USE-VALUE, EXCHANGE VALUE, AND THE DEMISE OF MARX'S LABOR THEORY OF VALUE

BY

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I. INTRODUCTION

Karl Marx was the greatest champion of the labor theory of value. The logical problems of this theory have, however, split scholars of Marx into two factions: those who regard it as an indivisible component of Marxism, and those who wish to continue the spirit of analysis begun by Marx without the labor theory of value. In the debate between these two camps, the former has attempted to draw support from Marx's concepts of value, while the latter has ignored them, taking instead as their starting point the truism that production generates a surplus. Nevertheless, a careful examination of the development of Marx's logic uncovers the profound irony that, after a chance re-reading of Hegel, Marx made a crucial advance which should have led him to replace the labor theory of value with the theory that commodities in general are the source of surplus. Marx's value analysis is thus consistent, not with those who would defend the labor theory of value, but with those who would transcend it.

Marx did not properly apply this analysis to non-labor inputs, while the cornerstone of *Capital* was his correct application of the same analysis to labor. This unjustified asymmetrical treatment of the labor and non-labor inputs to production is therefore the actual and unsound foundation of Marx's labor theory of value. Once that treatment has been corrected, the labor theory of value collapses.

II. EARLY MARX

The labor theory of value. Marx did not immediately adopt the labor theory of value. As Mandel observes, his process of conversion

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began with his study of the English classical political economists, and the concept did not come easily to him (Mandel 1971, p. 40). This is evident early on in *The Economic and Philosophic Manuscripts of 1844*, where Marx makes the comment that "the capitalist thus makes a profit, first, on the wages, and secondly, on the raw materials advanced to him" (Marx 1844, p. 79). However, he shortly afterwards says that "the greater the human share in a commodity, the greater the profit of dead capital" (ibid., p. 81), which is an assertion that labor is at least the major source of profit.

Further on in *The Manuscripts*, Marx develops an acceptance of the idea that labor is the only source of wealth. Subsequently he took the labor measure of value approach one stage further than had Ricardo, to explain the source of surplus. By the time of *Wage Labor and Capital*, Marx gave the explanation that labor is paid its cost of subsistence, yet its work extends beyond the time required to reproduce those means of subsistence. He later formalized this using the distinction between labor power, the ability to perform work, and labor itself.[1] Capitalists purchase labor power by paying for its cost of production, and receive the far greater quantity of its ability to produce value: "The worker receives means of subsistence in exchange for his labor-power, but the capitalist receives in exchange for his means of subsistence labor, the productive activity of the worker, the creative power whereby the worker not only replaces what he consumes *but gives to the accumulated labor a greater value than it previously possessed*" (Marx 1847, p. 85).

The concept of use-value. The concept of use-value was also undergoing development at the early stage of Marx's introduction to political economy. As with the labor theory of value, Marx's initial understanding of use-value was quite different to his final. In the course of a powerful insight into the conflict between Ricardo and Malthus, Marx expressed, in dialectical garb, the opinion that use determines value—which is hardly consistent with a labor theory of value. Having criticized Ricardo and Say for forgetting in the debate over thrift versus luxury that "there would be no production without consumption," he continues "that it is use that determines a thing's value, and that fashion determines use" (Marx 1844, p. 151). However, by the time he came to part company with Proudhon, Marx had imbibed the classical attitude that use-value plays no role in determin-

1. This terminology was not part of Marx's method at the time of *Wage Labor and Capital*, but Engels edited that work to include those terms in a re-issue intended to educate workers.

ing value. Marx's critique of Proudhon's reasoning is an interesting portent of his later, developed approach to the distinction between use-value and exchange-value. While he rightly dismisses Proudhon's attempt at dialectics, it could well be that Proudhon lay the seed which later germinated in the *Grundrisse*.

According to Marx, the gist of Proudhon's attempt at a dialectic was that things of the lowest utility have the highest value, while those with the highest utility have the lowest value, and labor value provides a reconciliation between these two extremes. Marx dismissed this firstly as ignoring the role of demand in determining scarcity, and secondly as dressing up in complicated terms the "precise, clear, and simple language of Ricardo...in order to arrive at the determination of relative value by labor-time. The determination of value by labor-time is for Ricardo the law of exchange-value; for M. Proudhon it is the synthesis of use-value and exchange-value" (Marx 1846, pp. 52-53). Thus at this stage Marx admits that use-value is a determinant of demand, but the concept plays no active role in his logic. He is firmly of the opinion that everything necessary to form the foundation of political economy can be found in Ricardo's analysis of exchange-value.

III. THE DIALECTIC OF THE COMMODITY

The development. Several authors have observed that a chance re-reading of Hegel had a profound effect on Marx while he was drafting the *Grundrisse* (Oakley 1983, pp. 58-59, 63; Mandel 1971, p. 103). Mandel observes that Hegelian dialectics evidently lay behind many of the "'dialectical pairs' such as 'commodity and money,' 'use-value and exchange-value,' 'capital and wage-labor,' 'labor time and leisure,' 'labor and wealth,' in which the *Grundrisse* abound." The most potent of these was the dialectic between use-value and exchange-value, and the realization of the role it could play in political economy was first expressed in a footnote spanning two pages of the *Grundrisse*. Here Marx first realized that the classical treatment of the commodity provided the means by which he could unite his German dialectical philosophy with English classical political economy:

> *Is not value to be conceived as the unity of use-value and exchange-value*? In and for itself, is value as such the general form, in opposition to usevalue and exchange-value as particular forms of it? *Does this have significance in economics*? Use-value presupposed even in simple exchange or barter. But here, where exchange takes place only for the reciprocal use of

> the commodity, the use-value, i.e., the content, the natural particularity of the commodity has no such standing as an economic form. Its form, rather, is exchange-value. The content apart from this form is irrelevant; is not a content of the relation as a social relation. But does this content as such not develop into a system of needs and production? Does not use-value as such enter into the form itself, as a determinant of the form itself, e.g. in the relation of capital and labor? If *only* exchange-value as such plays a role in economics, then how could elements later enter which relate purely to use-value.... The price appears as a merely formal aspect of it. This is not in the slightest contradicted by the fact that exchange-value is the predominant aspect. But of course use does not come to a halt because it is determined *only* by exchange; although of course it obtains its direction thereby. In any case, this is to be examined with exactitude in the examination of value, and not, as Ricardo does, to be entirely abstracted from, nor like the dull Say, who puffs himself up with the mere presupposition of the word "utility." Above all it will and must become clear in the development of the individual sections to what extent use-value exists not only as presupposed matter, outside economics and its forms, but to what extent it enters into it. Proudhon's nonsense, see the "Misere"... (Marx 1857, pp. 267-68, n.).

Ricardo and Smith had distinguished between use-value and exchange-value simply to dismiss the former as of no economic significance (Smith 1776, p. 13; Ricardo 1821, pp. 5-6). However, from Marx's Hegelian perspective, use-value and exchange-value were inseparable dialectical aspects of the social unity the commodity, which itself is central to the analysis of capitalism. Far from being an economic irrelevance, use-value, in dialectical union with exchange-value, could actually be the key to a proper understanding of political economy. Having discovered this dialectic so late in the development of his economics, Marx felt compelled to return to issues which he had previously considered solely in labor theory of value terms, and to use the dialectic of commodities to provide a firmer foundation for his earlier views. This process of reconsideration dominates the *Grundrisse* and the *Theories of Surplus Value*.[2] The crucial use to which Marx put the

2. See Groll 1980 for a coverage of Marx's many-faceted application of the concept of use-value in the *Grundrisse*, *Theories of Surplus Value* and *Capital*.

"dialectic of the commodity" was to uncover the source of surplus value, without having to begin with the premise that labor was the only source of value, and without prior consideration of the distinction between labor power and labor. The best expression of this divination occurs, not in the obscure and for-so-long-unpublished *Grundrisse*, but in *Capital* itself.

The application. Marx began *Capital* by clearing intellectual cobwebs on the route to uncovering the source of surplus, criticizing explanations based upon unequal exchange (Marx 1867, p. 154) or increasing utility through exchange (ibid., pp. 155-58), then restating the classical axiom that exchange involves the transfer of equivalents (ibid., pp. 155-56), and the conclusion that therefore exchange of itself cannot provide the answer. Yet at the same time circulation based on the exchange of equivalents must be the starting point from which the source of surplus value is deduced. Marx put the dilemma superbly:

> The conversion of money into capital has to be explained on the basis of the laws that regulate the exchange of commodities, in such a way that the starting point is the exchange of equivalents. Our friend, Moneybags, who as yet is only an embryo capitalist, must buy his commodities at their value, must sell them at their value, and yet at the end of the process must withdraw more value from circulation than he threw into it at starting. His development into a fullgrown capitalist must take place, both within the sphere of circulation and without it. These are the conditions of the problem (ibid., pp. 163).

He began the solution of this dilemma with a direct and powerful application of the dialectic of the commodity. If the exchange-value of the commodity cannot be the source of surplus, then the dialectical opposite of value, use-value, is the only possible source:

> The change of value that occurs in the case of money intended to be converted into capital...must...take place in the commodity bought by the first act, M-C, but not in its value, for equivalents are exchanged, and the commodity is paid for at its full value. *We are, therefore, forced to the conclusion that the change originates in the use-value, as such, of the commodity, i.e. its consumption.* In order to be able to extract value from the consumption of a commodity, our friend, Moneybags, must be so lucky as to find, within the sphere of circulation, in the market, a commodity, *whose usevalue possesses the peculiar property of being a source of value* (ibid., pp. 164; emphases added).

Marx then used the *quantitative* difference between the exchange-value of labor-power and its use-value to uncover the source of surplus value in the transaction between worker and capitalist:

> The past labor that is embodied in the labor power, and the living labor that it can call into action; the daily cost of maintaining it, and its daily expenditure in work, are two totally different things. *The former determines the exchange-value of the labor power, the latter is its use-value.* The fact that half a [working] day's labor is necessary to keep the laborer alive during 24 hours, does not in any way prevent him from working a whole day. Therefore, the value of labor power, and the value which that labor power creates in the labor process, are two entirely different magnitudes; and this difference of the two values was what the capitalist had in view, when he was purchasing the labor power.... What really influenced him was the specific use-value which this commodity possesses of being *a source not only of value, but of more value than it has itself.* This is the special service that the capitalist expects from labor power, and in this transaction he acts in accordance with the "eternal laws" of the exchange of commodities. The seller of labor power, like the seller of any other commodity, realizes its exchange-value, and parts with its use-value (ibid., p. 188).

At this point, Marx is triumphant. He has established the source of surplus value, and has done so without any initial presumption that labor was the only source of value, an achievement which had eluded his classical antecedents. But at this stage, all he had established was that labor was a source of value. To prove that it is the *only* source of value, he had to apply the same conceptual framework to the means of production, and find that the presumption of the strict labor theory of value, that the means of production only transfer their value to the product, is confirmed. In this second endeavor, he failed.

The contradiction. In volume I of *Capital* Marx appeared to successfully reach the conclusion that the means of production could not be a source of surplus value. However, he could only do so by contradicting a basic premise, that the use-value and the exchange-value of a commodity are unrelated. In the course of this attempt he advanced three propositions which fundamentally contravene his general approach to commodities: that, in the case of the means of production, the purchaser makes use of their exchange-value, not their use-value; that their use-value cannot exceed their exchange-value; and that their use-value somehow reappears in the use-value of the commodities they help create.

Marx began with the simple assertion that the means of production can transfer no more than their exchange-value to the product (ibid., p. 193). He next attempted to forge an equality between the exchange-value and the use-value of the means of production, by equating the depreciation of a machine to its productive capacity:

> Value exists only in articles of utility.... If therefore an article loses its utility, it also loses its value. The reason why means of production do not lose their value, at the same time that they lose their use-value, is this: they lose in the labor process the original form of their use-value, only to assume in the product the form of a new use-value.... Hence it follows that in the labor process the means of production transfer their value to the product only so far as along with their use-value they lose also their exchange-value. They give up to the product that value alone which they themselves lose as means of production (ibid., p. 196).

There are two erroneous propositions in this paragraph, while another is ambiguous. Firstly, the two final sentences which appear to link the transfer of value by the machine to its depreciation are incorrect (see below). Secondly, the statement that the use-value of a machine reappears in the use-value of the product equates the use-value of the machine to the utility enjoyed by the "consumers" who purchase the goods the machine produces. But the use-value of a machine is specific to the capitalist purchaser of the machine only. By arguing that the use-value of the machine reappears in the product, Marx is in fact contemplating the existence of abstract utility, with the "usefulness" of the machinery being transmuted into the "usefulness" of the commodities it produces. The ambiguous statement concerns the transfer of value by the means of production. Which of their two "values" do machines transfer, their exchange-value or their use-value? If Marx meant that they transfer their use-value, then this sentence would be correct in terms of his analysis of commodities. But later he makes it clear that by this expression he meant that the means of production transfer not their use-value (which is the case with a worker) but their exchange-value. In the clearest illustration of the flaw in his logic, he states that over the life of a machine, "its use-value has been completely consumed, and therefore its exchange-value completely transferred to the product" (ibid., p. 197). This amounts to the assertion that in the case of machinery and raw materials, what is consumed by the purchaser is not their use-value, as with all other commodities, but their exchange-value.

This ambiguity reappears as Marx discusses the example of a machine which only lasts six days. He first states the correct proposition that the machine transfers its use-value to the product, but then equates this to its exchange-value. He says that if a machine lasts six days "Then, on the average, it loses each day one sixth of its use-value, and therefore parts with one-sixth of its value to the daily product." Initially he draws the correct if poorly stated inference that "means of production never transfer more value to the product than they themselves lose during the labor-process by the destruction of their own use-value" (ibid., p. 197; see also p. 199). However the ambiguity between exchange-value and use-value is strong, and his conclusion takes the incorrect fork. Stating his conclusion rather more succinctly than his reasoning, he says, "The maximum loss of value that they [machines] can suffer in the process, is plainly limited by the amount of the original value with which they came into the process, or in other words, *by the labor-time necessary for their production*.... However useful a given kind of raw material, or a machine, or other means of production may be, though it may cost £150...yet it cannot, under any circumstances, add to the value of the product more than £150" (ibid., p. 199).

Essentially, Marx reached the result that the means of production cannot generate surplus value by confusing depreciation, or the loss of value by a machine, with value creation. The truisms that the maximum amount of value that a machine can lose is its exchange-value, and that a machine's exchange-value will fall to zero only when its use-value has been completely exhausted, were combined to conclude that the value a machine adds in production is equivalent to the exchange-value it loses in depreciation. With the value added by a machine equated to value lost, no net value is transferred to the product, and therefore only labor can be a source of surplus value.

While the argument may appear plausible, in reality it involves a confusion of two distinct attributes of a machine: its cost (exchange-value) and its usefulness (use-value). From a Marxian perspective, depreciation is the writing-off of the original exchange-value of a machine over its productive life. Consequently, the maximum depreciation that a machine can suffer is its exchange-value. As it wears out, both its residual value and its usefulness will diminish, and both will terminate at the same time. However it does not follow that the usefulness (the value creating capacity) of the machine is equal to its cost (its depreciation). Though a capitalist will "write-off" the latter completely only when the former has been extinguished, the two aspects are nonetheless completely different and unrelated. There is no reason why the value lost by the machine should be equivalent to the value added. An analogy with labor highlights the fallacy involved in equating these two magnitudes. If workers receive a subsistence wage, and if the working day exhausts the capacity to labor, then it could be argued that in a day a worker "depreciates" by an amount equivalent to the subsistence wage—the exchange-value of labor power. However this depreciation is not the limit of the amount of value that can be added by a worker in a day's labor—the use-value of labor. Value added is unrelated to and greater than value lost; if it were not, there could be no surplus.

Marx's dialectic provides the axiomatic basis on which to discern between value added and depreciation, and thus reject the identification of value creating capacity with value lost. As discussed above, depreciation can be equated to exchange-value, while a machine's contribution to production is its use-value. According to Marx's analysis of commodities, these should be two different magnitudes, since for all commodities "the two aspects in no way enter into relation with each other" (Marx 1857, pp. 267-68, n.). Marx did in fact reach this conclusion at one point in the *Grundrisse*. In the midst of a mass of arithmetic exploring how machinery could reduce the price of a product (thus giving an advantage to the capitalist who introduces it and yet resulting in a lowering of the rate of profit), Marx suggested precisely the method that he should have used to apply his dialectic of commodities to the question of the value productivity of machinery: "It also has to be postulated (which was not done above) that the use-value of the machine significantly [sic] greater than its value; i.e. *that its devaluation in the service of production is not proportional to its increasing effect on production*" (ibid., p. 383; emphasis added).

Here Marx specifically referred to the use-value of a machine being greater than its value, and in contrast to his discussion of depreciation in *Capital*, dissociated the productivity of a machine from its depreciation. The use-value of a machine will differ from its exchange-value and, as with labor, we can assume that its use-value will be "significantly greater than its value." In practice this will mean that the amount it loses in depreciation will be significantly less than the amount it contributes to the value of output, and it will, with labor, be a source of surplus value. Unfortunately, Marx never developed this postulate. His later developments of his dialectic as it relates to value-creation tarnished rather than polished the tool, obscuring the fundamental contradiction it uncovered in his labor theory of value.

The quantification of use-value. In his algebraic and numerical explorations of value creation, Marx compounded his previous logical errors by using the same magnitude for the exchange-value and the use-value of the means of production, while using different magnitudes for the exchange-value and use-value of labor power.

The inputs to a productive process are heterogeneous labor and a heterogeneous collection of goods. Given the input side of the productive process as $C=c+v$, c is clearly the exchange-value of the means of production, and v is the exchange-value of labor power. The output is a commodity (plus depreciated capital equipment), and the value equation $C'=c+v+s$ quantifies this gross output. This equation is of itself unproblematic, since all it states is that production generates a surplus. The difficulties arise when portions of that net output are attributed to the labor power and the commodity inputs. Marx's claim that the surplus s is proportional to v and unrelated to c describes $v+s$ as the use-value of labor, and c as the use-value of the means of production.

Marx made the former identification explicitly on numerous occasions, including the passage in *Capital* where he first reveals the source of surplus value (Marx 1867, p. 188; see also 1861a, p. 400 and 1857, p. 576). There are numerous other passages where the use-value of labor is identified with similar concepts such as surplus value, productive consumption, etc. While his characterization of c as the use-value of the means of production was never so definitive, Marx nonetheless was explicit that the quantitative measure of a machine's contribution to production was its use-value, not its exchange-value: "So far as constant capital enters into the production of commodities, it is not its exchange-value, but its use-value alone, which matters.... [T]he assistance rendered by a machine to, say, three laborers does not depend on its value, but on its use-value as a machine" (Marx 1894, p. 80).

Thus the contribution of the means of production to the value of output is their use-value. However the quantity which Marx gave for the use-value of a machine was c—which is also its exchange-value. The identification of c as both the exchange-value and the use-value of the means of production was a feature of every numeric example given by Marx, in all of his economic works. In attributing a quantity to this use-value, Marx essentially continued Ricardo's implicit practice of treating capital's contribution to output as identical to its input (Ricardo 1981, p. 28). The following table summarizes Marx's arguments in volume I on the source of surplus value and the use-value/exchange-value dialectic:

	Labor Power	Commodity Inputs
Exchange-value	v	c
Use-value	$v+s$	c
Different?	*Yes*	*No*
Surplus generated?	*Yes*	*No*
Consistent with Ricardo?	*Yes*	*Yes*
Consistent with dialectic?	*Yes*	*No*

The problem with this customary quantification is that it contradicts Marx's fundamental and oft-repeated proposition that use-value and exchange-value are unrelated. The central point of this paper is that, in the *Grundrisse*, Marx transformed the classical distinction between exchange-value and use-value, and the classical proposition that use-value plays no role in determining exchange-value, into a dialectical foundation for his economics. Prior to this pivotal logical advance, there was no problem with Marx continuing to follow Ricardo on the issue of the value productivity of machinery. Marx simply made explicit in his theory a concept which was arguably implicit in Ricardo. The assertion that labor is the only source of value could be maintained, albeit with all the technical problems of a labor theory of value.

Marx's development of the dialectic between exchange-value and use-value makes this claim logically untenable. The axiom that use-value plays no role in determining exchange-value means that, in the sphere of consumption, use-value and exchange-value are incommensurable (in contrast to the neoclassical schema, which makes utility and price commensurable through the devices of marginal utility and marginal cost). In the sphere of production, where both exchange-value and use-value are quantitative, it means that they are normally (though not necessarily) different. Yet to argue that the quantified use-value of the means of production is the same as their quantified exchange-value is to argue that, in the case of the means of production, exchange-value and use-value are identical.

IV. CONCLUSION

The conclusion that labor cannot be the only source of value has long ceased to be novel. As well as being fundamental to neoclassical economics, that conclusion has been asserted explicitly or implicitly by, among others, Sraffa 1960, Steedman 1977, Bose 1980, Hodgson

1980, Roemer 1983, Wolff 1981, Bandyopadhyay 1984, and Carling 1984. What is novel about this proof is that it has been reached using Marx's fundamental logic. It is thus more difficult for those who wish to maintain a labor theory of value to oppose, since in the past the last refuge of defenders of the labor theory has been that Marx said it was so. I have shown that if Marx had properly applied his own logic, he would have said that it was not.

Another difference is that, since these conclusions flow naturally from Marx's own reasoning, those parts of his analysis which do not depend on labor being the only source of value remain intact. Other critics of the labor theory of value would abandon Marx's historical analysis, his use of the dialectic, and the concept of value itself: clearly these foundations are in fact strengthened by these results. Similarly his comments on the reproduction process, the circuits of capital and the cyclical nature of capitalism are in no way affected. Conversely, his conclusions which depend upon labor being the only source of value are in general overturned. Chief amongst these are the transformation of value into prices, and the tendency for the rate of profit to fall.

The transformation problem is derived from the propositions that labor is the only source of surplus value, and that the rate of surplus value is uniform across industries whereas profit is proportional to the capital expended on both labor power and commodity inputs. Were these premises valid, then there would be a divergence between rates of surplus value and rates of profit when the ratio of commodity inputs to labor inputs varied between industries. However, the proof that every input to production can be a source of surplus value establishes that the rate of surplus value should tend towards uniformity across industries for the same reason that rates of profit should tend to be uniform: capitalist competition. Therefore there is no a priori reason why issues pertaining exclusively to production itself—such as the ratio of capital to labor—should cause a divergence between rates of surplus value and rates of profit. There is thus no reason why a higher capital/labor ratio than average should be associated with a lower rate of surplus value than average, no technical problem in converting values into prices of production, and no reason why prices should systematically diverge from values (or rates of surplus value from rates of profit) solely on the basis of differences in capital intensity.[3]

3. There are reasons why price will diverge from value, but they lie outside the scope of this paper.

The tendency of the rate of profit to fall suffers a similar fate. This "tendency," like the transformation problem itself, was founded on the proposition that labor was the only source of value, and that there was a tendency over time for the ratio of capital to labor (measured in value terms) to rise. Since surplus can be garnered from all inputs to production, there is no reason why an increase in the ratio of commodity to labor inputs should lead to a decline in the overall rate of surplus. Using Marx's own logic, this confirms Steedman's judgment from a Sraffian perspective that the transformation problem is a "pseudo-problem, a chimera" (Steedman 1977, pp. 14-15). Indeed the entire dispute between Marxians and Sraffians can itself be judged a chimera, since Marx's theory of value in fact provides the philosophical foundation for an absolute theory of value, consonant with Sraffian analysis, in which commodities in general in a system of commodity production are regarded as the source of surplus value.

Further development of the method discussed in this paper should provide many worthwhile additions to the intellectual weaponry of Marxian analysis. In this new tradition, which can exist cooperatively with Sraffian and Kaleckian economics while containing the superior concepts of dialectics and value, it should be to Marx's credit that he provided the analysis by which the labor theory of value could be transcended, and labor and commodities together regarded as the joint sources of value.

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