The Poverty of Algebra

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1. Introduction

Not long ago, it was fashionable in orthodox social science to proclaim that the millennium had begun: the end of poverty; the end of alienation; the end of ideology.

But this was all in theory, of course. Capitalist reality, on the other hand, has continued to develop in its own brutal and crisis-prone manner, in blatant disregard of the tender sensibilities of its ideologues. Nowhere has this had a more devastating effect than in orthodox economics, whose standing has plunged as it has suffered from what Marx once called the 'practical criticism' of the real. At the same time, this justly deserved decline in the status of orthodox economics has been attended by a correspondingly rapid revival of interest in Marx and Marxian economics. We are all Marxists now, after a fashion.

But the trouble is that there is quite a difference between Marx and Marxian economics. Marx laboured over the great body of work in *Capital* for more than twenty-five years, and he never quite finished even this core of his planned greater work.[1] Moreover, the systematic completion of this plan, which he had hoped would be carried out by his successors, was never really undertaken. Instead, in the more than 100 years since his death, Marxian economics has developed erratically and unevenly, with only sporadic connection to Marx's own work:[2] an equation here, a scheme of reproduction there, and a

[1] On the place of *Capital* in Marx's overall planned work, see R. Rosdolsky, *The Making of Marx's Capital*, London 1977, chapter 2.

[2] David McLellan's *Marxism After Marx* (New York 1979) makes abundantly clear

dialectical class struggle everywhere—with the intervening holes filled in with whatever material was already at hand. *And this material, by and large, has been appropriated from orthodox economics.* As a consequence, the original relationship between Marxist theory and capitalist reality has been 'subtly but steadily substituted by a new relationship between Marxist and bourgeois theory'.[3] We are all Keynesians now, after a fashion.

Given this history, it was inevitable that the revival of interest in Marx, especially in *Capital*, would pose a tremendous difficulty for Marxian economics: how to absorb Marx's conceptual structure, and particularly his theory of value, into a pre-existing 'Marxian' economics in which the great bulk of the analysis is founded precisely on the *absence* of such concepts. How does one absorb the concept of value, for instance, into the dominant analyses of the labour process, price theory, effective demand, accumulation, imperialism, etc., when as currently constructed none of these really 'use' this concept in the first place?

The predicament is unavoidable. If the structure of *Capital* is indeed scientific, then it is based on a *system* of concepts, interlocked and interdependent, and one cannot simply sample individual concepts as one might recipes in a cookbook. Moreover, each concept not only has its place in relation to others, but also has its own particular effects: it influences the facts one uncovers and the conclusions one draws. *It makes its presence felt.* From which it follows that its absence will be felt just as much. It is not possible, for instance, simply to absorb the concept of value into pre-existing analyses that are in fact predicated on its absence: *one or the other must give way.*

There are really only two basic ways out of this quandry. Either

that very little of the history of Marxist thought depends on the specific analysis developed in *Capital*. Economics plays only a small role in all this, and even here a good part of the history is one of a series of struggles to justify the need to set aside the analysis in Marx, or at least 'modernize' it by ridding it of unnecessary and outmoded concepts (such as value). Colletti's essay 'On Bernstein and the Economics of the Second International' brilliantly analyses this process of revision and its conceptual roots (L. Colletti, *From Rousseau to Lenin*, New York 1972). See also Perry Anderson's stimulating book *Considerations on Western Marxism*, London, NLB, 1976.

[3] Anderson, p. 55.

one must demonstrate that the system of concepts in *Capital* can indeed be extended and concretized to deal with existing arguments and historical evidence, or one must show that the dominant formulations in what is currently defined as Marxian economics are in fact based on a superior structure, and Marx's concepts, where 'appropriate', must be reformulated to fit this. In the former case, it is Marxian economics that will inevitably be altered, perhaps decisively, as it is critically appropriated into Marx's conceptual structure. In the latter case, this conceptual structure itself will be modified, and perhaps even rejected in good part, as being inconsistent with currently accepted theories.

The neo-Ricardians, of course, adopt the latter position. Their framework, they argue, is vastly more rigorous than that of Marx, and within it they are easily able to treat a host of issues involving prices of production without any reference whatsoever to value analysis. It follows from this, they insist, that the very notion of value is redundant. What is worse, it is inconsistent with price analysis, since magnitudes in terms of values generally differ from those in terms of price. Operating on this basis, they then conclude that the concept of value must be abandoned, as must a panoply of other arguments of Marx, such as those involving productive and unproductive labour, the falling rate of profit, etc. The remainder, that portion which fits into their framework, is then defined to be the 'essence' of Marx's analysis, and this of course can easily be integrated into a modern framework in the Ricardo-Marx-Sraffa-Keynes-Kalecki tradition.[4]

I wish to argue exactly the opposite position. The analysis of Marx is, I claim, vastly superior in its overall structure to anything imaginable within the flat conceptual space of the neo-Ricardians. Indeed, it is their vaunted algebra, on which they base so many of their claims to rigour, that is in fact their greatest weakness. This is so, as we shall see, precisely because their algebra goes hand in hand with a series of concepts taken directly from what Marx calls vulgar economy: equilibrium, profit as a *cost*, and worst of all, perfect competition and all that it entails. It is not the algebra but rather these concepts, whose apologetic and ideological roots are well known,

[4] Ian Steedman, *Marx After Sraffa*, London, NLB, 1977, chapter 14, pp. 205–207.

that generate their basic conclusions. This will become immediately apparent when it is shown that exactly the same algebra generates very different answers and hence very different conclusions, once it is 'asked' different questions. And these questions, in turn, are different exactly because the method and the system of concepts in Marx, his scientific analysis of the law of value, is so unlike that of vulgar economy.

It should be emphasized that I am *not* claiming that neo-Ricardian analysis should be dismissed. On the contrary, I wish to argue that its real contributions can be fully utilized only when they are divested of the vulgar concepts smuggled in with them. This is what the term critique always means: a critical appropriation of knowledge.

In what follows I will therefore briefly outline the structure of Marx's argument in order to highlight the reason why labour-time appears as the regulating principle of exchange relations and the way this regulation occurs. This will be done in section 2.

In section 3 I will present and critically examine the principle arguments of the neo-Ricardians, as represented by the work of Ian Steedman. Here, the argument will proceed along the lines outlined earlier. Section 4 will then contain concluding remarks directed not only at the neo-Ricardians but also at some of their Marxist critics who, having capitulated to the neo-Ricardian algebra, are then forced to revise the concept of the magnitude of value out of existence altogether—in order to 'save' Marx from their misunderstanding of him.

2. The Basic Structure of Marx's Argument

1. *The Role of Labour in the Reproduction of Society*

In all societies, the objects required to satisfy human needs and wants imply a certain allocation of society's productive activities, of its labour-time, in specific proportions and quantities. Otherwise reproduction of the society itself is impossible: the relation of people to nature must be reproduced if society is to be reproduced. Moreover, the relation of people to nature exists only in and through definite relations of people to people; these are therefore two aspects of the same set of relations that define the mode of (re)production of social life. The production of material wealth goes hand in hand with the reproduction of social relations.

None of this suggests that labour acts unaided. On the contrary, labour is a relation between people and nature, in which people actively and consciously utilize nature to their own ends. The important point here is that *the production process is a labour process, a basic human activity, without which the reproduction of society would be impossible.* By the same token, while it is true that use-values may occasionally arise as the spontaneous fruits of nature (wild grapes, for example), it is obvious that no society could long exist without the *production* of use-values, that is, without labour itself.

In all class societies, labour acquires yet another aspect, since under these circumstances it is the extraction of surplus labour and the creation of the resulting surplus product that forms the material basis for the reproduction of the class relation.

It is therefore Marx's contention that *labour-time is fundamental to the regulation of the reproduction of society:* the performance of labour produces both use-values and social relations; the performance of surplus labour reproduces both the surplus product and the class relation; and a particular distribution of the 'social labour in definite proportions' results in the production of 'the (specific) masses of products corresponding to the different needs' of society.[5]

2. *The Role of Labour in the Regulation of Capitalist Society*

Capitalist production, like that in every other class society, is also subject to the same fundamental regulation through labour-time. But capitalist production has the peculiarity that is based on generalized commodity production, in which the vast bulk of the products that constitute the material basis of social reproduction are produced without any direct connection to social needs. They are produced instead by private independent labour processes, each one dominated by the profit motive. Neither the connection of a given labour process to the social division of labour, nor indeed the actual usefulness of the

[5] Marx to Kugelmann, 11 July 1868, in *Marx-Engels Selected Correspondence*, third edition, Moscow 1975, p. 196.

product itself, is of any immediate interest to the capitalist involved: only profit matters, in the final analysis.

And so Marx points to the fundamental contradiction that exists here. On the one hand, each labour process is privately undertaken *as if* it was independent of all others, with exchange-for-profit as the goal. On the other hand, this undertaking assumes in advance that other similar labour processes will also intervene at the right time and in the right proportions. Buyers of this product, sellers of the means of production for this process, and sellers of the means of consumption for these capitalists and workers, must all be presupposed if this endeavour is to succeed, and even more important, if it is to be repeated (reproduced).

Each apparently private and independent labour must therefore *presuppose* a social division of labour. Moreover, in order for this presupposition to be realized in practice, the private and apparently anarchic labours must somehow in fact end up being integrated into a social division of labour.

It is in exchange that the apparent independence of each private labour process *collides* with the true inter-dependence inherent in a social division of labour. Exchange is the sphere, as Marx puts it, where the contradictions of commodity production are 'both exposed and resolved'.[6] It is the sphere where the private independent labours are *forcibly articulated into a social division of labour.*[7]

Notice what is being said here. Exchange is the sphere in which the contradiction *internal to production itself*, the contradiction between private labour and the social division of labour, is made visible. It is here that each capitalist first gets the good or bad news, through the medium of prices and profits. But at the same time, because this contradiction is internal to the social division of labour itself, its resolution implies the *domination* of the outcome of exchange, of prices and profits, by social labour-time. The outcomes of exchange are 'the form in which this proportional distribution of labour asserts itself'.[8]

And so we have a double relation: prices and profits as the

[6] K. Marx, *Capital* Volume 3, New York 1967, p. 880.
[7] Colletti, p. 83
[8] Marx to Kugelmann, p. 196.

immediate regulators of reproduction, and social labour-time as the intrinsic regulator of prices and profits and hence of reproduction. The operation of this double relation is what Marx calls the law of value, and it is precisely because of his analysis of the role of labour-time in social reproduction that the law of value rests on a labour theory of value: 'in the midst of the accidental and ever fluctuating exchange relations between the products, the labour-time socially necessary to produce them asserts itself as a regulative law of nature.'

3. *Abstract Labour and Value*

We have seen why labour-time enters in a fundamental way into the regulation of exchange-value. Now we need to specify exactly how this regulation takes place.

In all form of societies, concrete (i.e. specific) types of labours produce specific types of products: a weaver produces cloth, a baker produces bread. The concrete qualities of their labours result in the concrete forms of their use-values.

However, commodity production is production for exchange, and in exchange the distinct qualities that give various commodities their concreteness are abstracted from by the process of exchange itself. When cloth is exchanged for bread, a certain quantity of the former is socially equated with a certain quantity of the latter. Their concrete differences are therefore subordinated to a common social property, that of having 'quantitative worth'—what Marx calls exchange-value. So, by becoming a commodity, a use-value acquires an additional aspect, that of possessing exchange-value.

As a product, a use-value is the result of concrete labour. This means that the social process of equating different use-values and hence abstracting from their concrete qualities is at the same time a social process of abstracting from the concrete qualities of the labours whose results are these use-values. It follows that the very same set of social relations that endows use-values with the common quantitative property of exchange-value also endows the labour that produces this concrete use-value with the capacity to produce a common abstract quantity. Thus labour too acquires an additional aspect when it is aimed at producing commodities: it acquires the aspect of abstract labour, and from this point of view all commodity-

producing labour becomes qualitatively alike and quantitatively comparable.

Because it is only labour actually engaged in the production of commodities that acquires the property of abstract labour, it is only the labour-time of this commodity-producing labour that regulates the exchange-values of commodities. Moreover, since from a social point of view the total labour-time required for the production of a commodity consists of direct and indirect labour-time, it is this total that Marx calls the *intrinsic measure of* a commodity's exchange-value, the labour value of the commodity.[9]

It is important to stress here that the abstraction process described above is a real social process. Abstract labour is the property acquired by human labour when it is directed towards the production of commodities, and as such, it exists *only* in commodity production. The concept of abstract labour is not a mental generalization that we somehow choose to make, but rather the reflection in thought of a real social process. This in turn means that *abstract labour, and hence value, are also real*:[10] commodity-producing labour creates value, which is objectified (materialized) in the form of a commodity. We will see shortly how important this point is in relation to the neo-Ricardians.

There is one further issue here. We have seen that abstract labour has its origin in the process whereby a use-value becomes a commodity. But this process in turn has two possible forms, with quite different implications for abstract labour.

Consider the case of a type of product produced not for exchange but for direct use, say by pre-capitalist peasant labour. Suppose now that a portion of this product happens to find its way into exchange. Then, in this case these use-values become commodities only in the *act* of exchange—which in turn means that the concrete labour that produced them is abstracted from, also acquiring the additional property of abstract labour, only in the moment of exchange itself. Non-commodity *production* therefore involves concrete labour and use-values only, and a portion of these are *realized* as abstract labour and commodities, respectively, only in exchange itself.

[9] Marx, *Theories of Surplus-Value: Volume IV of Capital*, Part II, Moscow 1968, p. 403.

[10] Colletti, p. 87.

The matter is very different in the case of *commodity production.* Here the use-value is produced as a commodity, and indeed the whole nature of the production process is dominated by the fact that it is the exchange-value of this commodity that is central to the producer. In this case the use-value acquires its character as a commodity by virtue of the fact that this labour process exists within and through commodity relations, and not merely at the moment of exchange. This use-value is a commodity from its very conception, and the labour is both concrete and abstract from the very outset. *Thus labour involved in the production of commodities produces value, while exchange merely realizes it in money-form.* It is only because of this that Marx can distinguish between the amounts of value and surplus-value created in commodity production, and the generally different amounts realized through exchange. I will return to this point later on, for it is the defenders of Marx themselves who stumble over this issue.

4. Money and Price

The preceding analysis also implies that money is an absolutely necessary aspect of developed commodity production. Exchange is the process in which people equate different use-values to another, and money is the necessary medium in which this equation is expressed, and through which the articulation of the private labours is accomplished. Money is the medium of abstraction, and the means of forcible articulation.

The price of each commodity is therefore always a money-price, the golden measure of its quantitative worth. It is what Marx calls the *external measure* of exchange-value, and hence the *form* taken by value in exchange.[11]

Because price is the monetary expression of value in the sphere of exchange, it is always more complexly determined than value. Even in the simplest case, when prices are proportional to values, the money price of a commodity is still a quantity of money (say gold) determined by the value of the commodity *relative* to the standard of price (say one ounce of gold), *and is therefore already a (trans)formation of the commodity's value.* As such, the movement of prices need not parallel those of commodity values. For instance, prices may rise even when commodity values are falling, if the value of gold falls even faster.[12]

[11] Marx, *Capital*, Volume 1, Penguin Books in association with New Left Review, Harmondsworth 1976, p. 139.

We know, of course, that as Marx develops his argument in *Capital*, the relative complexity of the price-form becomes greater. In Volume 1 price is generally treated as a simple money-form of value, but wages, as time-wages and piece-wages, are already more complex forms of the value of labour-power. In Volume 2 costs of circulation and turnover add fresh determination to the price-form. Lastly, in Volume 3, the development of prices of production and of the division of surplus-value into profits, rents, and interest further concretizes the price-form, while the distinction between individual and average value concretizes the determination of value magnitudes, and through them, those of price magnitudes (individual, average, and regulating prices of production; differential profitability; and rent, absolute and differential). It must be noted here that the increasing complexity of the price-value relationship is no defect. Since price magnitudes are the immediate regulators of reproduction, the law of value must contain within it a theory of the structure of price phenomena—right down to their most concrete determination. Otherwise the law remains abstract, unable to grasp the real movements of the system.

On the other hand, because the price magnitudes are themselves regulated by the socially necessary distribution of labour, the various forms of price categories must be developed in relation to the quantities of socially necessary labour-time whose magnitudes and movements dominate and regulate these price phenomena. We must be able to conceive not only of the relative autonomy of price magnitudes, as expressed in their variability (complexity) relative to values, *but also of the limits to these variations, and of the connection of these limits to social labour-time.* It is significant that in his own development of the increasingly complex categories of price phenomena, Marx never loses sight of the domination of these phenomena by the law of value. 'No matter how the prices are regulated, we arrive at the following:

[12] Ibid., p. 193.

'1) The law of value dominates price movements with reduction or increases in required labour-time making prices of production fall or rise. . . .
'2) The average profit determining the prices of production must always be approximately equal to that quantity of surplus-value which falls to the share of individual capital in its capacity of an aliquot part of the total social capital. . . . Since the total value of the commodities regulates the total surplus-value, and this in turn regulates the level of average profit and thereby the general rate of profit—as a general law or a law governing fluctuations—it follows that the law of value regulates prices of production.'[13]

In a highly modern vein, Marx goes on to note how meaningless—but how very convenient—it is to treat the difference between price and value (i.e. the *relation* between the two) as a mere separation: 'The price of production includes the average profit. . . . It is really what Adam Smith calls *natural price*, Ricardo calls *price of production*, or *cost of production* . . . because in the long run it is a prerequisite of supply, of the reproduction of commodities in every individual sphere. But none of them has revealed the difference between price of production and value. We can well understand why the same economists who oppose determining the value of commodities by labour-time, i.e. by the quantity of labour contained in them, why they always speak of prices of production as centres around which market-prices fluctuate. They can afford to do it because the price of production is an utterly external and *prima facie* meaningless form of the value of commodities, a form as it appears in competition, therefore in the mind of the vulgar capitalist, and consequently in that of the vulgar economist.'[14]

I remind the reader that Marx is speaking here of economists of his time who claim to ground themselves in 'classical' economics—minus the labour theory of value, of course!

5. *Two Aspects of Socially Necessary Labour-Time*

In any society, the necessary distribution of social labour-time has two distinct aspects, and these in turn give rise to two different senses of socially necessary labour-time.

[13] K. Marx, *Capital* Volume 3, pp. 179–80.
[14] Ibid., p. 198.

On the one hand, under given conditions of production a certain type of use-value will require a definite quantity of social labour-time for its production. Let us suppose, for instance, that 100,000 hours of social labour-time are required (directly and indirectly) for the production of 50,000 yards of linen. Then 2 hours of labour-time are socially necessary on average to produce *one* yard of linen.

But suppose the expressed social need for linen is actually 40,000 yards. Then the total amount of social labour-time that needs to be directly and indirectly allocated towards the production of linen would be 80,000 hours, other things being equal.

We can thus see that these are two senses of socially necessary labour-time. The first sense represents the actual total labour-time (100,000 hours) expended under given conditions of production. In conjunction with the actual total product (50,000 yards), this defines the average labour-time required per *unit* of product (2 hours per yard).

The second sense, however, refers to the total labour-time that would be required in this branch in order to satisfy expressed social need (80,000 hours).

In commodity production, these two aspects of socially necessary labour-time have further implications.

To begin with, the first aspect defines the total value of the product (100,000 hours) and the unit *social* value of the commodity. The latter is the average amount of abstract labour-time socially necessary for the production of one unit of the commodity.

This unit social value is in turn the basis of the regulating price, a term by which Marx means that price which acts as the centre of gravity of the commodity's market price. In Volumes 1 and 2 this regulating price is supposed to be the commodity's *direct price* (price proportional to unit social value). In Volume 3, after the form of value has been further developed, the price of production takes the place of the direct price as the centre of gravity of market price. For ease in exposition, let us stick to direct price as the regulating price, and let us further assume that $1 represents 1 hour of abstract labour-time. Then since the unit social value of a yard of linen is 2 hours, its direct price will be $2.

The second aspect of socially necessary labour-time then specifies the relation between the regulating price and the market.

The actual production of linen is 50,000 yards, which represents

100,000 hours of value created in production. The regulating price of this, which is by assumption the direct price, is $2 per yard. Suppose now that at this regulating price, the expressed social need, i.e. the effective demand, for this product is only 40,000 yards of linen, which represents only 80,000 hours of labour-time. Then the fact that the actual amount of total labour-time devoted to linen production is greater than the amount socially necessary to meet effective demand means that the market price of the commodity will fall below its direct price of $2—to say $1.50 per yard of linen. The 50,000 yards actually produced will therefore sell for $75,000 in the market, and since $1 represents one hour of abstract labour, this means that the value realized in exchange, in the form of money, is 75,000 hours. And so we see that because the actual labour-time devoted to this branch is greater than the labour-time socially necessary to meet effective demand, a product representing a value of 100,000 hours is sold in the market for the monetary equivalent of only 75,000 hours. The 'violation of this (necessary) proportion makes it impossible to realize the value of the commodity and thus the surplus-value contained in it.'[15]

To summarize: Socially necessary labour-time in the first sense defines the total value and unit social value of the commodity, and through the latter, the commodity's regulating price. Socially necessary labour-time in the second sense, on the other hand, defines the relation between regulating price and market price. Both senses must be kept in mind if one is to understand exactly how social labour-time dominates and regulates the exchange-process. We will see later that a failure to distinguish between these two real aspects of socially necessary labour-time, and hence a failure to recognize Marx's own distinction between these two aspects, so confuses some Marxists that they end up abandoning the concept of the magnitude of value (as distinct from price) altogether.

3. Critique of the Neo-Ricardians

In what follows I will divide the main points of the neo-Ricardian

[15] Ibid., p. 636.

position, as summarized by Steedman, into four major groups and then address each in turn.

1. The Redundancy Argument

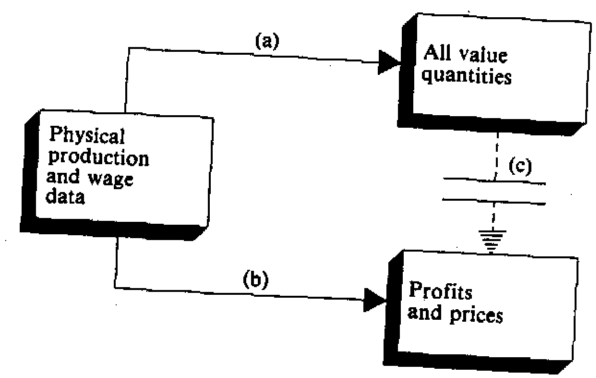

FIGURE 1

Figure 1 above illustrates the first major argument marshalled by the neo-Ricardians, which as Steedman notes, has been made 'in various forms, by many different writers over the last 80 years', and in which he claims 'no logical flaw has ever been found'.[16] Such brave words clearly deserve a closer examination.

Steedman explains the argument as follows. The box on the left represents the physical production data and the real wage, and these 'suffice to *determine* the rate of profit . . . and all prices of production', as illustrated by the path marked '(b)'. At the same time, 'the quantities of labour embodied in the various commodities . . . can themselves only be *determined* once the conditions of production are known', as illustrated by path (a). From this it follows at once that

[16] Steedman, *Marx After Sraffa*. The diagram is from p. 48, the quotes from p. 49, note 15.

labour values therefore *'play no essential role* in the *determination* of the rate of profit (or of the prices of production)'.[17] In other words, values are redundant in the analysis of exchange relationships.

Notice how often the word 'determine' crops up: the physical production data *determine* values, and in conjunction with the real wage also *determine* prices of production. But what then determines this physical production data?

In Marx, the answer is clear: it is the labour process. It is human productive activity, the actual performance of labour, that transforms 'inputs' into 'outputs', and it is only when this labour is successful that we have any 'physical production data' at all. Moreover, if the labour process is a process of producing commodities, then it is one in which value is materialized in the form of use-values. Thus both 'inputs' and 'outputs' are the use-forms of materialized value, and we can then say that in the *real* process, it is *values that determine the 'physical production data'*.

We also know, moreover, that in the *real* process of reproduction, the production of use-values *precedes* their exchange. Indeed, exchange itself is a process in which the different labour-times involved in producing these use-values actually confront each other, and are eventually articulated into a social division of labour—through the medium of money prices. Thus it is *values that also determine prices*, in a double sense: prices are the forms taken by values in exchange, and the magnitudes of these values dominate and regulate the movements of their price forms. The latter point must of course be developed further, since we need to show not merely that prices of production and profits rest on the expression in circulation of value and surplus-value, but also that the former magnitudes are regulated by the latter. This we take up in the next section. Nonetheless, we may summarize the above argument in a diagram, figure 2, that serves as a contrast to figure 1.

How do neo-Ricardians manage to miss so elementary a point? It is, I think, because of two fundamental weaknesses characteristic of their analysis. First, in spite of their protestations to the contrary,[18]

[17] Ibid., p. 14. In all these quotes, the emphasis on the word 'determine' is mine.

[18] Steedman states that 'all production is assumed to be carried out by workers, in a socialized labour process . . .'. (Ibid, p. 17). Nonetheless, he remains quite oblivious to the elementary implications of this assumption, and continues to speak of 'physical

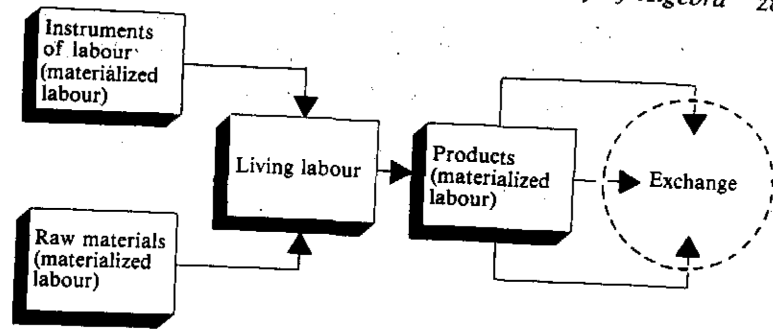

FIGURE 2

they tend to view production as a technical process, as physical data, instead of a labour process in which human labour is objectified in use-values. Hence the characteristic emphasis of the neo-Ricardians on distribution: once the labour process is seen as a technical process, only 'distribution' appears truly social.

Second, they typically confuse the real process with its appropriation in thought. In the real process, as we have seen, social labour-time *really* regulates exchange. The physical *data* are then a conceptual summary of the real determination, and if we then use the data to conceptually *calculate* values, we only capture in thought their real magnitudes. Such a calculation no more determines these values than does the calculation of the mass of the earth determine either the earth or its mass. It merely recognizes what already exists. This is a fundamental point in a materialist view of the world, and the eighty-year failure of the neo-Ricardians to distinguish real and conceptual determination reveals their long attachment to an idealist method.

conditions of production' *determining* 'the quantities of labour embodied in the various commodities' (ibid., p. 14).

2. The Inconsistency Argument

Let us return for a moment to the neo-Ricardian fork diagram in figure 1. In that diagram, the path (c) from value magnitudes to profits and prices is dotted to express its redundancy. But it is also blocked off, in order to represent the neo-Ricardian argument 'that one cannot, in general, explain profits and prices from value quantities . . .'.[19]

There are two basic components to this argument. The first is simply the redundancy argument repeated once again, in which Steedman insists that since he can *calculate* both value and price magnitudes from the physical data, the former cannot therefore determine the latter. For him, only algebra 'explains' anything. We have already dealt with the superficiality of this type of reasoning.

The second element is more substantive, though it, like the first, is hardly new. In essence, this point has to do with the 'transformation problem'. In what follows I will therefore present both the problem and its treatment, though the main results I will utilize are developed by me elsewhere, and will merely be outlined here.

The basic issues are well known. Following Steedman's own analysis, we abstract from fixed capital and joint production,[20] and consider a given mass of use-values representing a given sum of values and sum of surplus-values. Then, with prices proportional to values (for simplicity in exposition, let $1 represent 1 hour of value), this mass of use-values will be expressed in exchange as a sum of direct prices and direct profits. Under these circumstances all money magnitudes are directly proportional to the corresponding value magnitudes, and therefore all money ratios are equal to the corresponding value ratios. In this case, the relationship between production and circulation is specially transparent.

Now consider the same mass of use-values, hence the same sum of values and surplus-values, exchanged at prices of production. We are considering, in other words, a change in the form of value alone, from direct prices to prices of production. Prices of production are therefore transformed direct prices, and since the latter are themselves the monetary (trans-)forms of value, prices of production are doubly transformed values.

[19] Ibid, p. 49.

[20] Ibid, p. 50. Steedman notes that these general conclusions hold even when we abstract from fixed capital and joint production. We will therefore similarly restrict our analysis here, all the more so since a proper treatment of these two questions cannot be undertaken until the simpler ones have been addressed. The 'choice of technique', on the other hand, will be treated in the next subsection.

The relation between the sum of prices and the sum of values defines the value of money. If we then keep the value of money constant in order to simplify the analysis, the sum of prices of production will equal the sum of direct prices. The sum of money prices will, in other words, be constant across the transformation. Nonetheless, individual prices of production (transformed direct prices) will differ from individual direct prices. Strictly speaking, one should refer to these differences as 'price of production – direct price deviations'. This is a very awkward term, however, and it is much simpler to follow Marx's usage and speak of 'price-value' and 'profit-surplus-value' deviations. I will therefore stick to this traditional usage, but with the clear understanding that the deviations we speak of are between money magnitudes.

It is evident that no change in the mere exchange ratios through which a given total product is distributed can alter the total mass of use-values so distributed. It follows immediately, as Marx points out, that no change in exchange ratios can alter either the sum of values or the sum of surplus-values; it can only result in a different kind of division of these totals.[21]

It does *not* follow that the *monetary* expression of these sums is invariant: even with the value of money constant, so that the sum of prices is constant, the sum of transformed profits (corresponding to prices of production) will in general differ from direct profits. The question is, given that circulation neither creates nor destroys values (assuming the whole product is sold), how is it that profits can differ from surplus-value?

When a commodity is sold at its direct price, the seller and buyer exchange equal values in commodity-form and money-form, respectively. But when prices deviate from values, a transfer of value takes place during the exchange process. For instance, when a commodity sells at a price below its value (i.e. below direct price), the capitalist who sells the commodity receives a value in money-form that is less

[21] Marx, *Capital* Volume 3, p. 43.

than the value he hands over in the form of a commodity, and vice versa for the buyer. Surplus-value is therefore transferred from seller to buyer.

To understand the general implications of this, let us first divide the total social production into three great branches (means of production, workers' articles of consumption, and capitalists' articles of consumption), and then, on this basis, analyse the effects of price-value deviations on the transfers of value in simple reproduction. To do this we will consider the effect of price-value deviations in each branch *taken singly*, holding the prices of the remaining two branches exactly equal to values. We are therefore momentarily allowing the sum of prices to deviate from the sum of values, though we will soon return to this equality. It is important to note that this is an analytical device only, not a description of an actual process.

Suppose the first branch raises its total price above its total value, with the other two keeping their prices equal to values. Then the gain in profits of the first branch is exactly equal to the rise in the sum of prices. This branch, however, sells means of production, which in simple reproduction are equal in magnitude to those used up as constant capital in all three branches. Therefore the price rise of the first branch, *which is the same thing as the rise in the sum of prices*, produces an exactly equal rise in the total cost-price of all three branches. But if the sum of cost-price rises as much as the sum of prices, the difference between the two, which is the *sum of profits*, is not changed at all. It follows therefore that though the first branch can alter its own profits by altering its price, other things being equal, this cannot in any way give rise to any change in the sum of profits. What is gained by one capitalist as *capital-value*, in the *form of profits*, is exactly offset by what is lost by the capitalist class as a whole as *capital-value*, in the form of constant capital. *The transfers of value therefore remain within the circuit of capital, so that within this circuit the net transfer of value is zero.*

A similar analysis can be conducted for the second branch, which sells workers' articles of consumption. Here, any rise in this total price is initially at the expense of the immediate buyers, who are the workers as a whole. But since we are considering a change in the form of value alone, the value of labour-power and hence the real wage are held constant, so that any rise in the price of workers' means of subsistence is also a rise in the variable capital advanced by capitalists in all three branches for the purchase of labour-power. Consequently, here too the sum of cost prices will rise exactly as much as the sum of prices, so that total profits remain unchanged. The second branch can alter its own profits, but only at the expense of the profits of the remaining two branches, because what it gains as capital-value in the form of profits is also lost by the capitalist class as a whole as capital-value in the form of variable capital. Once again, the transfers of value remain internal to the circuit of capital, with the consequence that the net transfer is always zero.

We come finally to the sale of capitalist articles of consumption, the third branch. A change in total price here, say a fall in total price below value, holding all other prices constant, means an equivalent fall in its profit below surplus-value, and of course an equal fall in the overall sum of prices. Thus far, this is similar to the previous two cases. But from here on the analysis differs, because the loss in *capital-value* due to profits being below surplus-value in the third branch appears as a gain in *revenue-value* to the capitalists who buy these articles of consumption. Though this loss in capital-value is indeed compensated by a corresponding gain elsewhere in social reproduction, this compensating effect disappears from the purview of the circuit of capital and is therefore not 'charged', so to speak, against the fall in profit. It is this transfer of value between the circuit of capital and the circuit of revenue, through the process of exchange, that explains why price-value deviations can give rise to deviations between the sum of profits and the sum of surplus-values, *without violating the law of the conservation of value through exchange.*

The above results were explicitly derived for the case of simple reproduction only. However, as I show elsewhere, they can be extended to cover expanded reproduction also. Moreover, in this general form they hold true for any price-value deviations at all, not merely those arising from the formation of prices of production.

In most analyses of social reproduction, the circuit of capitalist revenue is not explicitly accounted for. Of course, under these circumstances it appears completely mysterious that as prices deviate from values, a given surplus-product and hence a given mass of surplus-value can manifest itself as a variable mass of profit.

However, once the *whole* of social circulation is analysed, the mystery disappears. To the extent that price-value deviations give rise to transfers between the circuit of capital and the circuit of capitalist revenue, these transfers will manifest themselves as differences between actual profit and direct profits. Ironically, though this phenomenon is evidently a mystery to most Marxist discussions of this issue, it was no mystery to Marx himself: 'This phenomena of the conversion of capital into revenue should be noted, because it creates the *illusion* that the amount of profit grows (or in the opposite case decreases) independently of the amount of surplus-value.'[22]

None of this should come as any surprise once the difference between value and form-of-value has been grasped. Value and surplus-value are created in production, and expressed as money magnitudes in circulation. Since the circulation magnitudes are more concrete, they are necessarily more complexely determined than value magnitudes, for they express not only the conditions of production of value but also the conditions of its circulation. As such, the relative autonomy of the sphere of circulation necessarily expresses itself as the relative autonomy of price magnitudes from value magnitudes. Profits, in other words, depends not only on the mass of surplus-value but also on its specific mode of circulation.

The concept of the relative autonomy of circulation from production implies not only that profit can vary independently of surplus-value, *but also that this independence is strictly limited.* It is necessary, therefore, to show how value categories themselves provide the limits to the variations in their money-expressions.

Intuitively, it is evident from the preceding discussion that the overall deviation of actual profits from direct profits is the combined result of two factors. First, it depends on the extent to which the prices of capitalists' articles of consumption deviate from the values of these articles—that is, it depends on the manner in which surplus-

[22] Marx, *Theories of Surplus-Value*, Part III, Moscow 1971, p. 347. It is interesting to note that Marx discovers this phenomenon in connection with his analysis of differential rent, and not that of price of production. It is often forgotten by Marxists that differential rent also implies price-value deviations, since it is the marginal conditions of production that regulate the market price while it is the average conditions of production that always determine (social) value. Thus even when the regulating price is equal to value, it is in this case equal to the unit value in the marginal land, which is necessarily different (higher) than the average unit value. Thus the regulating price deviates from (average) value.

value is distributed among capitalists, and on the resultant pattern of individual price-value deviations. And second, it depends on the extent to which this surplus-value is consumed by capitalists as revenue—that is, on the distribution of this surplus-value between capital and revenue. Even when prices deviate from values, the size of any transfer from the circuit of capital to the circuit of revenue will also depend on the relative size of the circuit of revenue. Where all surplus-value is consumed, as in simple reproduction, the deviation of actual profits from direct profits will be at its maximum. When, on the other hand, all surplus-value is re-invested, in maximum expanded reproduction, then there is no circuit of capitalist revenue and consequently no transfer at all: total actual profits must, in this case, equal total direct profits, regardless of the size and nature of individual price-value deviations.[23]

With only a little more effort, one can extend the preceding results on the sum of profits to the case of the rate of profit. It will be recalled that when all capital turns over in one period, as is assumed here, the rate of profit is equal in magnitude to the mass of profit divided by the cost-price. The sum of prices, on the other hand, is the sum of cost-prices and the sum of profits. Then, if with a constant sum of prices, individual price-value deviations cause the sum of profits to be larger than surplus-value, the sum of cost-prices will be correspondingly smaller than $C+V$. Then the average money rate of profit will be larger than the value rate of profit $\left(\dfrac{S}{C+V}\right)$ on account of both a larger numerator and a smaller denominator. Nonetheless, the general relation between the two is merely another expression of the total profit-surplus deviations analysed above, and is therefore subject to the same fundamental determination.[24]

All this was based on arbitrary market prices. If we now confine

[23] This result has been mathematically known for some time, *though not conceptually grasped*, as the equality of profits and surplus-value along the Von-Neumann ray. See A. Shaikh, *Theories of Value and Theories of Distribution*, unpublished Ph.D. dissertation, Columbia University, 1973, chapter 4, section 4, and M. Morishima, *Marx's Economics*, Cambridge 1973, p. 142.

[24] For further details, see my unpublished paper 'The Transformation From Marx to Sraffa (Prelude to a Critique of the Neo-Ricardians)', March 1980.

ourselves to prices of production, we can be even more precise. Since the mass of profit and the rate of profit are so closely connected as far as these issues are concerned, it is sufficient to illustrate the argument for the latter.

We begin by noting that for given conditions of the labour process, the value rate of profit r° can always be expressed as a steadily (i.e. monotonic) increasing function of the rate of surplus-value.

1. $$r^{\circ} = \frac{S}{C+V}$$

where S = surplus-value, V = value of labour power. Let $L = V + S$ = value-added by living labour (if N = the number of workers employed, and h = the length of the working day in hours, then $L = Nh$). Let $k = \frac{C}{L}$ = the ratio of dead to living labour. Then

2. $$r^{\circ} = \frac{\frac{S}{V}}{\left(\frac{C}{L}\right)\left(\frac{L}{V}\right)+1} = \frac{\frac{S}{V}}{k\left(1+\frac{S}{V}\right)+1}$$

Since k depends only on the technology and the length of the working day h, when these conditions of the labour process are given, r° will vary directly with the rate of surplus-value. Thus the value rate of profit is a monotonic increasing function of the rate of surplus-value.[25]

In recent years, several authors have shown that when direct prices are transformed into prices of production, though the transformed money rate of profit r will in general deviate from the value rate (we have already seen how and why), nonetheless this transformed rate also is a monotonic increasing function of the rate of surplus-value.[26] But once it is recognized that the value rate of profit r° and the transformed rate r both increase as $\frac{S}{V}$ increases, it follows at once that

[25] A. Shaikh, 'The Transformation From Marx to Sraffa', section III. 3.

[26] A. Shaikh, *Theories of Value* . . ., chapter 4, section 4, and M. Morishima, *Marx's Economics*, p. 64.

they must move together: *when the value rate of profit rises (falls) its reflection in the sphere of circulation, the transformed rate of profit, also rises (falls).*

Figure 3 depicts this intrinsic relationship. For the sake of illustration, it is assumed here that r° is larger than r, though of course it could equally well be the other way around.[27]

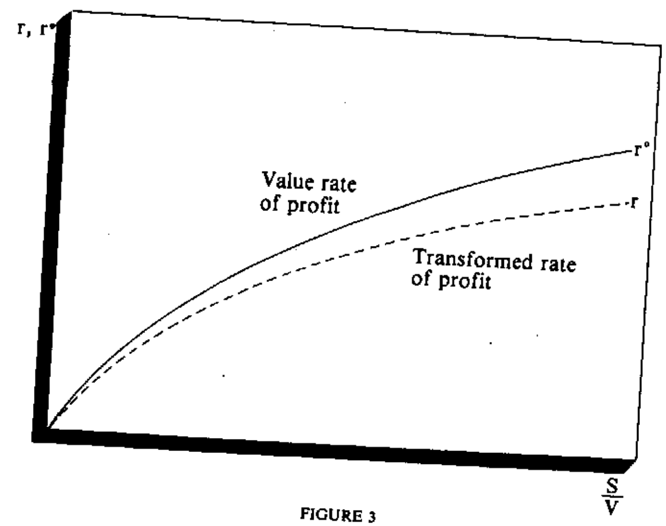

FIGURE 3

It is interesting to note that although Marx insists that the equalization of the rate of profit and the formation of individual prices of production are of great importance for individual capitals or subsets of capitals, he also insists that for the system as a whole the previously derived laws are basically unaltered. In a letter to Engels, after presenting the basic phenomena arising from the transformation process, Marx goes on to summarize what remains to be

[27] The general shape of the functional relationship of r to S/V can be derived graphically from M. Morishima, *Marx's Economics*, p. 64, figure 2. The relationship between r° and S/V, on the other hand, follows simply from equation 2 in this paper. A much more detailed treatment of the theoretical and empirical relationship between the value rate of profit r° and the transformed rate of profit r is provided in my paper 'The Transformation from Marx to Sraffa . . .', sections III and IV. In the aggregate, these two ratios turn out to be virtually indistinguishable.

developed. 'Further: the *changed outward form* of the law of value and surplus-value—which were previously set forth and which are still valid—*after the transformation of value into price of production*.'[28]

At all times and in all places, price is the outward form of value, the reflection of value in the sphere of circulation. What the transformation does, Marx argues, is to transform this outward form, to introduce into it certain fresh determination and new sources of variation, but to do so in such a way as to leave the intrinsic connections unchanged. Look again at figure 3. It illustrates this conception perfectly: in the relatively autonomous mirror of circulation, the transformed rate of profit appears *as a displaced image of the value rate of profit*, essentially the same in determination but somewhat different in exact magnitude. The autonomy of the sphere of circulation is expressed in this displacement of magnitude; on the other hand, the limited nature of this autonomy manifests itself precisely through the fact that it is the structure of value categories (the pattern of organic compositions, and the proportion of surplus-value that is converted into revenue) that provides the limits to this displacement effect. The variations in the form of value are thus shown to be conditioned and limited by the very structure of value itself.

The notion of relative autonomy, of variation within limits, is of course entirely absent from the neo-Ricardian discussion. Given their own deep debt to orthodox economics, this should come as no surprise. Consequently, they have always insisted that the difference between value and its expression in circulation implies an inconsistency, a complete divorce of inner connection, between the two.

The money rate of profit, Steedman notes, is generally different from the value rate. From this he concludes that 'the latter ratio provides no adequate measure of either the rate of profit in a capitalist economy or the potential for accumulation in such an economy. . . .'[29] This is the ventriloquist voice of his method speaking, not the algebra. It is, moreover, an obscurantist voice, precisely because it takes refuge in algebra in order to obscure the profound silence on the question of method.

[28] Marx to Engels, 20 April 1868, in *Marx–Engels Selected Correspondence*, p. 194.
[29] Steedman, p. 205.

Three further points should be made on this subject. First of all, even though we can establish that individual price-value deviations do not alter the fact that aggregate value magnitudes clearly regulate aggregate price magnitudes, it is not sufficient to stop here. Once we move to a more concrete analysis, then the individual price-value deviations and the transfers of value to which they give rise become quite important in their own right. For the analysis of the phenomena of competition, of regional and international differences, of development and underdevelopment, the relation of the parts to the whole is itself of paramount concern.[30] Once we consider these issues, then it becomes important to address the theoretical determinants of individual price-value deviations, in terms of both their directions (which dictate the directions of the transfers of value) and their magnitudes (which indicate how large such transfers are likely to be).

In addition, we also need to look at the empirical magnitudes involved. Indeed, this second issue is implicit in the issue of the theoretical determinants, since in Marx's method the purpose of theory is to grasp the structure of the real relations—which can be done only through the study of these real relations themselves.[31]

This in turn leads to the third point. Given that theory must be developed in conjunction with the '"material of observation" which, precisely because it is *material*, can "weed out . . . hypotheses, doing away with some and correcting others until finally the law is established in a pure form" . . .',[32] it follows that scientific abstraction must be what Marx calls a 'determinate abstraction'. Abstraction must be typification, the extraction from some aspect of the real of its 'simplest characterization'.[33]

In bourgeois social science, however, abstractions tend to be idealizations, not typifications. When Marx speaks of the reproduc-

[30] See, for instance, my paper 'Foreign Trade and the Law of Value', *Science and Society*, fall 1979 (Part I) and spring 1980 (Part II), in which I discuss the role of trade, capital flows, and transfer of value between capitalist regions.
[31] In my paper 'The Transformation From Marx to Sraffa' I establish on both theoretical and empirical grounds that the typical price-value deviation is ±20% for both market prices and prices of production, with typical correlation coefficients (adjusted for heteroskedasticity) of about 93%. As I note in my paper, Ricardo seemed to have a vastly superior grasp of these relations than do the neo-Ricardians!
[32] Colletti, p. 42.
[33] Ibid, p. 43.

tion of the moving contradiction that is capitalist commodity-production, a reproduction process that necessarily must occur by trial-*through*-error, he always speaks of a process of tendential regulation in which discrepancies and errors of one sort constantly produce those of an opposite sort. 'The total movement of this disorder is its order.'[34] Similarly, when he speaks of capitalist competition, he speaks of it as a *war* in which 'each individual capital strives to capture the largest possible share of the market and supplant its competitors and exclude them from the market—*competition of capitals*'.[35]

The neo-Ricardians, on the other hand, are safely ensconced within equilibrium analysis, conducted on the assumption of 'something like perfect competition'.[36] These concepts do not merely idealize capitalist reality, they systematically and ideologically obscure it. Their pride of place in neo-Ricardian analysis therefore highlights once again the profound limitations of this school of thought. It has been so successful in its struggle against neo-classical theory not merely because it is better than its adversary, but also because it is so similar to it. With this in mind, we turn to the third major type of argument made by the neo-Ricardians against the theory of value in Marx.

3. The Primacy Argument

In the previous section I argued that the quantitative difference between, say, the value and money rates of profit did not and should not obscure the more fundamental qualitative *and* quantitative relation between the two. Steedman does not see this, naturally, because his method does not afford him the concept of relative autonomy. But to this Steedman would reply: 'Now if these profit rates differ, which is the significant one? Which will affect capitalists' decisions and actions? And which will tend to be made uniform, as between industries, in a competitive economy? The answer is self-

[34] K. Marx, *Wage-Labour and Capital*, reprinted in the *Marx-Engels Reader*, edited by Robert C. Tucker, New York 1972, p. 175.
[35] Marx, *Theories of Surplus-Value*, Part II, p. 484.
[36] Armstrong and A. Glyn, 'The Law of the Falling Rate of Profit and Oligopoly: a Comment on Shaikh', *Cambridge Journal of Economics*, 1979, 3, p. 69.

evident; it is the money rate of profit which affects decisions and tends to be equalized. The "value rate of profit", used by Marx, is of no concern to the capitalists, it is unknown to the capitalists. . . . The implication is clear; $S/(C+V)$ is not a significant rate of profit in a capitalist economy, and it does *not* equal the actual, money, rate of profit.'[37]

There are three levels of argument here. At the first, Steedman notes that all actual decisions are made in terms of money magnitudes. This is, of course, the point of departure for Marx also. Money prices and profits are the immediate regulators of reproduction, and the very object of the law of value is to discover their inner laws.

At the next level, Steedman goes on to say that because the value rate of profit is 'unknown to the capitalists', 'of no concern' to them, it is '*not* a significant rate of profit in a capitalist economy'. How extraordinary it is to claim that only what 'the capitalists know' is significant, in other words, that appearances are significant but essences are not! In one stroke Steedman throws out all science.

But there is a third level here, with an even deeper problem. Let us stop for a minute and ask what it is that these capitalists in fact 'know'.

Well, capitalists know that capitalism is an unplanned society, in which they are free to take their chances producing commodities in the hope of making a profit. And they certainly know that there is no guarantee they will receive this profit, *or any profit at all*, and even if they do, that they will be able to repeat it. They therefore know that prices and profits fluctuate constantly, and that there is never at any moment a *uniform* rate of profit, *so that prices of production never exist as such*. It follows from this that the prices, the individual profit rates, and even the average rate of profit, on which capitalists base their actual decisions, are never equal to prices of production and the uniform profit rate on which Steedman apparently bases *his* decisions.[38] The uniform rate of profit is of course 'unknown to the

[37] Steedman, p. 30.
[38] Steedman makes much of the fact that since direct prices differ from prices of production, the average profit rate in terms of direct prices (which is the value rate of profit) will differ from the average profit rate in terms of prices of production (which is, of course, the uniform rate of profit). But he does not seem to notice that this would

capitalists', hence of 'no concern to them', and therefore by his own argument it is '*not* a significant rate of profit in a capitalist economy'.

Fortunately for him, the last proposition is not true. And that is simply because it is his argument itself that is not significant. But then if one argues instead that prices of production and the uniform rate of profit are important even though they never exist as such in circulation—precisely because they dominate and regulate the constantly fluctuating constellation of market prices and profit rates—then it is equally true that values and the value rate of profit are even more important because they in turn dominate and regulate prices of production and the uniform rate of profit. And this is just what Marx argues all along.

One might ask: how could Steedman make so egregious an error? Quite simply because he operates entirely within the concept of equilibrium. If one assumes that there is no contradiction between private independently undertaken labours and the social division of labour, so that the articulation of labour is *immediate*, then one can equally well assume that prices of production and the uniform rate of profit obtain directly in circulation. *But then the characteristic contradiction of capitalism has been spirited away altogether.* Once you replace the concept of tendential regulation with that of equilibrium, you have switched from abstraction as typification to abstraction as idealization. This is, of course, characteristic of vulgar economy, and is built into the basic mathematical formulations on which Steedman relies so heavily.

4. *The Choice of Technique Argument*

The neo-Ricardian pattern of confusing tendential regulation with equilibrium, and of competitive battle with perfect competition, shows up even more forcefully in their analysis of the so-called choice of technique. Since I have discussed this issue elsewhere, I will only mention the central points here.[39]

also hold for any two sets of differing prices, so that in general the average profit rate in terms of market prices will *never* be equal to the uniform rate of profit.

[39] A. Shaikh, 'Political Economy and Capitalism: Notes on Dobb's Theory of Crisis', *Cambridge Journal of Economics*, 1978, 2, pp. 233–251. See also the debate surrounding the above article, and my rejoinder on 'Marxian Competition Versus Perfect Competition: Further Comments on the So-called Choice of Technique', *Cambridge Journal of Economics*, 1980, 4, pp. 75–83.

Steedman begins by noting that capitalists in a particular industry often have the possibility of more than one method of production. The method chosen, he argues, is then the one that yields the highest rate of profit,[40] as estimated in terms of existing wages and prices. As always, these existing prices are exactly equal to prices of production, all rates of profit are exactly equal to the uniform rate, and equilibrium rules everywhere. Because capitalists choose the method with the highest rate of profit, no method will be adopted unless it is higher than their own existing rate of profit, and since this rate is identically equal to the uniform rate of profit, they will adopt a new method only if it yields a rate of profit higher than the uniform rate. It follows from this that the adoption of a new method in effect adds a new higher rate of profit to the existing rates (which by assumption are all equal to the uniform rate), and therefore ends up eventually raising the uniform rate of profit itself.

From a neo-Ricardian point of view, this means that if we had knowledge of all the possible methods in all the different industries, we could assemble them into different combinations of one method per industry, and then argue that the particular combination that in practice would be adopted at a given real wage would be the one that yields 'the highest possible uniform rate of profit'.[41] So, the knowledge of the real wage and possible combinations of methods enables Steedman to identify the combination that would yield the highest uniform rate. He therefore concludes that it is the real wage and the spectrum of possible combinations that 'determine' the uniform rate of profit and the actual combination (physical data). And only when the actual combination is given, according to him, are values 'determined'. The 'determination of the profit rate is thus *logically prior* to any determination of value magnitudes', so that when 'there is a choice of technique, any attempt to ground the theory of the rate of profit on any value magnitudes must be ill-conceived'.[42]

This whole analysis is a résumé of the characteristic confusions of

[40] Steedman, p. 64.

[41] Ibid, p. 64.

[42] Ibid, p. 65.

the neo-Ricardian school. To begin with, once it is recognized that market prices and profit rates can never exactly equal prices of production and the uniform rate of profit, then the whole process of reducing the question to one of selecting the combination that yields the highest uniform rate of profit falls apart. Suppose, for instance, that market prices differ from prices of production, so that industry profit rates differ from the uniform rate of the neo-Ricardians. Then, precisely because calculations are being made in terms of prices that do not directly embody the uniform rate of profit, a new method in a particular industry can raise the industry's profit rate *and at the same time lower the uniform rate*. A production method that yields a higher than average rate of profit at one set of prices need not do so at some other set. Steedman himself emphasizes this possibility vis-a-vis the 'inconsistency' between prices of production and direct prices, without noting that it applies with the same force to the 'inconsistency' between market prices and prices of production.[43] Had he done so, however, he would have been forced to conclude on the basis of his own logic that prices of production and the uniform rate of profit are not significant on two counts: not only are they 'unknown to the capitalists', etc., but their very use in analysis can lead us to false conclusions.

However, there is an even more basic error in Steedman's logic. Consider the fact that when capitalists evaluate methods of production, they do so not only on the basis of anticipated prices of the plant, equipment, materials, and labour-power, but also on the anticipated performance of the labour process associated with this method (which will determine the anticipated relation between 'inputs' and 'outputs'), and finally on the estimated conditions of sale. Therefore, the profits they evaluate are themselves potential profits based on the potential creation of value and surplus-value in production, and on their estimated realization in circulation. So we may say that, *even in thought*, surplus-value regulates profit. Moreover, for this potential itself to be made real, actual value and

[43] It is only in some recent unpublished papers that Steedman has begun to notice that the difference between actual market prices and theoretical prices of production 'raises important questions for contemporary analysis'. (Ian Steedman, 'Natural Price, Market Price, and the Mobility of Money Capital', unpublished paper, 1978, p. 5).

surplus-value will have to be produced and then realized, so that *in practice also*, surplus-value regulates profit.

Lastly, I would argue that even the neo-Ricardian description of the process whereby methods are evaluated is false. Steedman tells us that 'each industry will seek to adopt that production method which minimizes costs'.[44] On the surface, this is similar to Marx's argument that competition drives capitalists to increase the productivity of labour in order to lower cost-prices. But when Steedman speaks of 'costs', he means *prices*, i.e. cost-prices *plus* profit. The neo-Ricardian analysis, in other words, *is predicated on the treatment of profit as a 'cost' of production.* Once profit is treated as what it truly is, an excess over all costs, then on top of everything else, the neo-Ricardian claim that the profit rate cannot fall due to a rising organic composition is also falsified.[45] In the end, rather than being their strongest case, their treatment of the so-called choice of technique turns out to be the weakest of all.

4. Concluding Remarks

Recent events have led to a tremendous revival of interest in Marxian economic analysis. But this process has also produced its own specific problems, because as Marxian economics gains in respectability, the temptation to represent itself in 'respectable' terms grows accordingly. And these terms, in the end, are almost always the wrong ones.

There is no question that Marxism must appropriate all modern developments. But to appropriate them involves much more than merely adopting them: it involves tearing them out of the bourgeois framework in which they appear, examining their hidden premises, and re-situating them (when and if possible) on a Marxist terrain—a terrain that cannot be derived merely by algebraic variation or sociological transformation of the premisses of orthodox economics. We must, and indeed we do, have our own ground to stand upon.

It is my contention that the neo-Ricardian (Sraffa-based) tradi-

[44] Steedman, *Marx After Sraffa*, p. 64.

[45] For a more detailed presentation of this argument, see the papers cited in footnote 39.

tion is by far too 'respectable'. Its roots in (left) Keynesianism are easy to establish, and its refuge in mathematical economics is quite revealing. Nonetheless, the claims made by this school must be addressed, and its real contributions must be separated out from what is merely part of its cloak of respectability. In this paper I attempt to do just that, by focusing on the central arguments involved. Secondary matters involving questions of fixed capital and joint-production are not treated here, in part because of their greater difficulty, and in part because of the astonishing weakness of the neo-Ricardian formulation of these issues. An adequate treatment of these issues would require confronting these formulations themselves, in terms of both their internal consistency and their (external) adequacy to the relations they pretend to represent. Such an investigation is well beyond the scope of the present paper.

The neo-Ricardians tell us that the concept of value in Marx is not only unnecessary in the analysis of capitalism, but also irreconcilable with the actual relations involved.

In order to address these claims, I have first attempted to set out how and why *labour* appears inextricably bound up with Marx's notion of value, why the magnitude of value is measured by abstract labour-time, and why Marx argues that this magnitude *regulates and dominates* what he calls the 'ever fluctuating exchange-relations between the products'.

With this in mind, I then address the specific arguments made by the neo-Ricardians, as summarized by Ian Steedman, concerning the redundancy of values, their inconsistency with respect to prices, and the primacy of the latter over the former. In all cases I utilize the same algebraic formulations as they do, and within this framework I demonstrate that there are a host of issues and results that the neo-Ricardians remain unable to discover precisely because they remain so closely tied to the structure of orthodox economics. The concept of value, including the magnitude of value, illuminates the whole qualitative *and* quantitative analysis of price relations, uncovering relationships and causalities where the neo-Ricardians see merely discrepancies. It informs and orders the analysis, thereby demonstrating precisely its scientific power.

By the same token, the logical contradictions and inconsistencies in the neo-Ricardian analysis are thrown into sharp relief. For instance,

Steedman's own logic, if correct, would lead one to conclude that not only values and the value of rate of profit, *but also* prices of production and the uniform rate of profit, are *not* 'significant . . . in a capitalist economy'. But of course his logic is not correct, and its correction reinstates both the latter and the former. It only goes to show that algebra is no substitute for logic.

I wish to end on a different note, however. It seems to me that whatever their shortcomings, the neo-Ricardians squarely face the question of the relation between the magnitude and form of value. The complexity of the relation, as well as the weakness of their own conceptual structure, misleads them into concluding that the two magnitudes are irreconcilable. Nevertheless, at least they face the issue and conclude openly that the magnitude of value must be excised from Marxist analysis.

How much easier it is to 'save' Marx by simply denying that the problem exists at all! This has the great virtue of being able to criticize the evident conceptual weaknesses of the neo-Ricardians without the difficulty of having to address the problems they raise. Nonetheless, the effect is the same in the end, because here too the magnitude of value is excised from Marx, only by denying its existence altogether.

The paper 'Real Abstractions and Anomalous Assumptions', by Himmelweit and Mohun, provides a good illustration of this approach. First and foremost, they fully accept the neo-Ricardian argument on the redundancy and inconsistency of the concept of value, an argument they concede is 'well-founded' as long as value is conceived of as 'embodied labour'. *Thus they completely capitulate to the neo-Ricardian onslaught.*

Well, if one comes this far and yet wishes to retain the concept of value, then only one avenue is left open: to redefine value itself. And this forms the second principal axis of their argument. Value, they claim, is abstract *socially* necessary labour-time, and '*social* labour-time is validated only in exchange in the market'. Since that is so, value can have no magnitude other than price itself, because it comes into existence only when 'commodities are actually exchanged in the market'.

Naturally, if value *is* price, surplus-value *is* profit, and there can be no question of any discrepancy between the two realms. Marx, they note, does not seem to fully understand this implication of his theory of value (!), and continues to make mistaken 'allusions' to value and surplus-value as if they exist independently of their form.

Aside from their evident haste to escape the conclusions of the neo-Ricardians, their denial of the powerful distinction between value and realized value rests, it seems to me, on their failure to recognize two crucial points of Marx, concerning abstract labour and socially necessary labour.

First, there is Marx's distinction between use-values produced for direct use and converted into commodities only when exchanged, and use-values produced for exchange and hence produced as commodities. Their argument applies only to the first case, and hence to non-commodity production only! We discussed the significance of this point in section 2 above.

Allied with this is the second point: the distinction between the two types of socially necessary labour-time. In conjunction with the first point, this gives rise to precisely the issue that Himmelweit and Mohun evade: the difference between value and realized value, and the question of their inter-relationship.

For instance, suppose we consider a given product produced under given conditions but nonetheless sold under varying sets of relative prices (this is basically the problem of the effects of price-value deviations, which we analysed earlier). We are therefore holding all production conditions, the real wage, etc., constant, and varying only the conditions of circulation. Then, as we know, the magnitude of the money profit will vary even when the sum of prices is held constant. Are we now to say that the mass of surplus-value gets bigger or smaller as relative prices, and *nothing else*, vary? If surplus-value *is* profit, then we cannot speak of any transfers of value to account for this, and must conclude that relative price variations alone can create or destroy surplus-value.

Worse yet, consider a crisis in which so little of the social product is sold that profit is actually negative (this is a recurrent real phenomenon in capitalism). Are we then to say that even though workers were exploited and a surplus product produced, surplus-value is itself negative? If we are not allowed recourse to the distinction between value produced and value realized, then of course surplus-value is no longer connected to any rate of exploitation at all. It is merely an epiphenomenon of circulation. And so what begins as a tactical capitulation to the neo-Ricardians turns into a rout.