Stark (1944: 1–30), though they do not always agree with each other. Gunnar Myrdal (1953: 71) wrote that "In its purest form, the theory demands laissez-faire, for it implies the view of the `sacred' right of man to the fruits of his work." Schumpeter (1950 [1942]: 298-99) went even further: "The ideology of classical socialism is the offspring of bourgeois ideology. In particular, it fully shares the latter's rationalist and utilitarian background and many of the ideas and ideals that entered the classical doctrine of democracy."

[ii] In the 1665 National Wealth Account that Petty (1899 [1667] :105–110) constructed for England and Wales, he

origin, measure and regulation of value to be distinct concepts. His theory consisted of little thought experiments, which often took the form of aphorisms or parables.

For Petty, land and labour were the original source of all commodities: "Labour is the Father and active principle of Wealth, as Lands are the Mother (Petty, 1899 [1662]: 68)." While the emphasis on land and labour was not new, Petty turned it into a fundamental notion of classical economics. Smith (1976 [1776]: 65), for example, began his hypothetical economic history of the world in an "early and rude state of society," where land and labour were the only agents of production. Petty (1899 [1664]: 110) defined capital, or "what we call the Wealth, Stock, or Provision of the Nation," as "being the effect of former or past labour."

J.K. Ingram (1893: 51) and Eric Roll (1956: 106-107), among other authorities, have found places where Petty seems to explain the prices of commodities by the labour embodied in them.[iii] While Petty (1899 [1662]: 50) certainly stressed the role of labour in production, he did not ignore land. In his parable of a man trading silver from Peru for corn in England, for example, he appears to define the natural price of commodities by the labour embodied in them: "If a man can bring to *London* an ounce of Silver out of the Earth of *Peru*, in the same time that he can produce a bushel of Corn, then one is the natural price of the other." This statement appeared, however, in the context of trying to measure the value of rent paid in corn by its value in money.

Earlier he had set up a little thought experiment to explain what determines the rent of land in terms of corn:

> Suppose a man could with his own hands plant a certain scope of Land with Corn, that is, could Digg, or Plough, Harrow, Weed, Reap, Carry home, Thresh, and Winnow so much as the Husbandry of this Land requires; and had withal Seed wherewith to sowe the same. I say, that when this man hath subducted his seed out of the proceed of his Harvest, and also, what himself hath both eaten and given to others in exchange for Clothes, and other Natural necessaries; that the remainder of Corn is the natural and true Rent of the Land for that year (Petty, 1899 [1662]: 43).

Then he asked, "how much English money this Corn or Rent is worth?"

> I answer, so much as the money, which another single man can save, within the same time, over and above his expence, if he imployed himself wholly to produce and make it; *viz.* Let another man go travel into a Countrey where is Silver, there Dig it, Refine it, bring it to the same place where the other man planted his Corn; Coyne it, &c. the same person, all the while of his working for Silver, gathering also food for his necessary livelihood, and procuring himself covering, &c. I say, the Silver of the one, must be esteemed of equal value with the Corn of the other: the one being perhaps twenty Ounces and the other twenty Bushels. From whence it follows, that the price of a Bushel of this Corn to be an Ounce of Silver (Petty, 1899 [1662]: 43).

Clearly, the production of corn has requires two agents: labour and land. The value of the corn includes both the subsistence of labour and the rent of land. The silver mine also produced a surplus of 20 ounces over the subsistence of the miner. The market prices of silver and corn are regulated by the wages of labour plus a surplus of silver or corn attributable to nature, whereas in a pure labour theory of value labour alone regulates values. The subsistence of the labourer is Petty's (1899 [1672]: 181) proxy for his labour measure of value.

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estimated the value of the capital stock at £106 million (consisting of housing, shipping, livestock, coins and goods), the land at £144 million and the capitalized value of labour at £417 million. In the economy of 1665, housing would include agricultural, commercial and industrial structures. In his corresponding National Income Account, he put wages at £25 million, rent at £8 million and the yield of "Money and other personal estates,"that is, capital, at £7 million.

[iii] Notable commentators on Petty include Karl Marx (1969-72:1, 361), C.H. Hull (1899: lxxiii; 1900:330-331), E.A.J. Johnson (1937: 102-13), J.A. Schumpeter (1954: 211-15), T. Aspromourgos (1986: 28-45) and T. Hutchison (1988).

The parable of silver and corn was intended to explain how all things could be measured by either land or labour. Indeed, Petty's (1899 [1662]: 13, 49) table of contents labeled this section "The Par between food or other proceed of land, and Bullion or Coin;" and, after finishing the parable, Petty called it "our digression upon the measures of Rents and Values of Lands and Moneys." Since value comes from two sources, Petty (1899 [1662]: 44) thought that it should be measured in two ways: "All things ought to be valued by two natural Denominations, which is Land and Labour; that is, we ought to say, a Ship or a garment is worth such a measure of Land, with such another measure of Labour; forasmuch as both Ships and Garments were creatures of Lands and mens Labours thereupon" The claim that both land and labour create the value of ships and garments entails a theory of the origin of value, a theory which explains how things become valuable. The two natural denominations of value also denote a theory of the measure of value, a theory which explains how to compare the value of things. The two measures of value follow logically from the double origin of value.

In *The Political Anatomy of Ireland* Petty explains his two measures of value in his parable of the calf. After the calf is fattened in a field without the assistance of labour, Petty asked how much food a man could grow on the same field. The wages of the workman consist in the excess value of his crop over the increase in the value of the calf. The two values could, thus, be measured and compared. Petty (1899 [1672]: 181) emphasized this double measure of value, for he introduced the parable of the calf by saying "this brings me to the most important Consideration in Political Oeconomies, *viz*. how to make a *Par* and *Equation* between Lands and Labour, so as to express the Value of any thing by either alone" The measure of value is distinct from the origin of value and regulation of value. The origin of value concerns why things have value in principle and in the abstract, the regulation of value explains what determines market prices. Petty left these three concept for his classical successors to develop.

3.0 Locke: labour as the origin of value.

John Locke presented nearly all h_>Ñdconomic ideas in two publications: *Two Treatises of Government* and *Some Considerations of the Consequences of the Lowering of Interest, and Raising the Value of Money*. As their titles indicate, they are not primarily concerned with the labour theory of value. The *Two Treatises* deals with political philosophy. Economic matters arise in connection with the principles of justice, where Locke traced property rights to the labour spent on the production of things. *Some Considerations* is a political tract on monetary policy, in which he argued that Parliament should not reduce the rate of interest. While Locke never wrote a monograph on value theory as such, he directly and obviously influenced the philosophical foundation and the analytical perspective of classical economics.

Locke’s (1967 [1690]: 287-88) theory of property rights begins in a hypothetical state of nature, where men hold the gifts of nature in common.

> Though the Earth, and all inferior Creatures be common to all Men, yet every Man has a *Property* in his own Person. This no Body has any Right to but himself. The *Labour* of his Body, and the *Work* of his Hands, we may say, are properly his. Whatsoever then he removes out of the State that Nature hath provided, and left it in, he hath mixed his *Labour* with, and joyned to it something that is his own, and thereby makes it his *Property.* It being by him removed from the common state Nature placed it in, it hath by this *Labour* something annexed to it, that excludes the common right of other Men. For this *Labour* being the unquestionable Property of the Labourer, no Man but he can have a right to what that is once joyned to, at least where there is enough, and good left in common for others.

Thus, while all the material things of this world began as the common property of all mankind, they become the private property of the individuals who appropriated them.[iv]MacPherson traces this philosophy from Hobbes to

[iv] C.B. MacPherson (1962, p. 264) has called this “possessive individualism.” He argues that the assumptions of possessive individualism received their “clearest and fullest” expression from Hobbes.

> His model of man, as the sum of man's powers to get gratifications, reduces the human essence to freedom from others' wills and proprietorship of one's own capacities. His model of society, which follows from his model of man plus the assumption that every man's powers are opposed to every other man's, we have seen to be a full possessive market model.

Locke, but it clearly extends to Adam Smith and beyond. This is an ethical theory, not an economic theory; and it also has an obvious religious basis. Locke (1967 [1690]: 172) noted how God made Adam a day labourer for life when He cast him out of Paradise: "In the sweat of thy face shalt thou eat thy bread, till thou return unto the ground, for out of it wast thou taken, for dust thou art, and unto dust shalt thou return"

His economic theory improved upon Petty by more clearly distinguishing between the origin, the measure and the regulation of value. (1) His theory of the origin or source of value comes out of his theory of property rights. It explains how labour produces most of the value of useful things, which is the philosophical foundation of classical economics. (2) His measure of value is more practical than theoretical, for it concerns protecting fixed incomes like rent against a decline in the value of money, that is, against inflation. (3) When he turned to the regulation of value, however, he abandon the labour theory of value and presented what is often called a supply and demand theory. These three concepts – the origin, measure and regulation of value -- were discussed by all the important classical and early neoclassical economists.[v] A.C. Whitaker (1968 [1904]) has correctly observed in his *History and Criticism of the Labor Theory of Value in English Political Economy* that these concepts are the “key” to understanding the labour theory of value.

First, the theories of the origin of value presented by Petty and by Locke were similar, but they served different purposes. Petty wanted to trace the value of things back to the land and labour embodied in them, so that he could measure value by its two natural dimensions. He got rid of capital by supposing that it was merely the past labour embodied in the accumulated stock of things. Locke (1967 [1690]: 298) also traces the value of commodities back to a state of nature.

> For 'tis not barely the Plough-man's Pains, the Reaper's and Thresher's Toil, and the Bakers Sweat, is to be counted into the *Bread* we eat; the Labour of those who broke the Oxen, who digged and wrought the Iron and Stones, who felled and framed the Timber imployed about the Plough, Mill, Oven, or any other Utensils, which are a vast Number, requisite to this Corn from its being seed to be sown to its being made Bread, must all be *charged on* the account of *Labour*, and received as an effect of that: Nature and the Earth furnished only the almost worthless Materials, as in themselves. 'Twould be a strange *Catalogue of things, that Industry provided and made use of, about every Loaf of Bread,* before it came to our use, if we could trace them; Iron, Wood, Leather, Bark, Timber, Stone, Bricks, Coals, Lime, Cloth, Dying-Drugs, PiK´fÒ Tar, Masts, Ropes, and all the Materials made use of in the Ship, that brought any of the Commodities made use of by any of the Workmen, to any part of the Work, all which, 'twould be almost impossible, at least too long, to reckon up.

This notion, which accounts for what Petty called “past labour,” is repeated in one form or another by Adam Smith, David Ricardo, Karl Marx, and most other classical economists. His seemingly innocent comment that all of which “would be almost impossible, at least too long, to reckon up” is the Achilles heel of any empirical labour theory of

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v A theory of the origin of value is an explanation of a cause of causes. The classical economists saw labour as the cause of value, for which they were severely criticized by the early neoclassical economists. The early neoclassical economists, who developed the marginal utility theory, thought they had found the truth when they claimed that utility is the origin of value. In his *Principles of Economics,* Carl Menger (1950 [1871]) claimed that value originates in the relation between man's needs for various things and the quantities of them that are available. Friedrich von Wieser (1956 [1888]: 3) began *Natural Value* with a chapter on “The Origin of Value,” in which he asked: “Whence do things get their value?” Where goods are scarce, von Wieser (1956 [1888]: xxxii) said, “utility creates value.” Léon Walras (1954 [1874-77]) included a lesson entitled “Exposition and Refutation of Adam Smith's and J.B. Say's Doctrines of the Origin of Value in Exchange” in his *Elements of Pure Economics*, in which he traced the origin of value to rareté, the Walrasian term for marginal utility. W.J. Jevons (1957 [1871], 2) also included a section “On the Origin of Value” in his *Theory of Political Economy*, in which he asserted that “value depends entirely upon utility.” By early in the twentieth century, discussion of the origin of value disappeared from the economic literature, because there is no such thing. In a competitive economy, exchange values depend on the complex of wants, technical knowledge, resources and their distribution among the people. Dooley (1900) compares the classical and neoclassical theories of the origin, measure and regulation of value.

value: The past labour embodied in the production of things today cannot be known.

While Locke (1967 [1690]: 298) attributes value to both land and labour like Petty, he gives a much greater emphasis to labour, because labour "*puts the greatest part of the Value upon Land*, without which it would scarcely be worth any thing."

> I think it will be but a very modest Computation to say, that of the *Products* of the Earth useful to the Life of Man 9/10 are the effects of *Labour*: nay, if we will rightly estimate things as they come to our use, and cast up the several Expences about them, what in them is purely owing to *Nature*, and what to *labour*, we shall find, that in most of them 99/100 are wholly to be put on the account of *labour* (Locke, 1967 [1690]: 296).

This may be called a 99 percent labour theory of value. How Locke made this very modest calculation is not at all clear, because all labour required to produce anything going back to an original state of nature "would be almost impossible, at least too long, to reckon up."

Second, the practical importance of measuring values forºúTÍke arose from the problem of inflation, which he described as a fall in the value of money. Gold and silver declined in value after the discovery of America, and coins fell further with the debasement of their gold and silver content. Since landlords often rented their land for a tenant's life, sometimes for many lives, the real value of their rental income declined when it was fixed in terms of money. It was, therefore, sensible to find an invariable measure of value.

A measure of value is a commodity or bundle of commodities by which we reckon the value of other things. Any commodity could serve as a measure of value, here and now, in a particular market, because equal values are given in exchange; but things are usually given in exchange for money, so that people customarily think of prices in terms of money. Money, as Locke (1991 [1692]: 248) observed, "is the universal measure by which people reckon, and is used by every body in the valuing of all Things."

Money is not a steady or unalterable measure of value, however, because money and every other commodity change in value over time. No two commodities ever exchange at the same fixed ratio year after year. Locke (1991 [1692]: 264) asked, does a commodity exist that has a fixed absolute value? He answered, money would be such a commodity,

> if in any country they use for Money any lasting Material, whereof there is not any more to be got, and so cannot be increas'd; or being of no other use, the rest of the World does not value it, and so it would not like to be diminished; this also would be a steady standing Measure of the Value of other Commodities.

This apparently means that a commodity would be a perfect measure of value if the quantity of it never changed. But, even if neither the supply of it nor the demand for it ever changed, the value of all other commodities may change relative to it, in which case it would be impossible to determine whether its value remained constant. The quest for an invariable measure of value became a common theme of classical economics. Locke (1991 [1692]: 265) reached the right practical conclusion: "it is impossible to have any standing, unalterable measure of the value of things."

Third, Locke explains the regulation of commodity prices with his "Laws of Value," which apply to the market period when the commodities brought to market have already been produced. Since the quantity supplied is previously given, the cost of production is a bygone and irrelevant to current prices. Its value depends on supply and demand, as the following sketch makes clear:

> For a Farmer that carries a Bushel of Wheat to Market, and a Labourer that carries a Half a Crown, shall find that the Money of the one, as well as the Corn of the other, shall at some times purchase him more or less Leather or Salt, according as they are in greater Plenty and Scarcity one to another (Locke, 1991 [1692]: 249).

Locke's marketable value is Smith's market price, the price at which a commodity actually sells. The whole quantity is evidently offered for sale, perhaps with a reservation price. While Karen Vaughn (1980: 21) has criticized Locke for his treatment of supply and called it "scanty," which is certainly true, the theory of price for the market period in Smith, Ricardo, Alfred Marshall and Phillip Wicksteed, among others, follows the picture sketched by Locke.

Locke did not develop his supply and demand analysis beyond the market period. While he noted that farmers adjust their production to demand, he did not have a long run, competitive, cost of production theory of the natural price. The farmer has already produced the wheat when he comes to market, and he sells it for whatever it will fetch. Locke (1991 [1692]: 259, 237, 328) understood that where goods are neither engrossed nor monopolized, but are exposed to "free" trade, the "true market-price" is established in the same way as weights find their "aequilibrium" on a scale.

4.0 Adam Smith's labour theories of value.

Adam Smith (1976 [1776]: 10) began the *Wealth of Nations* with the bold assertion that national wealth is due to labour. The first sentence of the book states:

> The annual labour of every nation is the fund which originally supplies it with all the necessaries and conveniencies of life which it annually consumes, and which consist always either in the immediate produce of that labour, or in what is purchased with that produce from other nations.

This passage establishes two points. First, Smith claims that the annual labour produces the annual consumption of the nation. This is true in civil society as well as primitive society, since international trade only occurs in civil society. The omission of land and capital is striking, especially in such a celebrated book on capitalism. Aside from "the spontaneous productions of the earth," which Locke (1967 [1690]: 294-5) also mentioned, Smith (1976 [1776]: 332) treated land as productive only when labour worked it or gathered things from it. Land provides the physical things used in production as fr=200ifts of nature. Second, Smith defines the wealth or welfare of the nation in terms of consumption. Elsewhere Smith (1976 [1776]: 660) wrote: "Consumption is the sole end and purpose of all production."

Capital goods are simply "past labour," to use Petty's expression, as Smith (1976 [1776]: 330) illustrated in his discussion of productive and unproductive labour:

> the labour of the manufacturer fixes and realizes itself in some particular subject or vendible commodity, which lasts for some time at least after that labour is past. It is, as it were, a certain quantity of labour stocked and stored up to be employed, if necessary, upon some other occasion.

Productive labour adds value to physical things which survive the period of production, whether they are acquired by consumers or producers. The analytic significance of productive labour arises from the fact that only productive labour produces capital goods, as the title of the chapter implies: "Of the Accumulation of Capital, or of productive and unproductive Labour." Capital accumulation indirectly increases the wealth of nations, because it extends the division of labour; but capital itself is simply so much crystallized or congealed labour-time. Capital is not an original factor of production; it is accumulated labour

Smith (1976 [1776]: 65) also presented a pure labour theory of value-in-exchange, but it only applied in a Lockean state of nature.

> In that early and rude state of society which precedes both the accumulation of stock and the appropriation of land, the proportion between the quantities of labour necessary for acquiring different objects seems to be the only circumstance which can afford any rule for exchanging them for one another. If among a nation of hunters, for example, it usually costs twice the labour to kill a beaver which it does to kill a deer, one beaver should naturally exchange for or be worth two deer. It is natural that what is usually the produce of two days or two hours labour, should be worth double of what is usually the produce of one day's or one hour's labour.

In this state of things, Smith (1976 [1776]: 65) explained " the whole produce of labour belongs to the labourer. He has neither landlord nor master to share with him." The whole produce is due to labour, as in Locke's theory of property rights, which Smith (1976 [1776]: 138) endorsed: "The property which every man has in his own labour, as it is the original foundation of all other property, so it is the most sacred and inviolable."

4.1 The regulation of value in civil society

When Smith turned to civil society, where capital is accumulated and land is appropriated, his labour theory of value broke down as an explanation of market prices.[vi] The whole produce of labour is then divided between three social classes: labourers, landlords and capitalists. With the accumulation of capital comes the profits of stock, which Smith (1976 [1776]: 67) explained as follows:.

> In this state of things, the whole produce of labour does not always belong to the labourer. He must in most cases share it with the owner of the stock which employs him. Neither is the quantity of labour commonly employed in acquiring or producing any commodity, the only circumstance which can regulate the quantity which it ought commonly to purchase, command, or exchange for. An additional quantity, it is evident, must be due for the profits of the stock which advanced the wages and furnished the materials of that labour.

With the appropriation of land, Smith (1976 [1776]: 67) continued, comes the rent of the landlord:

> As soon as the land of any country has all become private property, the landlords, like all other men, love to reap where they never sowed, and demand a rent even for its natural produce. The wood of the forest, the grass of the field, and all the natural fruits of the earth, which, when land was in common, cost the labourer only the trouble of gathering them, come, even to him, to have an additional price fixed upon them. He must give up to the landlord a portion of what his labour either collects or produces. This portion, or, what comes to the same thing, the price of this portion, constitutes the rent of land, and in the price of the greater part of commodities makes a third component part

In civil society, prices have three component parts: wages, profit and rent. Smith continued to argue, however, that all production was due to labour, that labour was the origin of value. He only abandoned the notion that labour regulates value in civil society, that it determines market prices. He even developed an elaborate theory of labour as a measure of value.

The theory of market prices presented by Smith involves three distinct periods of time: (1) a temporary period, like Locke's theory, where market prices are determined by supply and demand; (2) a long period, where competition reallocates land, labour and capital among various commodities until the market price equals the cost of production, which is the "natural price" of a commodity; and (3) a secular period, where the accumulation of capital and the growth of population regulate the cost of production and the "natural price." "The natural price," Smith (1976 [1776]: 75) explained, "is, as it were, the central price, to which the prices of all commodities are continually gravitating."

The proportions of land, labour and capital that are employed in a country ultimately determine the natural rates of wages, profit and rent. As a country progresses, capital accumulates and population grows, while land is constant, so that factor proportions of change. Therefore, the natural rates of wages, profit and rent also tend to change, which causes the relative value of commodities that are produced with different proportions of land, labour and capital to vary.

4.2 The measure of value.

Smith's *Inquiry into the Nature and Causes of the Wealth of Nations* required him to measure the value of production so that he could compare the wealth of different nations. He considered gold, silver and corn as measures of value, but concluded that they fluctuated in value over time. To get around this problem, Smith (1976

[vi] For further discussion of classical price theory, see E. Roll (1956), G.J. Stigler (1965 [1958]), M. Blaug (1978), D.P. Levine (1977), D. O'Brien (1975), S. Hollander (1973, 1979), M.H. Dobb (1973), R. Meek (1956, 1977), V. Bladen (1938, 1975), and P. Douglas (1966 [1928]), Walsh and Gram (1980), R. O'Donnell (1990) and T. Peach (1993), among many others.

[1776]: 50) asserted that the sacrifice of the labourer is constant.

> Equal quantities of labour, at all times and places, may be said to be of equal value to the labourer. In his ordinary state of health, strength and spirits; in the ordinary degree of his skill and dexterity, he must always lay down the same portion of his ease, his liberty, and his happiness. The price which he pays must always be the same, whatever may be the quantity of goods which he receives in return for it. Of these, indeed, it may sometimes purchase a greater and sometimes a smaller quantity; but it is their value which varies, not that of the labour which purchases them. At all times and places that is dear which it is difficult to come at, or which it costs much labour to acquire; and that cheap which is to be had easily, or with very little labour. Labour alone, therefore, never varying in its own value, is alone the ultimate and real standard by which the value of all commodities can at all times and places be estimated and compared. It is their real price; money is their nominal price only.

He made labour his universal measure of value on the assumption that the sacrifice of labour is an absolute value that does not vary over time or space. He assumed that labourers are homogeneous and make the same sacrifice for any given type of work at all times and places. Thus, labour sacrifice is his measure of the wealth of nations. It is his real price of commodities.[vii]

Smith's real price of commodities is his labour command theory of value. It is based on his theory of the origin of value, for it supposes that labour and labour alone produces all value. An individual who exchanges one commodity for another commodity is, according to Smith (1976 [1776]: 47), exchanging one quantity of labour for another.

> The value of any commodity, therefore, to the person who possesses it, and who means not to use or consume it himself, but to exchange it for other commodities, is equal to the quantity of labour which it enables him to purchase or command. Labour, therefore, is the real measure of the exchangeable value of all commodities.

Similarly, the wealth of bottindividual can be measured by the quantity of labour that he can command, which, Smith (1976 [1776]: 48) wrote, is the same thing as the total output that he can command.

> His fortune is greater or less, precisely in proportion to the extent of this power; or to the quantity either of other men's labour, or, what is the same thing, of the produce of other men's labour, which it enables him to purchase or command.

What is the same thing? The quantity of labour and the produce of labour are the same thing because labour is the sole value-creating substance. The real price of commodities, Smith's labour-command measure of value, is output per unit of labour sacrifice.

Smith (1976 [1776]: 51) confused many of his readers, however, because he also used the wages or subsistence of labour as a measure of value, which he called the real price of labour.

> In this popular sense, therefore, labour, like commodities, may be said to have a real and a nominal price. Its real price may be said to consist in the quantity of the necessaries and conveniencies of life which are

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[vii] What Smith (1976 [1776]: 47, 50) meant by "labour" is not entirely clear. His language vacillates between something akin to Jevons' "disutility" of labour, which the utilitarians called "pain," and the more modern concept of leisure forgone: "toil and trouble" suggests disutility, whereas "he must always lay down the same portion of his ease, his liberty, and his happiness" implies the principle of opportunity cost. Since Smith had a theory of occupation choice, where different occupations involved different degrees of hardship or ingenuity, he emphasized the disutility of labour more than leisure forgone. Both disutility and leisure forgone may be considered sacrifices. Smith's theory of occupation choice clearly implies that labour is homogeneous. In contrast to Senior (1965 [1836]: 129--30, 217--20), Smith does not consider the possibility of some individuals receiving a "rent of ability" because they possess extraordinary natural talents or of some occupations, such as nursing, earning permanently low wages because some people strongly prefer these occupations to others; and he treats "acquired and useful abilities (1976 [1776]: 282)" as a species of capital, which receives the ordinary rate of profit. Where labour is homogeneous, an hour of work is an objective phenomenon.

> given for it; its nominal price, in the quantity of money.

The subsistence of the labourer cannot measure the wealth of nations, because it excludes the goods consumed by the landlords and capitalists. It measures the wealth of labourers only.[viii]

4.3 The rent of land.

The rent of land is paid for the use of the free gifts of nature, and those free gifts are inherently heterogeneous and limited in quantity. Rent, therefore, is partly determined by the fertility or locality of a tract of land and partly determined by the advancing, stationary or declining state of society. As society progresses, Smith argued (1976 [1776]: 162) that the natural rent of land is price determined, not price determining.

> High or low wages and profit, are the causes of high or low price; high or low rent is the effect of it. It is because high or low wages and profit must be paid, in order to bring a particular commodity to market, that its price is high or low. But it is because its price is high or low; a great deal more, or very little more, or no more, than what is sufficient to pay those wages and profit, that it affords a high rent, or a low rent, or no rent at all.

As population grows and the demand for food increases, land becomes increasingly scarce; and the rent of land naturally tends to rise in all its alternative uses. Corn land must compete with pasture land and pasture land with forest land. A man will not plant a forest unless his harvest of trees promises him as large a rent as the cattle and corn he must forgo. All rents tend to rise together. In this case, rent is a surplus, not a cost of production.

If the market price of a particular crop, such as barley, should fall below its natural price, however, the rent of that land will tend to fall below its natural rate. In this case, Smith (1976 [1776]: 75) explained that rent is a cost of production, so that "the interest of the landlords will immediately prompt them to withdraw a part of their land." The alternative uses of land make rent a cost of production in each alternative use, not only to the farmer, but also to society.[ix] Smith did not, perhaps, fully and distinctly formulate his theory of rent, for Ricardo and others apparently did not understand it.

4.4 Justice and taxation.

As a moral philosopher, Smith must have been uncomfortable with the inherent contradiction presented by civil society. Once land is appropriated and capital accumulated, "the whole produce of labour does not always belong to the labourer;" yet, Smith (1976 [1776]: 138) still maintained the moral principle that "the property which every man has in his own labour, as it is the original foundation of all other property, so it is the most sacred and inviolable." To some extent, his policy prescriptions on taxation ameliorate this contradiction.

In his theory of the incidence of taxation, Smith (1976 [1776]: 848) contended that a tax on rent or on profit would not affect production, provided that the tax on rent applied to all the alternative uses of land and that the tax on profit applied to only the interest on capital, excluding any premium that may be necessary to induce the capitalist to enter risky or disagreeable occupations.

> As a tax upon the rent of land cannot raise rents; because the neat produce which remains after replacing the stock of the farmer, together with his reasonable profit, cannot be greater after the tax than before it: so, for the same reason, a tax upon the interest of money could not raise the rate of interest; the quantity of

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[viii] Meek (1956), Hollander (1973), Blaug (1978) and others have contended that labour command refers to the wages or subsistence of the labourer, which, however, Smith called the real price of labour. It was his rough index of economic welfare. Bladen (1938, 1975) maintained, in contrast, that Smith measures the value of commodities as well as wages, profit and rent by the real price of commodities, not the real price of labour.

[ix] Knight (1965 [1935]:150) has explained this principle with great clarity: "The cost of any alternative (simple or complex) chosen is the alternative which has to be given up; where there is no alternative to a given experience, no choice, there is no economic problem, and cost has no meaning." See also Buchanan (1946 [1929]) for a clear discussion of the classical theory of rent.

> stock or money in the country, like the quantity of land, being supposed to remain the same after the tax as before it.

This is consistent with his theory of rent, where "high or low wages and profit, are the causes of high or low price; high or low rent is the effect of it;" but not his theory of growth, where capital accumulation stops when profits fall too low.

A general tax on the rent of land does not affect the price of food, because rent is a surplus which costs no effort to produce. It falls wholly on the landlord. A particular tax, such as a tax on barley land, however, would reduce the quantity of land planted in barley and raise the price of barley until that land yielded the same rent it would in any other crop. Smith praised the land-tax of Great Britain, which was assessed according to a fixed standard that did not vary with the rent of land. A landlord who improved his land could keep the revenue derived from the improvements. Such a tax, wrote Smith (1976 [1776]: 828-29) "as it has no tendency to diminish the quantity, it can have none to raise the price of that produce. It does not obstruct the industry of the people. It subjects the landlord to no other inconveniency besides the unavoidable one of paying the tax."

Smith (1976 [1776]: 847-49) divided profits into three parts: pure interest, a premium for risky employments, and a premium for disagreeable employments of capital (or discount for agreeable employments). A tax that reduced the return to either risky or disagreeable employments would divert capital to other employments. It would reduce the output of such industries and raise the price of their products until investment in them would be as attractive as their alternatives, so that the tax would ultimately be paid by the consumer. A tax on the pure interest of a previously accumulated stock of capital is more like a tax on a fixed quantity of land. It is a tax on a surplus, but Smith recommended against such a tax on practical grounds. As a practical matter, capital is commonly concealed, so that a tax on capital would be difficult to assess. Furthermore, unlike land, capital can be removed from the country, if taxes are too high.

Most classical economists accepted the policy of taxing the rent of land. Ricardo presented so rigorous a restatement of Smith's theory that even neoclassical economists like Walras and Marshall agreed with much of it, despite all the criticisms of it. Their position reflects the notion that land is a free gift of nature that costs no effort to produce. Rent tends to rise as society progresses without any effort or sacrifice by the landlord. Therefore it could be taxed away without affecting production. A tax on pure profits proved less appealing since it may reduce the rate of saving and retard capital accumulation. Smith's theory of this incidence of taxation is consistent his principle of justice. If rent and pure profit were taxed away, labour would receive the value of what it creates in civil society just as it would in a Lockean state of nature.

5.0 Ricardo corrects Smith

David Ricardo accepted the general framework presented by Adam Smith. He believed that society was divided into three classes: labourers, capitalists and landlords. The principal problem of political economy for Ricardo was to determine the laws which regulate the distribution of income among these classes in the form of wages, profit and rent. As capital accumulates and as population grows the income allotted to the different classes changes. Before he turned to the question of income distribution, however, he sought to correct and rehabilitate the labour theory of value presented by Adam Smith.

5.1 Labour values

Ricardo quoted and endorsed Smith's (1976 [1776]: 65) example of the beaver and the deer, where "the proportion between the quantities of labour necessary for acquiring different objects seems to be the only circumstance which can afford any rule for exchanging them for one another." Whereas Smith restricted his labour theory of value to a primitive society which precedes the accumulation of capital and the appropriation of land, Ricardo (1951 [1821]: 24-25) sought to apply it to civil society where income is divided among wages, profit, and rent:

> If we look to a state of society in which greater improvements have been made, and in which arts and commerce flourish, we shall still find that commodities vary in value conformably with this principle: in estimating the exchangeable value of stockings, for example, we shall find that their value, comparatively

with other things, depends on the total quantity of labour necessary to manufacture them, and bring them to market.

Even though he alludes to the metaphysical concept of labour as the origin of value, he was not much interested in such philosophical abstractions. His theory focused on the regulation and measurement of market prices. Ricardo (1951 [1821]:13) wanted to explain the empirical phenomenon of value-in-exchange with a logically consistent theory that was based on the doctrine that labour "is really the foundation of the exchangeable value of all things, excepting those which cannot be increased by human industry."

5.2 Exceptions, qualifications and modifications

This ambitious agenda soon led him into a long series of exceptions, qualifications and modifications to his theory, which take up most of Chapter I "On Value" in the third edition of his *Principles of Political Economy and Taxation.*

First, he noted where commodities are naturally scarce or artificially monopolized, their values are unrelated to the labour required to produce them, so he treated them as exceptions to his theory and explained their value by scarcity. His labour theory of value only applies to newly produced goods that are sold in competitive markets.

Second, Ricardo (1951 [1821]: 12) qualified both the scarcity and labour theories of value by stating that an article must be useful before it can be valuable: "Possessing utility, commodities derive their exchangeable value from two sources: from their scarcity, and from the quantity of labour required to obtain them."

Third, he took account of the fact that labourers are not all identical. Some types of labour are more productive than others and, for that reason, they are paid higher wages than others.

> In speaking, however, of labour, as being the foundation of all value, and the relative quantity of labour as almost exclusively determining the relative value of commodities, I must not be supposed to be inattentive to the different qualities of labour, and the difficulty of comparing an hour's or a day's labour, in one employment, with the same duration of labour in another. The estimation in which different qualities of labour are held, comes soon to be adjusted in the market with sufficient precision for all practical purposes, and depends much on the comparative skill of the labourer, and intensity of the labour performed. The scale, when once formed, is liable to little variation. (Ricardo, 1951 [1821]: 20).

Adam Smith reached the same conclusion in his chapter on the inequality of wages, but Ricardo did not follow Smith, who had assumed that labour is homogeneous which means that all labourers have the same innate abilities and preferences for different occupations. Ricardo used the market wages of labour to measure the quantity of labour embodied in any commodity. Labour only contributes to the value of commodities in proportion to the market wages paid to labour. This proposition undercuts the notion that values are determined by labour-time. As Ricardo unraveled the logic of his theory, the rule that relative wages govern relative values did not survived to the end of Chapter I.

Fourth, the quantity of labour employed in production includes not only current labour, but also "past labour," to repeat Petty's phrase. In a passage reminiscent of Locke, Ricardo (1951 [1821]: 24) traces the value of stockings back to all the things that were necessary to manufacture them and bring them to market.

> First, there is the labour necessary to cultivate the land on which the raw cotton is grown; secondly, the labour of conveying the cotton to the country where the stockings are to be manufactured, which includes a portion of the labour bestowed in building the ship in which it is conveyed, and which is charged in the freight of the goods; thirdly, the labour of the spinner and weaver; fourthly, a portion of the labour of the engineer, smith, and carpenter, who erected the buildings and machinery, by the help of which they are made; fifthly, the labour of the retail dealer, and of many others, whom it is unnecessary further to particularize. The aggregate sum of these various kinds of labour, determines the quantity of other things for which these stockings will exchange, while the same consideration of the various quantities of labour which have been bestowed on those other things, will equally govern the portion of them which will be

> given for the stockings.

If Ricardo had continued this retrospective rationalization of the quantity of labour bestowed on the production of the things used to manufacture stockings, he would have found it necessary to particularize a catalogue that "would be almost impossible, at least too long, to reckon up," to quote John Locke (1967 [1690]: 298) again. The list would carry him back to early times.

Fifth, while Ricardo repeatedly stated that the value of commodities is almost exclusively attributable to labour, he thought the capital also regulated the value of commodities. Ricardo (1951 [1821]: 23) made this clear in his criticism of Adam Smith example of the beaver and the deer.

> Without some weapon, neither the beaver nor the deer could be destroyed, and therefore the value of these animals would be regulated, not solely by the time and labour necessary to their destruction, but also by the time and labour necessary for providing the hunter's capital, the weapon, by the aid of which their destruction was effected.

This section bears the heading "Not only the labour applied immediately to commodities affect their value, but the labour also which is bestowed on the implements, tools, and buildings, with which such labour is assisted." Since both current and past labour contribute to the production of commodities, they both affect the value of commodities.

Sixth, the value of commodities is, therefore, regulated by labour and capital. While wages and profits are both component parts of price, Ricardo (1951 [1821]: 46) explained that the relative value of different commodities is governed by the relative amounts paid to labour alone.

> It is necessary for me also to remark, that I have not said, because one commodity has so much labour bestowed upon it as will cost £1000 and another so much as will cost £2000 that therefore one would be of the value of £1000 and the other of the value of £2000 but I have said that their value will be to each other as two to one, and that in those proportions they will be exchanged. It is of no importance to the truth of this doctrine, whether one of these commodities sells for £1,100 and the other for £2,200, or one for £1,500 and the other for £3000; into that question I do not at present enquire; I affirm only, that their relative values will be governed by the relative quantities of labour bestowed on their production.

By this rule, Ricardo could justly be accused of having a capital theory of value, since commodities would also exchange in proportion to the relative profits included in the price of different commodities.

Seventh and finally, relative values will only be proportional to the labour employed in production, if wages always accounted for the same percentage of the price of every commodity; but, this would only be true if the proportions of labour and capital are the same in every industry. Ricardo recognized that this is not the case. Some industries are more capital intensive than others and some commodities take longer to bring to market than others. This required Ricardo (1951 [1821]: 37) to introduce "a considerable modification to the rule, which is of universal application when labour is almost exclusively employed in production; namely, that commodities never vary in value, unless a greater or less quantity of labour be bestowed on their production." Commodities produced in more capital intensive industries, like steel making, and those that require a longer time to bring to market, like well-aged wine, are more valuable than other commodities, even though the same quantity of labour may be employed in their production. "The difference in value," Ricardo (1951 [1821]: 37) explained, "arises in both cases from the profits being accumulated as capital, and is only a just compensation for the time that the profits were withheld." Profits accumulate like compound interest as time passes, which increases the value of commodities. Ricardo (1951 [1821]: 37) illustrated this principle with a numerical example, which he introduced with the following statement: "It is hardly necessary to say, that commodities which have same quantity of labour bestowed on their production, will differ in exchangeable value, if they cannot be brought to market in the same time." Thus, his own logic forced Ricardo to abandon the labour theory of value, though it appears that at first he believed in it. He ended up with two component parts of price, where Adam Smith had three.

5.3 Ricardo's measure of value

Ricardo (1951 [1821]: 43) criticized Smith's universal measure of value on the grounds that "there is no commodity which is not itself exposed to the same variations as the things, the value of which is to be ascertained; that is, there is none which is not subject to require more or less labour for its production." The perfect measure of value for Smith, however, was the sacrifice, toil and trouble, pain, disutility or leisure foregone of labour, not some commodity with a constant quantity of labour embodied in it. Smith rendered the sacrifice of labour constant by assumption. For Ricardo, a perfect measure of value would always require the same quantity of labour to produce it. Even if there were such a commodity, Ricardo argued, it would not be a perfect measure of the value of other commodities that did not have the same capital structure or that could not be brought to market in the same time. If wages rose and profits fell, the value of commodities produced in capital intensive industries would fall relative to other commodities.

For the sake of exposition, Ricardo (1951 [1821]: 45-46) assumed that gold had a constant quantity of labour embodied it and that it was produced under average conditions. It fit "nearly equal distant from the two extremes, the one where little fixed capital is used, the other where little labour is employed." Thus, if wages rose and profits fell, all commodities produced with more labour intensive methods would rise in value, while those produced under more capital intensive conditions would fall. Gold may, therefore, be considered stationary.[x]

5.4 Getting rid of rent.

Ricardo accepted the view that in a Lockean state of nature before the appropriation of land, the produce of the earth was a free gift of nature. Land was held in common, and natural products cost only the trouble of gathering it or catching it. There was no rent. As society progresses and population grows, land becomes increasingly scarce. First the best land and then inferior lands come to be private property; and landlords can begin to demand a rent. For Ricardo (1951 [1821]: 67], "rent is that portion of the produce of the earth, which is paid to the landlord for the use of the original and indestructible powers of the soil." It is distinct from the popular use of the word, which includes whatever is paid for the use of buildings, fences and other improvement to land. Improvements are capital investments, which earn profits.

As inferior lands come to be cultivated, rent arises on all the superior lands, because they yield larger crops than the inferior lands. If often happens that before inferior lands are brought into production, Ricardo (1951 [1821]: 71) explained, "capital will be preferably employed on the old land, and will equally create a rent, because rent is always the difference between the produce obtained by the employment of two equal quantities of capital and labour." As society progresses, therefore, the tendency is for landlords to claim a growing proportion of the national product.

As more capital and labour are employed on old land and more new land is cultivated, the extra output (or marginal product) of each additional dose of labour and capital is smaller, so that more labour and capital are required to produce an extra bushel of corn. This raises the cost of production on both the intensive margin of cultivation on old land and the extensive margin of cultivation on new land. As a consequence, the price of food rises, which Ricardo (1951 [1821]: 74) explains in a passage that echoes Smith.

> The reason then, why raw produce rises in comparative value, is because more labour is employed in the production of the last portion obtained, and not because a rent is paid to the landlord. The value of corn is regulated by the quantity of labour bestowed on its production on that quality of land, or with that portion of capital, which pays no rent. Corn is not high because a rent is paid, but a rent is paid because corn is high; and it has been justly observed, that no reduction would take place in the price of corn, although landlords should forego the whole of their rent. Such a measure would only enable some farmers to live like gentlemen, but would not diminish the quantity of labour necessary to raise raw produce on the least productive land in cultivation.

On the margin of cultivation, the price of food is regulated by the wages of labour and the profit of capital. In this

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[x] Ricardo's theory of value gave rise to academic industry in the history of economic thought after the publication of *Production of Commodities by Means of Commodities* by Piero Sraffa. Sraffa's influence is evident in many articles in *The New Palgrave Dictionary*, in which the article on "Sraffian economics" is by Paul A. Samuelson (1987). See also the survey by Schefold (1998).

way, Ricardo got rid of rent. Rent is not a component part of price. It could all be taxed away without affecting production.[xi] During the course of the nineteenth century, the idea of financing government with a tax on land had many advocates, not least John Stuart Mill (1965 [1848]) and Henry George (n.d. [1879), though David Ricardo, as we shall see, was opposed to a disproportionate tax on land.

5.5 Ricardo on the "toil" of the landlord and the fruits of capital

John Locke justified private property on the grounds that labour is entitled to fruits of its labour. If the value of commodities is almost exclusively due to labour, the rent of land and the profits of capital appear to be unfair and unjust. This line of reasoning gave rise to the doctrine that Property is Theft, which was made famous by Proudhon (n.d. [1840]). Ricardo accepted the principle that all people were entitled to what they produce, but he extended this principle to the sacrifices of the landlord and the capitalist.

In the case of a tax on rent, he accepted Smith's argument that such a tax would not affect production, but Ricardo (1951 [1821]: 203) thought it would be unjust to tax land exclusively; and he turned Smith's maxim that taxes should be assessed according to the ability to pay against him.

> It must be admitted that the effects of these taxes would be such as Adam Smith has described; but it would surely be very unjust, to tax exclusively the revenue of any particular class of a community. The burdens of the State should be borne by all in proportion to their means: this is one of the four maxims mentioned by Adam Smith, which should govern all taxation. Rent often belongs to those who, after many years of toil, have realised their gains, and expended their fortunes in the purchase of land or houses; and it certainly would be an infringement of that principle which should ever be held sacred, the security of property, to subject it to unequal taxation.

This adds the "toil" of the landlord to the "toil" of the labourer discussed by Locke and Smith. Ricardo's (1952 [1820]: V, 68-69) real concern, however, was "the sacredness of property, which constituted the great security of society." He thought a disproportionate tax on property would be a disincentive to industry.

He explained this principle more thoroughly in a posthumous article in the *Scotsman*, in which he advocated extending the suffrage to more people. He stopped short of endorsing Universal Suffrage, however, because he thought the franchise should only be extended to people who believed that the rights to property should be sacred. To do otherwise, Ricardo (1952 [1823]: V, 501) wrote, would sacrifice good government and economic prosperity.

> The man of a small income must be aware how little his share would be if all the large fortunes in the kingdom were equally divided among the people. He must know that the little he would obtain by such a division could be no adequate compensation for the overturning of a principle which renders the produce of his industry secure. Whatever might be his gains after such a principle had been admitted would be held by a very insecure tenure, and the chance of his making any future gains would be greatly diminished; for the quantity of employment in the country must depend, not only on the quantity of capital, but upon its advantageous distribution, and, above all on the conviction of each capitalist that he will be allowed to enjoy unmolested the fruits of his capital, his skill, and his enterprise. To take from him this conviction is at once to annihilate half the productive industry of the country, and would be more fatal to the poor labourer than to the rich capitalist himself.

Ricardo does not even suggest that the whole produce of society should belong to the labourer. Good government required that the capitalist, the landlord and the labourer should all be entitled to the fruits of their occupations. He

[xi] The Ricardian theory of rent is based on severe and unrealistic assumptions. If all land remains in production whether it is taxed or not, the services of all land must be put on the market at whatever rent they may fetch. While the quantity of land may be considered practically fixed, the supply of it depends on the preferences of landlords. They may prefer to plant rose gardens or keep deer parks rather than rent their lands to farmers. If the supply of land coincides with the quantity of it, the supply curve would be perfectly inelastic. Dooley (1991) gives an analysis and criticism of Marshall's treatment of Ricardian rent. E.J. Mishan (1981) has shown it implies that the income and substic. Ion effects of all landlords must be zero.

had what might be called a real sacrifices theory of property rights.[xii]Clark's theory was well-received in America, because it purported to justify late 19th century industrial capitalism. He did not, however, explain how the wealthy came into possession of their property. Marx (1904 [1859]: 285-287) correctly observed the real basis for the distribution of income is the distribution of property, which is a matter of economic history, not economic theory.

6.0 Marx follows Ricardo

Karl Marx praised Adam Smith for his comprehensive vision of political economy, but criticized him for his contradictory theories of value: a labour theory of value for primitive society and a cost of production theory for civil society. Marx (1969: 2, 165-66) described the labour theory of value as the "esoteric" part of Smith's work. It reveals the real relations of production and "fathoms the inner connection, the physiology, so to speak, of the bourgeois system." The cost of production theory is the "exoteric" part. It addresses the superficial manifestation of competition and "takes the external phenomena of life, as they seem and appear and merely describes, catalogues, recounts and arranges them under formal definitions." Whether his successors pursued the esoteric or exoteric part of his work, they adopted his language and his abstract concepts to describe and analyze economic phenomena.

Ricardo began his theory of value with Smith's example of the beaver and the deer, in which the quantity of labour realized in commodities regulates their exchangeable value. Marx (1969: 2, 166) said Ricardo's labour theory of value represented his "great historical significance for science."

> But at last Ricardo steps in and calls to science: Halt! The basis, the starting-point for the physiology of the bourgeois system -- for the understanding of its internal organic coherence and life process -- is the determination of *value by labour-time.*

Marx endorsed Ricardo's approach to the theory of value because he thought it exposed the inherent conflict between the classes under capitalism. If value is determined by labour-time, then the capitalist must earn surplus value by exploiting labour. He was not alone in seeing class conflict and injustice buried in Ricardo. Marx (1969: 2, 167) noted that H.C. Carey had denounced Ricardo as the "father of comwhicsm." Carey (1848: 75) had written that Ricardo's *Principles* "is the true manual of the demagogue, who seeks power by means of agrarianism, war, and plunder."

In some ways, however, Marx was closer to Smith than Ricardo. Smith presented a labour theory of the origin of value in which the whole product was due to labour not only in primitive society but also in civil society. In a similar way, Marx maintained that labour was the sole "value-creating substance." In contrast, Ricardo did not argue that labour was the only source of value even in primitive society. He criticized Smith's example of the beaver and the deer, because the hunter needed a weapon, which is a produced means of production and, therefore, a capital good, to catch the beaver or kill the deer. Wages plus profits ultimately regulate the prices of most commodities for Ricardo.

6.2 The value of commodities.

In Volume I of *Capital*, Marx presented a pure labour theory of the exchangeable value of commodities under capitalist production. In the first place, for a thing to be a commodity, it must be useful. Its utility makes it a use-value, which is qualitative. In the second place, for a thing to be a commodity, it must possess exchange-value, which is quantitative. Marx (1961 [1867]: I, 38) explained that the exchange-value of a commodity is created,

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[xii] Later in the century, J.B. Clark (1956 [1899]: v) employed the Law of Diminishing Returns, which Ricardo had refined, in order to demonstrate that on the margin of production, where the last unit of labour or capital is employed, all factors of production tend to receive the value of what they create. By this device, Clark thought he had extended Locke's justification of private property to capital, land being treated as a species of capital by him.

> At the point in the economic system where titles to property originate, -- where labor and capital come into possession of the amounts that the state afterwards treats as their own, -- the social procedure is true to the principle on which the right of property rests. So far as it is not obstructed, it assigns to every one what he has specifically produced.

measured and regulated by the quantity of labour embodied in it.

> A use-value, or useful article, therefore, has value only because human labour in the abstract has been embodied or materialised in it. How, then, is the magnitude of this value to be measured? Plainly, by the quantity of the value-creating substance, the labour, contained in the article. The quantity, however, is measured by its duration, and labour-time in its turn finds its standard in weeks, days, and hours.

Labour is the origin of value, because labour is the sole value creating substance. The regulation of value is due to labour, because the exchangeable value of commodities rises or falls as more or less labour is embodied in them. Labour is also the measure of value, though, for the sake of exposition, Marx (1961 [1867]: I, 85) took gold to be his measure of value, because "it is the socially recognised incarnation of human labour."

Labour will only bestow value on an article if it is employed efficiently. If labour takes more time or uses more materials than necessary, the extra cost does not add value to the article. Only the socially necessary labour time required for production creates value, which Marx (1961 [1867]: I, 39) defined as "that required to produce an article under the normal conditions of production and with the average degree of skill and intensity prevalent at the time."

The labour power of all the individual labourers in society counts as a homogeneous mass of labour power. The heterogeneous collection of individual labourers in society is converted by Marx (1961 [1867]: I, 170-71) into a homogeneous mass of unskilled labourers using the labour theory of value itself. Labour is simply a commodity like any other commodity, and its value is determined in the same manner as all other commodities.

> The value of labour-power is determined, as in the case of every other commodity, by the labour-time necessary for the production, and consequently also the reproduction, of this special article. So far as it has value, it represents no more than a definite quantity of the average labour of society incorporated in it.

The labour-time embodied in the production of labour power can in turn be reduced to the value of the subsistence necessary to raise and maintain the labourer. If it take more time to raise and bring a philosopher to market than it does a common street porter, one philosopher counts as so many street porters. By this rule, which corrects Ricardo, who weighted different labourers by their wages, all labour-time can be reduced to unskilled labour-time. Unlike the labour embodied in the production of other commodities, however, the subsistence of the labourer varies from country to country and from age to age. As Ricardo and Malthus had earlier explained, subsistence depends on the habits and customs of a people. Similarly, Marx (1961 [1867]: I, 171) wrote that "there enters into the determination of the value of labour-power a historical and moral element."

Finally, in addition to being useful and having labour embodied in it, an article must be exchanged in the market to be a commodity. His theory of value does not explain the value of the free gifts of nature, like the air and natural meadows; and it does not explain the value of the quit-rent corn or the tithe-corn that the medieval peasant produced for his feudal lord or his parson. It applies to the value of commodities produced in a society where capitalists employ free labourers to produce commodities for sale in the market, where a free labourer is

> free in the double sense, that as a free man he can dispose of his labour-power as his own commodity, and that on the other hand he has no other commodity for sale, is short of everything necessary for the realisation of his labour-power (Marx, 1961 [1867]: I, 169).

His theory does not concern the labour of someone whose hobby is his gardening, because his labour is not employed to produce a commodity for sale in the market; and it does not pertain to the family farm, which has its own land, buildings, and machinery. They enjoy the fruits of their own labour. The free labourer, in contrast, must sell his labour power to the capitalist in order to buy his subsistence. He produces a commodity that does not belong to him; and, therefore, he is alienated from the product of his labour.

6.3 Surplus value.

Exchange occurs when the use-value of a commodity to a buyer exceeds its exchange- value in the market, and the exchange-value to the seller exceeds its use-value. What they buy is worth more to them than what they sell.

This takes two forms: selling in order to buy, which Marx (1961 [1867]: I, 149) denoted C–M–C; and buying in order to sell, M–C–M.

> The circuit starts C–M–C with one commodity, and finishes with another, which falls out of circulation and into consumption. Consumption, the satisfaction of wants, in one word, use-value, is its end and aim. The circuit M–C–M, on the contrary, commences with money and ends with money. Its leading motive, and the goal that attracts it, is therefore mere exchange-value.

Surplus value emerges even though equal values are given in exchange. The capitalist starts out with one sum of money and ends up with a larger sum of money. This process can be written M–C–M`, where M` = M + ➂ M. The increment over the original sum of money is called *surplus value.*

Surplus value does not come from selling a thing for more than it is worth. All things exchange at full value, which is simply the value of the labour power embodied in them. Surplus value flows from the consumption of a commodity. Its source is its value-in-use rather than its value-in-exchange, which Marx (1961 [1867]: I, 167) put rather vividly.

> In order to be able to extract value from the consumption of a commodity, our friend, Moneybags, must he so lucky as to find, within the sphere of circulation, in the market, a commodity, whose use-value possesses the peculiar property of being a source of value, whose actual consumption, therefore, is itself an embodiment of labour, and, consequently, a creation of value. The possessor of money does find on the market such a special commodity in capacity for labour or labour-power.

The exchange-value of labour is the subsistence of the labourer. However, the capitalist hires the labourer for the whole working day, which is the use-value of labour. If subsistence takes half a day's labour to produce, the capitalist earns surplus value equal to the other half of the day's labour. The whole working day is, in this way, divided into two parts: one to produce the necessary subsistence for the labourer, the other to produce the surplus value for the capitalist.

Marx called the means of subsistence the variable part of capital or, simply, *variable capital*. It is variable because labour is the value creating substance. Labour not only reproduces its own means of subsistence but it also produces surplus value for the capitalist. He called the means of production, that is, materials, supplies, equipment and structures used in production, the constant part of capital, or *constant capital*. It is constant because it merely transfers its value to the commodity as it is used up in production.

The means of production are equal in value to the labour embodied in them. They are the product of "past labour," to repeat Petty's phrase again. The value of tools or machines today includes the value of the labour embodied in the tools and machines used up in their production yesterday, and so on, back in time. Marx (1961 [1867]: I, 187) illustrated this principle with the example of cotton yarn.

> Hence, in determining the value of the yarn, or the labour-time required for its production, all the special processes carried on at various times and in different places, which were necessary, first to produce the cotton and the wasted portion of the spindle, and then with the cotton and spindle to spin the yarn, may together be looked on as different and successive phases of one and the same process. The whole of the labour in the yarn is past labour; and it is a matter of no importance that the operations necessary for the production of its constituent elements were carried on at times which, referred to the present, are more remote than the final operation of spinning.

The notion that labour, past and present, produced all commodities is the logical and empirical foundation on which the labour theory of value rests. Marx (1961 [1867]: I, 713) traced the accumulation of labour-power back to "a primitive accumulation (previous accumulation of Adam Smith) preceding capitalist accumulation; an accumulation not the result of the capitalist mode of production, but its starting point."

6.4 Marxian values.

The exchange value of a commodity for Marx consists of three parts: the constant capital (c) used up in production, the variable capital (v), and the surplus value (s). The constant capital used up in production simply transfers the labour already contained in it to a new commodity. It is the product of past labour and adds no new value to production. Current labour creates new value. When the commodity is sold on the market, its value replaces the constant capital used up in production plus the variable capital paid to labour and yields surplus value that is expropriated by the capitalist. Marxian values = c + v + s.

Current labour produces both the means of subsistence of the labourer and the surplus value of the capitalist. Marx (1961 [1867]: I, 218) defined the ratio of labour-time spent to produce the surplus value of the capitalist to the labour-time necessary to produce the subsistence of the labourer (s/v) as the rate of surplus value. “The rate of surplus-value is therefore an exact expression for the degree of exploitation of labour-power by capital, or of the labourer by the capitalist.” The rate of profit equals surplus value divided by the total capital employed in production.

The profit motive leads the capitalist to pursue surplus value. He can increase his surplus by two processes, which Marx (1961 [1867]: I, 315) called absolute surplus value and relative surplus value.

> The surplus-value produced by prolongation of the working. I *call absolute surplus-value.* On the other hand, the surplus-value arising from the curtailment of the necessary labour-time, and from the corresponding alteration in the respective lengths of the two components of the working-day, I *call relative surplus-value*.

On the one hand, the capitalist wants the labourer to work as long as possible. The working day has a maximum limit of 24 hours, however; and without time to sleep, eat, wash and attend to the daily needs of life as well as to pursue social and intellectual interests, labour could not continue working for long. On the other hand, labour wants to work as little as possible. The length of the working day, Marx (1961 [1867]: I, 235) explained is ultimately determined by a struggle, “a struggle between collective capital, i.e., the class of capitalists, and collective labour, i.e., the working class.” The length of the working day is the immediate focus of the class struggle.

Relative surplus value is created by improving the productivity of labour. The capitalist increases productivity by providing the individual labourer with more tools and better machinery, that is, by increasing the ratio of constant to variable capital, which Marx called the organic composition of capital, c/v. By increasing the means of production per labourer, the labourer can reproduce the means of subsistence in a shorter time. At first, the surplus value of the capitalist grows as the necessary part of the working day declines. In this way, the capitalist becomes rich.

> Accumulate, accumulate! That is Moses and the prophets! "Industry furnishes the material which saving accumulates." Therefore, save, save, i.e., reconvert the greatest possible portion of surplus-value, or surplus-product into capital! Accumulation for accumulation's sake, production for production's sake: by this formula classical economy expressed the historical mission of the bourgeoisie, and did not for a single instant deceive itself over the birth-throes of wealth (Marx, 1961 [1867]: I,595).

However, as capital accumulates, the socially necessary labour time embodied in production declines, so that competition causes prices to fall. Therefore, the capitalist must accumulate capital to reduce his cost of production. Accumulation reduces costs by extending the division of labour, by allowing the construction of vast systems of machinery and by applying science to the technological of production.

Just as the free labourer, who owns no capital, must sell his labour power to the capitalist in exchange for his subsistence and, thereby, become alienated from the product of his labour, so too the capitalist must accumulate and innovate to avoid falling into the ranks of the proletariat, though ultimately many fail.

> The battle on competition is fought by the cheapening of commodities. The cheapness of commodities depends, ceteris paribus, on the productiveness of labour, and this again on the scale of production. Therefore, the larger capitals beat the smaller (Marx,1961 [1867]: I, 626)

Competition, wrote Marx (1961 [1867]: I, 619), “makes the immanent laws of capitalist production to be felt by each individual capitalist, as external coercive laws.” Schumpeter (1950 [1942]: 81-86), who was a close reader of Marx, later referred to this as “the process of creative destruction.” The means of production gradually becomes obsolete as capital accumulates, as Marx (1962 [1894]: III, 112) explained. With the introduction of improved machinery, old capital "continually becomes antiquated before it has time to reproduce its own value." Old antiquated capital goods are technologically obsolete. Old capital goods that are still in use may not and, sometimes, cannot be reproduced. They sells for less than the value of the labour embodied them.

6.5 The so-called transformation problem.

In Volume III of *Capital*, Marx addressed the same issue which had confronted Ricardo. Competition tends to produce a uniform rate of profit in all industries as capital moves from low to high profit industries. If the capital structure is the same in every industry, that is, if the organic composition of capital is the everywhere the same, then market prices of commodities are proportional to the labour embodied in production. They are proportional to the variable capital plus constant capital used up in production. But, if the capital structure is not the same in every industry, market prices tend to exceed labour values in those industries which are relatively intensive in the use of constant capital. This theoretical possibility required Marx to introduce his own considerable modification to his labour theory of value in Volume III of *Capital* when he discussed how competition transforms labour values into the prices of production. This is the so-called transformation problem.

Surplus value arises from the exploitation of labour and is proportional to the variable capital employed in production, whereas the rate of profit is proportional to the whole capital employed. Thus, the rates of surplus value and profit are explained by different principles and are not in general the same. Marx argued that competition tends to allocate the total surplus value created in society among the different branches of production in proportion to the total capital they employ. Marx (1962: III, 156) wrote

> the rates of profit prevailing in the various branches of production are originally very different. These different rates of profit are equalized by competition to a single general rate of profit to any capital of a given magnitude, whatever its organic composition, called the average profit.

"Hence," Marx (1962: III, 156) concluded, "the price of production is equal to the cost-price plus the profit." Even though Marx sought to explain the prices of production by the labour embodied in production, he ended up with a cost-plus-profit theory of value like Adam Smith and David Ricardo. Marx's transformation turns profits into a necessary cost of production, because any industry that did not receive the "average profit" would see its capital diverted to other industries. Adam Smith simply abandoned the labour theory of value when he moved beyond the beaver and deer of primitive society. For Smith, the natural prices in civil society are regulated by wages, profits and rents, all of which must be paid at their natural rates for production to be forthcoming. Ricardo insisted that even the beaver and the deer required capital to hunt and to kill, so that profits were a component part of price for him even in primitive society.

Many authors tried to solve the so-called transformation problem even before Volume III of *Capital* appeared, but Engels thought they all failed (Marx, 1961: III, 8-21). Marx's own solution is seriously flawed, because he transformed output prices without transforming input values, which were labour values, not market prices. He needed to know the market prices of the capital used in production to show how competition tends to equalized the rate of profits on capital. Ladislaus von Bortkiewicz (1949 [1907]) offered an early solution to this problem, but he did not follow Marx's method. His method is correct as far as it goes, but it does not go far enough. He restricted his analysis to the special case of simple reproduction, in which past labour and current labour are the same. He does not consider how the labour-power embodied in today's constant capital has accumulated over historical time. The past labour embodied in things that are no longer being produced, but which are still being used up and embodied in the production of new commodities, cannot be transformed into market prices using today's prices. Technologically obsolete constant capital may have no current cost of reproduction, though it may continue to earn what Marshall called a quasi-rent. The value of old capital goods is simply the present value of their quasi-rents, which is unrelated to the labour embodied in them. The debate continues to this day.[xiii]

[xiii] See, for example, F. Seton (1957), R. Meek (1977), P.A. Samuelson (1971), L. Pasinetti (1977), J. Robinson (1977), I. Steedman (1977), A. Freeman (1984), F. Moseley (1993) and C. Carchedi (1993), among a great many

others.

REFERENCES

Aspromourgos, T. 1986. “Political Economy and the Social Division of Labour: The Economics of Sir William Petty,” *Scottish Journal of Political Economy*, 33: 28-45.

Bladen, V. (1975) “Command over labour: a study in misinterpretation,” *Canadian Journal of Economics* 8: 504--19.

Bladen, V. 1938. “Adam Smith on value,” *Essays in Political Economy in Honor of E.J. Urwick*, ed. by H.A. Innis (Toronto: University of Toronto Press).

Blaug, M. 1978. *Economic Theory in Retrospect*, 3rd ed. (Cambridge: Cambridge University Press).

Bonar, J. 1893. *Philosophy and Political Economy in Some of Their Historical Relations* (London: Swan Sonnenschein).

Bortkiewicz, L. von. 1949 [1907]. “On the correction of Marx's fundamental theoretical construction in the Third Volume of *Capital*,” trans, by P.M. Sweezy, *Karl Marx and the Close of His System*, by E. von Böhm-Bawerk (New York: Kelley).

Buchanan, D.H. 1946 [1929]. “The Historical Approach to Rent and Price Theory,” *Readings in the Theory of Income Distribution*, ed. W. Fellner and B.F. Haley (Philadelphia: Blakiston).

Carchedi, C. (1993). “Marx’s Logic of Inquiry and Price Formation,” *Marx’s Method in Capital*, ed. F. Moseley (New Jersey: Humanities Press).

Carey, H.C. 1848. *The Past, The Present, and the Future* (Philadelphia: Carey & Hart).

Clark, J.B. 1956 [1899]. *The Distribution of Wealth* (New York: Kelley and Millman).

Dobb, M.H. 1973. *Theories of Value and Distribution since Adam Smith: Ideology and Economic Theory* (Cambridge: Cambridge University Press).

Dooley, Peter C. 1991. “Marshall’s Parable of the Meteoric Stones: Rent, Quasi-Rent and Interest,” *The American Journal of Economics and Sociology*, 50:197–206.

Dooley, Peter C. 1990. “Value,” *Foundations of Economic Thought*, ed. by John Creedy (Oxford: Basil Blackwell).

Douglas, P.H. 1966 [1928]. “Smith's theory of value and distribution,” *Adam Smith, 1776--1925* (New York: Kelley).

Freeman, A. 1984. “The Logic of the Transformation Problem,” *Ricardo, Marx, Sraffa* (ed. by E. Mandel and A. Freeman (London: Verso).

George, Henry. n.d. [1879]. *Progress and Poverty* (New York: Modern Library).

Hobbes, Thomas. 1968 [1651], *Leviathan*, ed. by C.B. Macpherson (Harmondsworth, U.K.: Penguin).

Hollander, S. 1973. *The Economics of Adam Smith* (Toronto: University of Toronto Press).

Hollander, S. 1979. *The Economics of David Ricardo* (Toronto: University of Toronto Press).

Hull, C.H. 1899. "Introduction," *The Economic Writings of Sir William Petty*, ed. C.H. Hull (Cambridge: Cambridge University Press).

Hull, C.H. 1900. "Petty's Place in the History of Economic Theory," *Quarterly Journal of Economics*.

Ingram, J.K. 1893. *A History of Political Economy* (New York: London).

Jevons, W.S. 1957 [1871]. *The Theory of Political Economy* (New York: Kelley and Millman).

Johnson, E.A.J. 1937. *Predecessors of Adam Smith: the Growth of British Economic Thought* (New York: Prentice-Hall).

Knight, F.H. 1965 [1935]. "Notes on Utility and Costs," *The Economic Organization* (New York: Harper & Row).

Levine, D.P. 1977. *Economic Studies: Contributions to the Critique of Economic Theory* (London: Routledge & Kegan Paul)

Locke, John. 1967 [1690]. *Two Treatises of Government*, ed. Peter Laslett (Cambridge: Cambridge University Press).

Locke, John. 1991 [1692]. *Some Considerations of the Consequences of the Lowering of Interest, and Raising the Value of Money* in *Locke on Money*, ed. Patrick Hyde Kelly (Oxford: Clarendon Press).

MacPherson, C.B. 1962. *The Political Theory of Possessive Individualism: Hobbes to Locke* (Oxford: The Clarendon Press)

Malthus, T.R. 1986 [1798]. *An Essay on the Principle of Population, The Works of Thomas Robert* Malthus, ed. by E.A. Wrigley and D. Souden (London: William Pickering)
Marshall, A. 1961 [1890]. *Principles of Economics*, ed. by C.W. Guillebaud, 2 vols. (London: Macmillan).

Marx, Karl. (1904 [1859]). *A Contribution to the Critiques of Political Economy*, translated by N.I. Stone, 2nd rev. ed. (New York: International Library Publishing).

Marx, Karl. 1969-72. *Theories of Surplus Value*, 3 parts (London: Lawrence & Wishart).

Marx, Karl 1951 *Theories of Surplus Value*, translated by G.A. Gonner and Emile Burns from *Theorien über den Mehrwert* edited by Karl Kautsky (London: Lawrence & Wishart).

Marx, K. 1961-1962 [1867-1894]. *Capital*, 3 vols. (Moscow: Foreign Languages Publishing House).

Meek, R.L. 1977. *Smith, Marx, and After* (London: Chapman and Hall)

Meek, R.L. 1956. *Studies in the Labour Theory of Value* (London: Lawrence & Wishart)

Menger, C. 1950 [1871]. *Principles of Economics*, trans. and ed. by J. Dingwall and B.F. Hoselitz (Glencoe, Ill.: Free Press).

Mill, John Stuart. 1965 [1848]. *Principles of Political Economy with Some of Their Applications to Social Philosophy* (ed. by J.M. Robson), 2 vols. (Toronto: University of Toronto Press).

Mishan, E.J. 1981. *Introduction to Normative Economics* (Oxford: Oxford University Press).

Moseley, F. 1993. "Marx's Logical Method and the `Transformation problem'," *Marx's Method in Capital*, ed. F. Moseley (New Jersey: Humanities Press).

Myrdal, G. 1953. *The Political Element in the Development of Economic Theory* (London: Routledge & Kegan Paul).

O'Brien, D.P. 1975. *The Classical Economists* (Oxford: Clarendon Press).

O'Donnell, Rory. 1990. *Adam Smith's Theory of Value and Distribution* (New York: St. Martin's Press).

Peach, T. 1993. *Interpreting Ricardo* (Cambridge: Cambridge University Press).

Petty, Sir William. 1899 [1662]. *Treatise of Taxes and Contributions, The Economic Writings of Sir William Petty*, ed. C.H. Hull (Cambridge: Cambridge University Press).

Petty, Sir William. 1899 [1664]. *Verbum Sapienti, The Economic Writings of Sir William Petty*, ed. C.H. Hull (Cambridge: Cambridge University Press).

Petty, Sir William. 1899 [1672]. *The Political Anatomy of Ireland, The Economic Writings of Sir William Petty*, ed. C.H. Hull (Cambridge: Cambridge University Press).

Petty, Sir William. 1899 [1676]. *Political Arithmetic*, *The Economic Writings of Sir William Petty*, ed. C.H. Hull (Cambridge: Cambridge University Press).

Proudhon, P.J. n.d. [1840] *What is Property?* (New York: Humbolt Publishing).

Ricardo, David. 1951-73 [1821]. *The Principles of Political Economy and Taxation*, *The Works and Correspondence of David Ricardo*, ed. by P. Sraffa with the collaboration of M.H. Dobb, 11 vols. (Cambridge: Cambridge University Press).

Roll, Eric. 1956. *A History of Economic Thought* (Englewood Cliffs, NJ: Prentice-Hall).

Samuelson, P.A. 1978. "Understanding the Marxian notion of exploitation: a summary of the so-called transformation problem between Marxian values and competitive prices," *Journal of Economic Literature* 9, 399-431.

Samuelson, P.A. 1987. "Sraffian economics," *The New Palgrave Dictionary of Economics*, ed. by J. Eatwell, M. Milgate and P. Newman (London: Macmillan) 4, 452-461.

Schefold, B. 1998. "Piero Sraffa," *Italian Economists of the 20th Century*, ed. by F. Meacci. (Chetlenham, U.K: Edward Elgar).

Schumpeter, J.A. 1950 [1942]. *Capitalism, Socialism and Democracy*, 3rd ed. (New York: Harper & Row).

Schumpeter, J.A. 1954. *History of Economic Analysis* (New York: Oxford University Press).

Seton, F. 1957. "The transformation problem," *Review of Economic Studies* 25, 149-60.

Smith, Adam 1976 [1776]. *An Inquiry into the Nature and Causes of the Wealth of Nations*, ed. by R.H. Campbell

7.0 Conclusion

The powerful appeal of the labour theory of value rests on the self-evident proposition that, when production is traced back to its origin, all commodities can, in principle, be reduced to land and labour. Since land is a free gift of nature which cost no human effort to produce, it cannot explain value, though it is the source of physical things. From this perspective, capital goods are merely "past labour." Therefore, all commodities are produced by labour alone: labour is the origin of value. The truth of this proposition captured the imagination of classical economists, and it lingers on in the theory of rent. It gave Locke's theory of property rights and Marx's theory of exploitation a persuasive ethical foundation, but it raised more problems than it could solve in the economic theory of market prices.

Locke did not carry this line of thought beyond the realm of moral philosophy, however. He had a supply and demand theory of market prices. Smith began with a labour theory of the origin of value and presented a universal measure of value based on labour sacrifice, but he restricted his labour theory of exchange-value to primitive society where the labour embodied in production regulates the value-in-exchange of the beaver and the deer. When he turned his eye to the market place in civil society, he did not even attempt to reconcile the labour embodied in the production of commodities with their market prices. He abandoned the labour theory of exchange-value and explained how the cost of production ultimately regulates market prices.

Ricardo began with Smith's example of the beaver and deer and tried to show that labour is "really the foundation of the exchangeable value of all things," but his own logic led him to a cost of production theory. While he got rid of rent, he maintained that profit is a necessary cost of production. Marx followed Ricardo. He presented a pure labour theory of value in Volume I of *Capital*, but could not escape the conclusion that profit was a

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and A.S. Skinner, 2 vols. (Oxford: Clarendon Press).

Sraffa, Piero. 1960. *Production of Commodities by Means of Commodities*. (Cambridge: Cambridge University Press).

Stark, Werner. 1944. *The Ideal Foundations of Economic Thought* (Oxford: Oxford University Press).

Steedman, I. 1977. *Marx after Sraffa* (London: Verso).
Stigler, G.J. 1965 [1958] "Ricardo and the 93 Per Cent Labor Theory of Value," *Essays in the History of Economics* (Chicago: University of Chicago Press).

Vaughn, K.I. 1980. *John Locke: Economist and Social Scientist* (Chicago: University of Chicago Press).

Walras, Léon. 1954 [1874-77]. *Elements of Pure Economics*, trans. W. Jaffé. Homewood, Il: Richard D. Irwin,

Walsh, V. and Gram, H. 1980. *Classical and Neoclassical Theories of General Equilibrium: Historical Origins, he Mathematical Structure*. (Oxford: Oxford University Press).

Whitaker, A.C. 1968 [1904] . *History and Criticism of the Labor Theory of Value in English Political Economy* New York: Kelley)

Wicksteed, P.H. 1933. *The Common Sense of Political Economy: Selected Papers and Reviews on Economic Theory* (London: Routledge & Kegan Paul).

Wieser, F. von 1956 [1888]. *Natural Value*, trans. by C.A. Malloch and ed. by W. Smart (New York: Kelley and Millman).

component part of price in Volume III.

Ricardo and Marx both had trouble with the concept of fixed or constant capital, which they viewed in terms of what Petty had called "past labour." This conception requires a retrospective accounting for the labour embodied in capital goods going back in historical time. It encounters two serious obstacles. First, as Locke (1967 [1690]: 298) observed, such an accounting for the labour embodied in things would produce a list that would "be almost impossible, at least too long, to reckon up." If the "past labour" embodied in commodities produced today is not knowable, the total quantity of labour bestowed on Ricardo's stockings and Marx's socially necessary (or average) labour-time embodied in a commodity are not knowable. "Past labour" cannot be the basis of any calculation. Second, "past labour" is backward looking. Whatever any thing may have originally cost to produce need have nothing to do with its market price, which depends on what is expected to happen in the future. Old capital goods sell at the present value of the quasi-rents that they are expected to earn in the future. In the market place, where prices are actually determined, bygones are forever bygones.

ENDNOTES