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Abstract

This text comprises chapter 1 of *Marx and non-equilibrium Economics*[1]. It specifies a non-equilibrium (temporal) interpretation of Marx's theory of value which demonstrates a fully consistent transformation of values into prices and reproduces Marx's tendential law of the falling profit rate. It seeks to explain why this approach to value is inaccessible to consciousness under present social relations, and why resistance to its acceptance has been particularly strong among Marxists.

[1] Freeman, A. (1996b) 'The psychopathology of Walrasian Marxism', in Freeman, A. and Carchedi, G. (eds) (1996), *Marx and Non-Equilibrium Economics*, pp1-29. Cheltenham: Edward Elgar. ISBN 1 85898 268 5.

The psychopathology of Walrasian Marxism

Alan Freeman

Some Marxist economists will, of course, be reluctant to concede the irrelevance of the 'labour theory of value' but it is now generally recognised that the demonstration of that irrelevance is logically impeccable.

Ian Steedman (1981:11)

As productivity increases, the amount of producers' goods handled per man-hour of labour increases; therefore, she [Luxemburg] says, the proportion of c to v must increase. This is an error.

Joan Robinson (1951:22)

This of course is what is known in the Marxist literature as the transformation problem. As is by now well known, the way proposed by Marx himself is faulty.

Paul Sweezy, in Steedman (1981:25)

1.2 INTRODUCTION

There are persons naïve enough to read Marx as a source of knowledge. To such a reader – perhaps idealistic, discontent with oppression or injustice, wanting to change the world and desiring for this reason to understand how it works – Marx says, in summary: there are people who own property for its own sake, and people who do not. The latter create wealth, without which the former would not exist. The wealthy maintain this injustice with oppression, deceit, corruption and force. They fight over the spoils, visiting on the world its ills and suffering. And the object of their desire periodically escapes control, wreaking havoc on guilty and innocent with tragic or comic indifference. However, the process gives those who create wealth, if they consciously organise to do so, the opportunity to overturn this order and found a better one.

The otherwise lifeless equations which summarize Marx's analysis of a capitalist economy encompass all these statements, except perhaps the last. This illustrates McLellan's (1980:77) statement that 'The reading of Marx as an economist among economists is bound to falsify to some extent his thought. For Marx, as he himself proclaimed as early as 1844, economics and ethics were inextricably linked'. Marx's economics offers an integrated social, political, and ethical understanding.

'Economic' categories, appearing as inhuman things with a mind of their own – prices, money, interest rates – are for Marx the disguised form of relations between people. He explains not just why they rise or fall but their social meaning: who gains, who loses and who rules. It is the key to how people act and are acted on;

why workers are pitted against employers, poor against rich countries, and why there is inequality, oppression, war, pollution, in short the most vital issues of life on this planet.

This is the source of his enormous impact on the world. As a consequence, his economic analysis plays a special role in his system of thought. If it is proved flawed, a service is performed for all whose interest lies in appealing to the impersonal market as the arbiter of personal disputes – in rationalizing the world as it appears, rather than is.

The history of economics as well as its theory shows that where a service is required, a supplier emerges. Modern professional academics present Marx's 'naïve' account as appealing but false. In this, the economists play a special role. Even when Marx's political and social views are grudgingly recognized his economic theory is said to be logically flawed. Clearly, since his work rests on his political economy, this amounts to the charge that however perceptive his insights, his theory as a whole is simply wrong.

It is a commonplace among dissident and radical economists that neoclassical economics – and economists – have an interest in discrediting Marx. But the bulk of Marxists themselves also accept the charges, and many have taken the lead in drawing them up. Since a naïve observer would not expect Marxists to have an interest in discrediting Marx, this lends tremendous weight to the view that there are genuine and insurmountable flaws in Marx's economic reasoning.

This chapter serves two functions. First, it proves theoretically and from Marx's own writings that he is not guilty as charged. Being human, he was fallible, but he was *not* wrong on the relation of values to prices, on the origin of profit, or on its tendency to fall. Therefore the naïve reader, whose reading of Marx was summarized above, has a better grasp of economics than the expert. There is a sensible, logical account of a market economy which conforms precisely to what Marx says and explains the observed movement of the economy better than any other existing theory.

Others have presented this account, at least in part,¹ and this aspect of the chapter is not entirely new. Its second function, however, is to explain why the case for the defence has gone unheard. We deal with a question implicit in Steedman's (1977:49n) comment:

The present type of argument has been examined in various forms, by many different writers over the last 80 years. The same conclusions have always been reached and no logical flaw has ever been found in such arguments.

If there is a logical flaw in the arguments against Marx, why has no-one, even the Marxists, recognized it for eighty years?

We intend to prove that the charge of error has been posted to the wrong address. It is directed against a theory which is not Marx's. The guilty party is what we call *Walrasian Marxism*, after Léon Walras (1834-1910), founder of General Equilibrium theory. This, we maintain, is equilibrium in a Marxist guise, an apologetic adaptation of Marx to neoclassical theory. As a result, Marx's scientific

political economy has lain buried while economics as a whole, including most of its 'Marxist' component, has been less and less able to account for the main developments in the world economy.

Scientific political economy – the characterization Marx gave to his own work – must account not just for its own theory but the theory of others. Walrasian Marxism is a self-contained, rational and coherent system with clear conclusions. Why have three generations of writers taken these conclusions to be Marx's? I argue that the use of simultaneous equations, a formalism which properly belongs to General Equilibrium theory, has distorted not just the calculation of price and value but the concepts themselves. It has reversed the progression from concepts to systems which is normal in scientific thinking and instrumentalized a retrogression from systems to concepts.

This retrogression is the reason for the theme of this chapter. If we could expect the discipline of economics to respond to evident truth, then theory could just state what is and pass on. The history of this debate shows that the discipline of economics has evolved effective and sophisticated mechanisms to defend itself against truth. Marx adopted two procedures. First, he recognized the limitations of pure theory. If he and Engels had not played their part in the First and Second Internationals, their written works would probably be reduced to a footnote in the history of economic thought. Second, however, theoretical study can 'shorten the birth pangs' of practical solutions through the *critique* of existing theory, since in the absence of a theoretical alternative, practical activity uses whatever it can lay its hands on. Our aim is to disentangle the unstated axioms of equilibrium theory, in the pure form of the simultaneous method, from their explicit conclusions.

The target of a modern critique is different from Marx's day when young, classical theory still expressed an early rationalist respect for truth, however far it remained from it. It was not unreasonable to treat it, as Marx did, as a body of knowledge marching forward with occasional backward glances. The opposite is now true. The occasional enforced recognition of reality by a Keynes or Kalecki is quickly smothered and incorporated into what has become one of the most cynical of all occupations.

The critique of pure reason must give way to the critique of pure unreason. By this we do not mean criticism, as the word has come to mean, but a systematic logical exploration of the *presuppositions* of its foundations. We want to understand what concepts the simultaneous formalism *necessarily demands* – of the way the equilibrium thinker is obliged to conceive the world in order to apply his or her system to it.

We think it can be shown that the simultaneous equation formalism introduced by Bortkiewicz, and adopted by all subsequent writers, necessarily suppresses the variation of prices and the divergence of supply from demand and imposes market clearing at constant prices as an a priori postulate. It enshrines in mathematically pure form the dogmatic and false proposition of Jean-Baptiste Say that supply creates its own demand. Competition, the movement of surplus value in search of

higher profits, is necessarily absent from simultaneous equation systems. The normal scientific concept of causation, as a relation between events succeeding each other in time, is replaced with a timeless concept of determination by a mathematical postulate.

The formalism necessarily replaces price as it really exists – the rate at which goods exchange for money, a distinct commodity – with exchange-ratios determined prior to and independent of money, thereby making it impossible to theorise money. Value as a social relation, the form in which human labour manifests itself in exchange, is replaced by a fetishised concept of value as a property of things determined by the technology which produces them. Finally we propose to show that the resulting concepts can neither express or explain capital as self-expanding value, nor above all accumulation, the subordination of all human endeavour to the production of relative surplus value.

On the basis of these non-Marxist concepts of value, price and determination, Marx's simple, transparent interpretation has been rejected by three generations of Marxists, because they have deprived themselves of the means to make sense of it.

1.3 THE EQUATIONS OF THE LABOUR PROCESS

We begin with the equations of the naïve view of Marxism. The sophisticated reader is advised to suspend reflex scorn and disbelief. The pain may be eased by noting that the equations and supporting explanation are taken directly from Marx, and that the derivation is omitted. A naïve reading is literal but not simple-minded. Four equations describe the production of commodities for the market – the labour process.

$$M = C + V \quad (1)$$

$$C' = C + L \quad (2)$$

$$S = L - V \quad (3)$$

therefore

$$C' = C + V + S \quad (4)$$

In English: a capitalist starts with money, the extrinsic measure and pure form of value. This is divided into constant capital C and variable capital V . Hence equation (1). C buys goods which are turned into other goods by the commodity labour power, which is owned by workers, irreducibly bound to their persons and costs V . In production labour power creates new value L which it adds to the original value C so that the new product is worth C' . Hence (2). The longer, harder and better the work, the bigger is L .²

The labour process creates gross wealth C' which is bigger than the money $C + V$ spent to produce it, unless the capitalists make a serious miscalculation, in which case they soon cease to be capitalists. The difference S , called surplus value and given by (3), is therefore normally positive. C' is thus given by (4).

What workers may do within the laws of the land and economics is circumscribed by these equations. They may increase V . S falls but nothing else changes. They may decrease L , whereon C' and S both fall. In either case the capitalists still own the whole final product C' , but command less of its fruits, S .

The capitalists are equally circumscribed. They can increase L by making workers perform longer, harder, or better, within the limits of biology and the laws of space and time. They can decrease V . Decreasing C achieves nothing for the class as a whole, though individuals may transfer value from other capitalists by reducing their costs without cutting their prices, as discussed in part 2 below. This all remains true whatever the actual riches, that is material wealth or use values, that these values represent.

1.4 THE EQUATIONS OF CIRCULATION

In circulation, goods are bought and sold for amounts of money as follows:

$$M' = M + m \quad (5)$$

$$M' = C + V + m \quad (6)$$

Each capitalist sells output (worth C') for a sum of money M' , the market price of the product at the time of the exchange. The difference is a sum of money m , the profit. Now M' may differ from C' : a person can sell something worth £60 for £70, making £10 on the deal. But £10 is lost elsewhere, so that gains and losses equal out in any closed set of exchanges. Total value is thus unaltered by exchange:

$$\Sigma M' = \Sigma C' \quad (7)$$

Thus for all of society the total of M' equals the total of C' , although individual capitalists may receive less or more than their individual C' . It follows from (6) and (4) that if something is sold at its value ($M' = C'$) then $m = S$, that is profit equals surplus value. But whether or not $M' = C'$ or $m = S$ for any individual capital, subtracting (6) from (4) and summing over all capitals gives:

$$\Sigma S = \Sigma m \quad (8)$$

That is, the total profit realized in any period is equal to the total surplus value created. Hence exchange cannot transfer any value from workers to capitalists or vice versa; moreover any set of prices transfers value from one capitalist to another. If M' is higher than C' for one seller, then the difference must be made up by sales below value somewhere else. Competition between capitalists is thus a struggle between 'brother enemies' for a share of ΣS , expressed in a fight to increase income and reduce spending by whatever means succeed. Its most extreme known forms are war and fascism.

What we have just said assumes that during the given period the same sum of money represents the same quantity of value. On this basis equation (7) is true by definition and equation (8) a deduction from it. It follows that a discrepancy

between the sum of values and the sum of prices can arise only if exchange modifies the amount of value expressed in a given sum of money. In this case, the equality of total values and prices in exchange is more complex but still valid. In particular, money must itself be included in the sum.³

1.5 THE EQUATIONS OF ACCUMULATION

In any period the capitalists can dispose of S , surplus value, in two ways. They can consume value or add to the capital stock from which C comes. These two sources of demand add up to the sum of S – or the sum of m , profits, which is the same. Adding to the capital stock – investing – normally lets capitalists produce more goods. If it also raises productivity, these goods can be produced for less money. The greatest mystery of the market, unexplained by neoclassical economics, is how this technical progress engenders social regress: how more goods for less money beget less profits and more poverty; how liberation from nature results in enslavement to machines; how private fortune fathers social catastrophe and how the invasion of the market throws whole peoples into chaos, war and starvation. This process, accumulation, governs the life of every human on the globe. It is the highest source of irrationality yet known, the birthplace and graveyard of the ideal of progress.

Accumulation changes the composition of capitalist stock. This is because its driving force is the production of relative surplus value – raising the productivity of labour by converting surplus value into capital. No individual capitalist can bypass this result of competition. Innovation and accumulation are therefore inseparable.⁴ Producers who invest become more efficient than others. For the same or a smaller investment in money employing the same or a smaller amount of labour, they can produce more of the same output. Its value per unit is therefore lower. If they sold the product for this new value – its individual value – then they would undercut their competitors. But the price system brings about a single price and a single value for each product, which forms as an average over all producers of this product. The more efficient get a higher than average or surplus profit. This averaging is neither transient nor ideal but persistent and real, because a single technology is never achieved. The pursuit of surplus profit is the real motor of economic development.

Even though the composition of the stock changes, its value rises as long as the capitalists invest. Let K be its price. Suppose the capitalists advance $K = £1000$ and withdraw $C = £100$, $V = £100$ for production. If L is £200 they end up with:

- capital stock K , reduced by the withdrawal of C and V to £800;
- new product $C' = £300 = C + L$.

Their total capital is therefore now $£800 + £300 = £1100$. Of this, £100 is the surplus of the past period. Their stock will therefore grow if they consume less than £100 in for their private purposes, no matter what this stock is composed of.

The less they consume, the more it grows. Let B represent the money spent by the capitalists on consumption, and I on investment. Thus

$$S = B + I \quad (9)$$

In general if the capitalists convert surplus value into capital, I will be positive. K increases in any period by I . To describe this we have to add a time suffix to the equations of the labour process, thus:

$$C^{t+1} = C^t + V^t + S^t \quad (10)$$

then

$$K^{t+1} = K^t - (C^t + V^t) + I^t \quad (11)$$

hence

$$K^{t+1} = K^t + S^t - B^t \quad (12)$$

Equation (12) expresses a fundamental law of accumulation. Capital stock K grows by the difference between surplus value and capitalist consumption. It thus rises except and unless capitalists consume more than their profits; that is, capital stock can be reduced only by transferring value from it to consumption.

1.6 THE PROFIT RATE

The average or general profit rate r is the ratio between total profit $\Sigma m (= \Sigma S)$ and the capital stock K .

$$r = \frac{\Sigma S}{K} \quad (13)$$

As long as capitalists do not disinvest – consume the value of stock – this falls unless ΣS rises, but ΣS cannot exceed the value added in any period, namely L . This is limited by the laws of biology and time. Therefore, assuming a constant value of money, the fall in the profit rate can be offset by greater human endeavour but can be halted only by devouring capital stock or destroying it – in practice the same thing.

1.7 COMPETITION

In competition individual capitals seek the highest rate of profit. The more developed the credit system and the less obstacles there are to capital transfers, the more rapid and pronounced this process. This systematically modifies prices so that C' differs from M' (for individual capitals) even when averaged over time to eliminate chance fluctuations.

This quantitative difference has a double origin. The first is the production of relative surplus value, described above, which applies within a given branch of production. But a second effect of competition exists only as a tendency, towards an ideal or hypothetical average profit which capitalists take into account in

determining, for example, the rate of interest. An ideal price for any good arises: the price of production, which the good would sell at if the sector producing it received the average profit. This average profit is the general rate r in equation (13); applied to any portion of the total capital stock it yields a sum of money which, added to costs, gives a hypothetical price

$$P = C + V + Kr \quad (14)$$

where P is the (total) price of production of sales, r the profit rate given by equation (13), and where C , V and K now refer to a sector, not the whole of society. Equations (7) and (8), Marx's 'two equalities', remain valid as they do for any market prices.

Profit as given by equation (14) becomes the general public perception of a 'normal' rate of return. Competition appears to consciousness as a struggle for a rate of return which is higher than this normal rate. But as much as some capitalists achieve a higher return, others are driven below it. These differences in profit rates are the visible form of the competitive struggle.

1.8 THE EXPERT REFUTATION

The refutation of the naïve view, monotonously repeated for ninety-eight years, rests on two assertions:

Assertion 1 Marx failed to 'transform inputs'. In the equation

$$C' = C + V + S \quad (4)$$

the quantities C and V cannot be the same as in

$$C' = C + V + m \quad (6)$$

because inputs must be purchased at the prices for which outputs sell. Marx knew this but either glossed over it, or failed to deal with it. This assertion was first made in 1897 by J. V. Komorzynsky, a supporter of Böhm-Bawerk. Tugan Baranowsky, a Russian legal Marxist, went further, 'correcting' Marx's 'errors'. His modification was popularized by Ladislav von Bortkiewicz, and brought to the English-speaking world's attention by Paul Sweezy. It consists of an alternative price calculation based on three premises:

- All commodities are purchased at the price for which they sell
- The rate of profit is everywhere equal
- The value of money is determined simultaneously with prices.

The modification includes a new definition of both value and price. Nevertheless it is accepted as the standard interpretation of Marx's value theory and is the basis for the critique of this theory codified in Ian Steedman's *Marx after Sraffa*. It supports three conclusions regarded as damning for Marx's economics:

- ❑ The two ‘equalities’ (7) and (8) cannot both be true.
- ❑ Values and prices are given by two different sets of equations with no obvious relation between them
- ❑ Marx’s profit rate differs from the ‘real’ one. His denominator, K , is the value of the commodities in K ; but the denominator of the real profit rate is their price.

The first conclusion is held to show that Marx’s approach is logically inconsistent. The second is held to show his profit rate is not the real one. The third is held to show values are logically redundant since they do not enter the ‘determination’ of prices, where the word ‘determination’ is implicitly the same as ‘calculation’.

Assertion 2 The falling rate of profit calculation does not account for the cheapening of capital stock. The value (and price) of the commodities making up this stock can fall because of technical advance and so permanently offset any rise in their quantity.⁵ Coupled with conclusions 1 and 2 above, this is held to reinforce the conclusion that Marx’s value theory provides no effective guide to what happens in the real world.

1.9 MARX’S TRANSFORMATION OF INPUTS

Marx’s transformation procedure is given on page 167 of *Theories of Surplus Value*, Volume III:

The conversion of value into cost-price⁶ works in two ways. First, the profit which is added to the capital advanced may be either above or below the *surplus-value* contained in the commodity itself, that is, it may represent more or less *unpaid* labour than the commodity itself contains. This applies to the variable part of the capital and its reproduction in the commodity. But apart from this, the cost price of constant capital – or of the commodities which enter into the value of the newly-produced commodity as raw materials and machinery [or] labour conditions – may likewise be either above or below its value. Thus the commodity comprises a portion of the price which differs from value, and this portion is independent of the quantity of labour newly added, or the labour whereby these conditions of production with given cost-prices are transformed into a new product. It is clear that what applies to the difference between the cost-price and the value of the *commodity* as such – as a result of the production process – likewise applies to the *commodity* insofar as, in the form of constant capital, it becomes an ingredient, a precondition, of the production process ... On the other hand, the difference between cost-price and value, insofar as it enters the price of the new commodity independently of its own production process, is incorporated into the value of the new commodity as an antecedent element (emphasis and insertions in original).⁷

This is totally clear. It states that if an input to production is priced above or below its value, it transfers correspondingly more or less value to the output from production. Equally, if wage goods are priced above or below their value, the *value* of variable capital is correspondingly higher or lower. Thus

- the value transferred to C' by the constant capital C is equal to its price, that is, the value of the money paid for it.
- the value of variable capital V , consistently with the last statement, is equal to its price, that is the value of the money paid for the wage.

This is identical to the controversial passage in Volume III of *Capital* on pp308-309, often cited as evidence that Marx was aware of the issue but proposed no answer.

We have already seen that the divergence of price of production from value arises for the following reasons: (1) because the average profit is added to the cost price of a commodity, rather than the surplus-value contained in it; (2) because the price of production of a commodity that diverges in this way from its value enters as an element into the cost-price of other commodities, which means that a divergence from the value of the means of production consumed may already be contained in the cost price, quite apart from the divergence that may arise for the commodity itself from the difference between average profit and surplus value ... Let us assume that the average composition is $80c + 20v$. It is possible now that, for the actual individual capitals that are composed in this way, the $80c$ may be greater or less than the value of c , the constant capital, since this c is composed of commodities whose prices of production are different from their values. The $20v$ can similarly diverge from this value, if the spending on wages on consumption involves commodities whose prices of production are different from their values. The workers must work for a greater or lesser amount of time in order to buy back these commodities (to replace them) and must therefore perform more or less necessary labour than would be needed if the prices of production of their necessary means of subsistence did coincide with their values.

Of course, any economic theorist may argue that this procedure is incorrect, and that both constant and variable capital transmit their value, and not their price, to the outputs. Such theories are open to the criticisms levelled at Marx during ninety years' discussion of the transformation problem. However, they are not Marx's.

Market prices and the transformation of inputs

This procedure is not confined to the purchase of goods at their price of production. It applies whenever inputs or wage goods are purchased at a price differing from their value; in short for exchange at arbitrary market prices. It follows from Marx's analysis of exchange and is to be found not in Volume III but in *Capital I*, Volume I, Chapter 1, the foundation of the entire opus, as Suzanne de Brunhoff (1976:27) has pointed out. It is an explicit consequence of the existence of money. Marx did not have to transform inputs in Volume III because the transformation is already given in Volume I.

The magnitude of the value of a commodity therefore expresses a necessary relation to social labour-time which is inherent in the process by which its value is created. With the *transformation* of the magnitude of value into the price this necessary relation appears as the exchange-ratio between a single commodity and the money commodity which exists outside it ... The possibility, therefore, of a quantitative incongruity between price and

magnitude of value, i.e. the possibility that the price may diverge from the magnitude of value, is inherent in the price-form itself. (Marx 1976a:196, our emphasis)

The assumption that goods sell at prices equal to their values in Volume I has been to a certain degree mythologized. Actually it is far more important in Volume II, which abstracts (unlike Volume III) not only from deviations of price from value, but also from changes in value. In Volume I the deviation of price from value is always present in the background and the great majority of its formulations remain true if the assumption is dropped. In particular the *derivation* of the category of value and the category of price does not depend on this assumption. Therefore, if it is dropped, the transformation of inputs is simply unpacked, as it were, from the theory of Part I. One need *only* assume that the value advanced by capitalists is represented by the money they pay instead of the value of what they buy, and the theory becomes completely coherent.

Where the assumption does matter is in Marx's dispute with those economists of his day who sought the origin of profit in exchange, in 'profit on alienation'. His argument is that exchange can only redistribute existing value between the parties to circulation:

The consistent upholders of the mistaken theory that surplus-value has its origin in a nominal rise of prices or in the privilege which the seller has of selling too dear assume therefore that there exists a class of buyers who do not sell...Let us therefore keep within the limits of the exchange of commodities, where sellers are buyers, and buyers are sellers ... A may be clever enough to get the advantage of B and C without their being able to take their revenge. A sells wine worth £40 to B, and obtains from him in exchange corn to the value of £50.⁸ A has converted his £40 into £40, has made more money out of less, and has transformed his commodities into capital. Let us examine this a little more closely. Before the exchange we had £40 of wine in the hands of A, and £50 worth of corn in those of B, a total value of £90. After the exchange we still have the same total value of £90. The value in circulation has not increased by one iota; all that has changed is its distribution between A and B ... However much we twist and turn, the final conclusion remains the same. If equivalents are exchanged, we still have no surplus-value. Circulation, or the exchange of equivalents, creates no value ... We have shown that surplus-value cannot arise from circulation, and therefore that, for it to be formed, something must take place in the background which is not visible in the circulation itself. (Marx 1976a:267-8)

In this passage we find the germ of Marx's entire concept of the transformation, as we shall show in the final chapter of this book. The equality of the sum of prices and the sum of values is a *consequence of the conception that value cannot be created in exchange* and not an ad hoc normalization condition. It is an effect of circulation, which cannot create value. Production, in which value originates, must first be isolated from circulation, which redistributes it. Therefore in Volume I

the formation of capital must be possible even though the price and the value of a commodity be the same, for it cannot be explained by referring to any divergence between price and value. If prices actually differ from values, we must first reduce the former to the latter, i.e. disregard this situation as an accidental one in order to observe the formation of capital on the basis of the exchange of commodities in its purity, and to prevent our

observations from being interfered with by disturbing incidental circumstances which are irrelevant to the actual course of the process. (Marx 1976a: 269n)

Disregarding something is not the same as denying its existence. The question with which Marx confronts his adversaries is this: you say that surplus value originates in circulation. Very well, let us eliminate all the effects of circulation and see what happens. If you are right, then there should be no profit and no surplus. But even under such a hypothesis, there is a profit and there is surplus value.

Hence Volume I does not present a hypothetical society in which goods cannot exchange at prices from values: it *separates* the effects of circulation from those of production. The other side of this coin is that circulation, and the deviation of price from value, is not forgotten but set aside. Its effects are explained in order that we may know exactly what it is that has to be disregarded. The effect of the price-value transformation is presented in Part I of Volume I as a process in which goods may exchange at any arbitrary market price and not at all at the hypothetical price of production. It is only when dealing with the immediate production process that Marx imposes the restriction that goods must sell for a price equal to their value. It should not be forgotten that in Volume I Marx assumes that the capitalists ‘find what they need in the market place’ so that the fact they sell their outputs at their value by no means imposes that they purchase their inputs at their value.

Once it is grasped that the transformation of inputs is valid for market prices in general, the procedure is seen to be supported by many other remarks in Marx’s work which refer to prices other than the price of production. Thus for example:

If the price of cotton should fall, e.g. as in the result of an especially good harvest, then in most cases the price falls below its value, again through the law of demand and supply. The rate of profit – and, possibly, as we saw above, the total amount of profit – increases, consequently, not only in the proportion in which it would have increased had the cotton which has become cheaper been sold at its value; but it increases because the finished article has not become cheaper in the total proportion in which the cotton-producer sold his raw cotton below its value, that is, because the manufacturer has pocketed part of the surplus-value due to the cotton-grower. (Marx 1972:223)

A monopoly price for certain commodities simply transfers a portion of the profit made by the other commodity-producers to the commodities with the monopoly price ... If the commodity with the monopoly price enters into the necessary consumption of the labourer, it increases wages and thereby reduces surplus-value. (Marx 1981:1001)

and indeed any product of the land, which attracts rent, must sell at a price which, in general, permanently differs from its price of production; this, for Marx, modifies the value transferred by such products to the consumers of this product.

The ‘controversial’ text in *Capital* Volume III (p261) also expresses this idea:

As for the variable capital, the average daily wage is certainly always equal to the value product of the number of hours that the worker must work in order to produce his necessary means of subsistence; but this number of hours is itself distorted by the fact that the production prices of the necessary means of subsistence diverge from their values.

This analysis is the same whether the results are presented in terms of abstract labour or in pounds. The difference is this: if presented in hours then it is unaffected by changes in the value of money, whereas if presented in pounds then a further correction is needed or it appears that value has been created in exchange when only its monetary measure has altered. We deal with this in the final chapter. It is why the monetary measure of value, if isolated from its origin in labour, is incomplete and illusory. But it is an enormous confusion to conclude, as many have done, that when values are transformed into prices there is a change of units; that value consists of hours and price consists of money.

Throughout Marx's work, as Ramos and Rodríguez point out in this volume, values are given in money terms. This represents neither a confusion of units nor a careless introduction of Volume III categories into his Volume I analysis. These are absurd errors to impute to a writer of Marx's intellectual rigour. For Marx, money is a measure of value, its form of appearance:

The labour contained in the means of production is a *specific quantity of general social labour* and it may be represented, therefore, as a certain *amount of value* or *sum of money*, the *price* in fact of these means of production. (Marx 1976a:994-5, original emphasis)

A definite quantity of money represents at any given time a definite number of labour hours. The sale of goods for money represents nothing more or less than a redistribution of these labour hours between sellers and buyers, the difference between the money paid for the goods and the money-expression of their value. If I pay £11 for goods whose value is £10, then £1 of value is redistributed from me to the producer. Before the exchange s/he had £10 in value and I had £11; afterwards I have £10 and s/he has £11. If £1 represents 1 hour, then 1 hour of socially necessary abstract labour has passed from me to the producer as a result of the operation of the market. The two statements are different aspects of the same thing.

Finally, the transformation of inputs does not contradict a word of section 1 of this chapter. The passage from sale at values to sale at prices calls for the relaxation of one assumption made in *Capital* Volume I: that C and V are numerically equal to the value of the goods they purchase. It is replaced by the assumption, clearly stated in Volume I but then set aside for the discussion of production, that C and V are numerically equal to the *value of the money used to purchase these goods*. The much-maligned 'two equalities' are then self-evidently true. They apply to any set of market prices whether or not profits are equalised, and certainly hold for the special hypothetical case where market prices equal production prices, on which twentieth century economists have lavished so much care and attention.

The circuit of capital and the price-value distinction

The modern reader's reaction to the above can be expressed, approximately, as follows; if the value contributed to inputs is equal to their price, what has become

of the transformation of values into prices? Are not all relations of production now expressed in price terms and is value not now a redundant concept?

As we shall later try to show, this view is conditioned by the now deeply-ingrained idea that the prices of inputs and outputs are determined simultaneously, an idea alien to Marx and indeed all economists until Walras. This outlook is one of the main reasons that the formally correct presentation of Wolff, Roberts and Callari (1982, 1984a) has not had much wider acceptance. Once it is acknowledged that prices and values in any period are determined from prices and values in the *preceding* period the issue becomes completely different. As posed by Marx it is as follows: at the beginning of a period of production, capitalists advance capital represented by the sums of money they spend, added of course to the money already spent on fixed capital, of which more shortly. Labour power transmits this value to the product and adds its own contribution, the value product. The product emerges with a new value, different from that of the previous period. Averaged over the whole output of the commodity, this new value is the socially-necessary labour-time that was required to produce it under the historically-given conditions. This new value, not some eternal equilibrium value, is redistributed in circulation to form the market price of the output.

Prices and values at all times remain distinct both conceptually and quantitatively. Their relation indeed obeys Marx's famous two equalities in each period, and is uniquely determined by the prices and values of the previous period.

1.10 MARX'S RATE OF PROFIT

A logical corollary of the procedure we have just discussed is to measure K , the capital stock, by the money paid for it. This is of course what the capitalists do. If I pay £2000 for a computer my advanced capital is £2000, regardless of the computer's original or subsequent value. It is the value of the money, not the machine, that determines my profit rate. Why should Marx contemplate anything else? His object of study was the self-expansion of *money* capital. His method is profound, but not perverse. This sheds a different light on his 'errors' with the falling rate of profit. First and not least (always assuming the value of money constant) his rate of profit is equal to the observed one. He is discussing actuality, not some fantastical reflection of it.

But further. Consider the endlessly repeated charge: capital stock can fall in value if its elements get cheaper, restoring the profit rate. Excuse me: suppose the computer which cost me £2000 is now worth £500. How does this make my invested capital equal to £500? I paid £2000. That is what my bank manager wants. That is how my rentiers calculate their returns. It is very unfortunate my computer has depreciated because it forces me to find the lost £1500 from somewhere, but find it I must, or go bankrupt. As for my rate of return, it is a

proportion of my advanced capital, that is what I paid in the past, not what my investment is now worth.

But this gives the naïve explanation of Part 4 its full force. It is only possible to offset the falling rate of profit permanently by disinvesting; by *using up* the value invested in production, or, which is a less socially-useful form of the same thing, depreciating it suddenly through bankruptcy, wiping it out. As Marx stressed, this is the objective indispensable function of slumps and crisis in a market economy

1.11 MARX'S CONCEPT OF DETERMINATION

The reader who takes Marx at his word will not find the contradictions which four generations have earnestly debated in 400 learned papers. The real question is, therefore, why does the tribe of experts ignore Marx's own solution? How has the understanding of value, even of sincere Marxist academics, got so far from Marx's that they cannot even read what he says? We now address the sophisticated reader, whose unease has probably reached breaking point. The main objections we expect are:

- ❑ The fundamental distinction between value and price no longer exists. Value originates in production and price in circulation. You have reduced value to price, confusing two different concepts.
- ❑ You hopelessly confuse use values with exchange values, money and hours, in a dimensionless mishmash. How can a sum of money be added to a value?
- ❑ As a result there is no longer any account of determination. If value is no longer determined independent of price, then you cannot say what determines price.

We submit that these objections are the fruit of a flawed vision shaped by General Equilibrium, which screens the mind from the concepts required to understand what a market economy really is. This is expressed in an understanding of value, absorbed uncritically from Bortkiewicz, which has so shaped the conceptual universe of the economists that even the Marxists can no longer understand Marx.

Our point of departure is a highly significant remark of Bortkiewicz's:

Alfred Marshall said once of Ricardo: 'He does not state clearly, and in some cases he perhaps did not fully and clearly perceive how, in the problem of normal value, the various elements govern one another *mutually*, not *successively*, in a long chain of causation'. This description applies even more to Marx ... [who] held firmly to the view that the elements concerned must be regarded as a kind of causal chain, in which each link is determined, in its composition and its magnitude, only by the preceding links ... Modern economics is beginning to free itself gradually from the successivist prejudice, the chief merit being due to the mathematical school led by Léon Walras.⁹

This is an honest statement of Bortkiewicz's intentions, and of Marx's own approach. Immediately after the passage on transformation already cited from *Theories of Surplus Value* Marx writes:

Every commodity which enters into another commodity as constant capital, itself emerges as the result, the product, of another production process. And so the commodity appears alternately as a pre-condition for the production of other commodities and as the result of a process in which the existence of other commodities is the pre-condition for its own production. (Marx 1972:167)

This conception is indeed a succession of determinations, located in real chronological time, expressed in Marx's well-known description of the circuit of capital

$$M—C—P \dots C'—M'$$

The circuit expresses the passage of time. Each event succeeds the previous one. In Volume II this is made even more explicit in a passage which directly polemicalises against simultaneous determination:

'value,' says Bailey, ... 'is a relation between contemporary commodities, because such only admit of being exchanged with each other.' ... This derives from his general misunderstanding, according to which exchange-value equals value, the form of value is value itself; thus commodity values cease to be comparable once they no longer actively function as exchange-values, and cannot actually be exchanged from one another. He does not in the least suspect, therefore, that value functions as capital only in so far as it remains identical with itself and is compared with itself in the different phases of the circuit, which are in no way 'contemporary', but rather occur in succession. (Marx 1978:186)

Causation for Bortkiewicz and Equilibrium theory is simultaneous. Causation in Marx is chronological. But Marx's concept is the normal method of all sciences.¹⁰ As far as I know, General Equilibrium is alone in proposing a concept of cause independent of time. It is contradictory, and illustrates the ideological and unscientific nature of their activities, that the positivists, with their instinctive attachment to Kant as the philosophical guardian of the scientific method, pay no attention to his views on this:

The principle of the causal connection among appearances is limited in our formula to their serial succession, whereas it applies also to their coexistence, when cause and effect are simultaneous. For example, a room is warm while the outer air is cool. I look around for the cause, and find a heated stove. Now the stove, as cause, is simultaneous with its effect, the heat of the room ... Now we must not fail to note that it is the *order* of time, not the *lapse* of time, with which we have to reckon; the relation remains even if no time has elapsed. The time between the causality of the cause and its immediate effect may be [a] *vanishing* [quantity], and they may thus be simultaneous; but the relation of the one to the other will always still remain determinable in time. If I view as a cause a ball which impresses a hollow as it lies on a stuffed cushion, the cause is simultaneous with the effect. But I still distinguish the two through the time-relation of their dynamical connection. For if I lay the ball on the cushion, a hollow follows upon the previous flat smooth shape; but if (for any reason) there previously exists a hollow in the cushion, a leaden ball does not follow upon it. *The sequence in time is thus the sole empirical criterion of an effect in its relation to the causality of the cause which precedes it.* (Kant 1933:288, final emphasis added)

C' is determined by what preceded it – M and C – because they came into existence before it. It is a natural and minor substitution to say that C and hence C' are modified if, in a previous circuit, M and hence differ from the value of the *previous* C' which they paid for as inputs. This has no implications for the relation of C' to M' in the current circuit. They are two unconnected determinations. Today price may exceed value by £10 and tomorrow fall below it by £20. So what?

Circulation ($C-M-C$) is itself a succession since the act of selling a product is distinct from the act of buying inputs to the next stage of production. Price and value are the same thing in different phases of the existence of capital¹¹ and determine each other in succession, like all other things related as causes to each other. In one phase of its existence, circulation, every capital in its entirety passes through a stage as money and *in this form* ($M-C$) determines the value to which this capital then gives rise in production ($C-P \dots C'$). This value in turn interacts with society through the laws of supply and demand ($C'-M'$) to determine the price for which it sells.

The value-price distinction is quantitative, chronological and well-defined; between the magnitude C' at one time and the magnitude M' at a succeeding time. It is far from redundant: it gives rise to superprofits, the motor force of the movement of capital, and thus of the entire economy. The roles of production and circulation are equally distinct; production determines the values which are to be distributed by circulation. The value C' is *prior* to the price M' chronologically and therefore logically.

Finally note an important emphasis to which we shall return, since it is a crucial modification to Marx's structure for which Walrasian Marxism is responsible. Commodities in Marx are bearers of value which is not intrinsic to them. Value is a social relation, not a property of things and no contradiction arises if the commodities C transfer more or less value to the product than they themselves contain.

1.12 BIRTH OF A FIXATION: THE PRESUPPOSITIONS OF SIMULTANEOUS DETERMINATION

Bortkiewicz's concept of determination, he freely acknowledges, is taken direct from Walras, whom he greatly admired and with whom he conducted an extensive correspondence from the age of nineteen. He wants the magnitudes M , C , C' and M' to be determined *simultaneously* instead of *successively* so that M' can condition not only the C which comes after but the C which went before. This idea, which Walrasian Marxism has taken for its own, is 100° proof General Equilibrium. It leads down a rocky road with ruin at the end. Consider the basic Walras/Tugan/Bortkiewicz postulate:

All commodities are purchased at the price for which they sell

This bare form is very plausible, the ‘obvious’ missing link in Marx’s construction. Let us follow where it leads. Join the production process on, say, Monday. Machines are in place, materials have been bought, workers have clocked on at the agreed rate. K , C and V are thus determinate. Now roll forward to, let’s say, Friday. Out comes the product and hits the market. Now M' is determinate. We can apply the postulate.

But the postulate says that Monday’s inputs should have been purchased at Friday’s prices. Shame we didn’t know that on Monday. That’s the problem with them there economists, never know if they’re coming or going. Why we pay taxes I don’t know. Sorry Joe, can’t help it, just have to run the whole dang thing through again backwards.

This is ridiculous. Monday’s inputs were purchased *in the past*, last week. Why should they sell at this week’s prices? The postulate thus means something entirely other than what it says. It actually demands that the sale price of a commodity at one point in time should determine the purchase price of the same commodity at a *previous* point in time, and should be reworded accordingly:

Commodities are purchased at the price for which they are going to sell

The only way to make sense of this, without introducing either clairvoyance or psychokinesis, is to detach it from its pseudo-Marxist wrapping and understand it for what it is mathematically, namely a constraint on *output* prices. If time moves forward, the postulate is the inverse of its usual presentation. Actually, Bortkiewicz’s postulate, in common with General Equilibrium, has the following presupposition:

Commodities are sold for the price at which they were purchased

This is the secret, ideological form of the basic Equilibrium postulate, which has the most profound impact on the internal logical structure of every variant of it.

The next problem is that though it enforces the equality of input and output prices it does not fix what these prices actually are. In all General Equilibrium systems prices are therefore actually determined by a further postulate. In ‘classical’ neoclassical systems this is the requirement that marginal revenues be proportional to marginal returns or marginal utility as appropriate. But the *algebraic* work is done by the postulate that all profit rates be equal. Whatever the outward differences between the two systems, as far as the mathematics are concerned – and therefore as far as real internal content is concerned – this is the same postulate found in Walrasian Marxism, which transforms a *result* of Volume III into an *axiom*, without which prices are indeterminate:

All profit rates are equal

The problem is now as follows: if prices are already fixed by the requirement that profit rates be equal, how do they get to be equal? In Marx, as in the real

world, profit rates are equalised through price movements.¹² But in this Walrasian hospital for sick Marxists prices have been etherized. After all, what's special about a period of one week? The output prices of *any arbitrary future time* must be the same. Prices can never change. The 'remedy' is a new economic medicine:

All prices are constant

Swallow this and it transports you to a different place from the planet earth: a timeless wonderland in which life repeats endlessly and unchangingly; the world of the dormouse and the white rabbit: the world of General Equilibrium. This is not a hospital but an asylum: Marxism has been sectioned; it has flown over the cuckoo's nest.

You may think it a short visit but you're in forever. The simplification cannot be conveniently dropped at a later date. It is of a piece with the equal profit rate assumption. Without it there would be n equations connecting $2n$ unknown prices and n unknown profit rates. Of these, n are removed by fixing output prices to be identical to input prices. A further $n-1$ are removed by the equal profit rate assumption, and the system is then determinate to within a ratio, the famous 'numéraire'. No constant prices, no solution. It is an axiom masquerading as a simplification.

The treatment produces the sickness. It eliminates all indeterminacy by *assuming away all external determinations of price*. How, within such a system, can we conceive of a price which deviates even for an instant from its Bortkiewicz-appointed magnitude? All the equations in which this price figured would be instantly violated and the entire system would break down. The real world has been surgically excised. Marxists can no longer understand Marx because their equations have lobotomised the organ of imagination.

Demand, Supply, and Say's Law Marxism

This is just the beginning. What demand and supply conditions could correspond to such a system? Suppose any commodity to be temporarily in excess supply or demand. All economists agree that this should produce a rise or a fall in one or more prices, provoking capital movements tending to adjust supply to demand. But in the Walrasian asylum, prices are straitjacketed. They cannot move. The only way such a set of prices can exist is if supply is automatically and at all times perfectly adjusted to demand. Walrasian Marxism is a market-clearing system. In Sraffa's version this is made explicit as a postulate, but it is in any case implicit in the equations.

The postulate of constant prices is thus interchangeable with, and logically equivalent to a different postulate, more recognizable as the founding principle of General Equilibrium¹³ namely

The supply of every output is exactly equal to the demand created by the production of all outputs

Such a postulate is well-known to economics as Say's Law, in opposition to which Keynes constructed his system. It is equivalent to the *a priori requirement that the rational allocation of resources by the market is actually attained, as a prerequisite and indeed as the point of departure for determining prices, values and the (unique) profit rate*. This is not logic but ideologic, mathematically pure ideology.¹⁴

1.13 FROM FIXATION TO NEUROSIS: THE WALRASIAN CONCEPT OF PRICE

Equations express connections between variables which themselves represent concepts. Powerful manifestations of the human spirit, they cannot coexist in the mind with concepts that do not correspond to the relations they express. As a result, the concepts now used by Walrasian Marxism are alien to Marx.

Though a healthy concept of value is logically prior to a healthy concept of price, we confront a diseased system. A critique of this system therefore begins from its ideologically prior concept of price. The analysis of Walrasian value arises from the psychoanalysis of Walrasian price, of which it is the neurotic expression.

Our starting point is a well-known feature of General Equilibrium systems, the pivot of Keynes's reaction against them: in them money does not exist. This is expressed in such propositions as 'money is a veil'. Hence the vast literature explaining money as a convenience, an invention to make life easier, in short a thing to be explained exogenously because it is not there in the equations. The reign of neoclassical theory begins with the murder of money; the cost of this Oedipal act is self-imposed blindness.

Walrasian prices are derived from a fantasized economic activity: barter. The solution to a simultaneous system is a set of price ratios, rates at which goods can exchange for each other. These price ratios are therefore *determined* by the requirement that goods exchange for each other so as to produce or reproduce a certain distribution of goods.

In real life goods exchange for money, a distinct commodity, and cannot in general be exchanged for each other without ending capitalism. I cannot in practice exchange either my labour or my products for my direct requirements – I'll work for you if I get fed, I'll make you a house if I get a car, and so on – unless I reorganize the whole of society for this purpose, in which case we have a different society.

Real money is thus not just a unit of measure but a means of relating humans to each other, in fact the only means under capitalism. It is not a convenience but a necessity. After all, what is convenient about going to a bank? It follows, as Marx says many times, that purchase and sale must necessarily be separate acts. There is hence no guarantee that society's aggregate supply will match its aggregate

demand, and in general it won't. Society may at any time exchange at money prices which leave goods unsold, and normally does so.

It follows that if a simultaneist allows money into his or her system as anything other than a numéraire, s/he confronts an insuperable problem. If agents are allowed to accumulate money in exchange, then *any* set of price ratios are compatible with *any* required distribution of products. If I have a sweet and you have a biscuit and we want to strike a deal, then under barter we can only exchange at the rate of one sweet to one biscuit. But if money can change hands, you can sell me the biscuit for £2, buy the sweet for £1, and end up £1 richer. That's all there is to it. The determinacy of a simultaneous system is wrecked by this simple calculation. If, therefore, we require prices to be determined by the necessary set of exchanges they are to effect, we cannot allow money, as a store of value, to play any operational role. The absence of money, like the equality of supply and demand, is a hidden presupposition of the method. Money is the first casualty of market clearing; money prices are the second.

This comes out clearly in Marx's polemic with Jean-Baptiste Say, against whom Keynes, who plays Tiresias in this tragedy of errors, also constructed his system. Say imposes market clearing in a particularly crass argument which has not only attached his name to an unenforceable law but causes Marx the most intense irritation.¹⁵ Economists uneasily dismiss the argument but its logic is present in every simultaneous system. In barter, it runs, one party is always the seller and the other the buyer; therefore every sale is necessarily a purchase and the sum of sales must equal the sum of purchases. Hence demand must always equal supply.

This argument obliterates the most essential phenomenon of a market economy, that which truly distinguishes it from a consciously organised society: People sell goods for money, and then hang onto the money. Keynes, who understood and observed this fact, offers an essentially psychological construction – a preference – to explain it. For Marx it is a matter of logic. In monetary exchange as distinct from barter there are three parties, not two. If I have sweets and need biscuits, I sell to a sweet-lover, distinct from the biscuit-seller. Then I buy the biscuits. As far as the biscuit is concerned, it was bought when it was sold. As for me, I *first* sell and *then* buy.¹⁶

This is what commodity fetishism is all about. Say's impeccable logic, instead of asking what happens to a capital, concentrates on the commodities which compose it. Their prices are given by a pre-defined requirement that the aggregate of commodities in society must exchange in a given proportion. Price does not therefore arise from the relation of exchange, from the private relation between the humans who take part in it. The commodity is no longer something purchased by a human but a thing purchased by other things. Say's Law is a neurosis of the relations of humans to humans which presents them as relations between things. Political economy studies the human; neoclassical theory takes the biscuit.

Simultaneous equation systems are the pathological form of this neurosis: they cannot even locate the biscuit. What really happens when a seller abstains from

purchase? Clearly, its counterpart is an unrequited sale. The rebuffed biscuits lie pining for a purchaser. From a flow they are converted to a *stock* and as such cease to function as use value. They become unwanted social riches, sleeping labour awaiting Money's golden kiss. This is the phenomenal form of a crisis, a general glut, in which all lie as in a dream while King Money pays court to Queen Capital.

The economists have murdered King Money to wed Queen Capital. Their systems are an idealisation in which supply always equates to demand and the market always delivers. Crisis cannot exist because it cannot appear in the equations. If it is even contemplated, it must be a breakdown of the equations, an external mystery, an 'exogenous shock'. But the cost of this idealization is a system in which *money itself* does not exist. Stocks are apotheosized, profit rates impaled, prices narcotized; crisis is unthinkable and accumulation inconceivable. Into this Fimbulwinter Bortkiewicz in 1906 ushered Marxist economics.

1.14 FROM NEUROSIS TO PERVERSION: THE BORTKIEWICZIAN CONCEPT OF VALUE

Neo-Ricardianism, the psychotic variant of Walrasian Marxism, has pursued the irrational logic of this system to its bitter end and killed off value. It has drawn the correct ultimate conclusion from this system: in it, value plays no role. However, the life history of the value concept until its untimely death has great therapeutic interest. What we wish to try and say is not directed against the efforts of the many sincere and honest people who have striven against the odds to wring Marx's social and political conclusions out of this delusional system. It is on the contrary a rescue operation. What we want to explain is how the internal logic of the system necessarily gives rise to a perversion of value; when this is understood, the true nature of value will be to hand.

Anyone who wrestles with a simultaneous equation system with the aim of extracting from it a concept of value finds themselves, whether or not they wish, passing along a chain of reasoning containing the following links:

- 0 Every commodity has a unique price. As a simplification assume this is constant.
- 1 We need to show how values determine this unique fixed magnitude.
- 2 Marx showed how to determine the price of any commodity if its inputs are purchased at values.
- 3 However inputs are not really purchased at values
- 4 If inputs are not purchased at values, we can still perhaps calculate output prices from input prices
- 5 But then we are not calculating prices from other prices and not from values. Therefore prices are undetermined by Marx's procedure.
- 6 Values are necessary to explain class society. Therefore, even if they do not determine prices, let us determine them independently from the same data.

- 7 Finally, we can now understand the real problem Marx was trying to grapple with: what is the relation between the values we have just calculated and the prices we have just calculated?

The first step in the death of money is thus its separation into two completely distinct systems of determination, the price system and the value system, actually derived from two different economies. Let us see step by step how these assumptions create the theoretical scene we survey today.

The initial error lies in step 0: the issue is not how to determine a constant price (or a constant value). Given prices and values at one point in time, the problem is to determine prices and values at a subsequent point in time. The question as posed is utterly insoluble. It is like asking ‘Why is the moon where it is?’ The ‘simplification’ of constant prices renders everything enormously more complicated, because it amounts to asking for the price of each commodity at every point in time instead of just one point in time. It replaces a quite manageable particular question with a totally intractable universal one, like calculating the moon’s orbit by assuming its distance from the earth to be constant. This is a Ptolemaic system of prices. Its job is to sustain an ideology.

Price now becomes a *relation between things*: because each commodity ‘possesses’ a unique price, it ceases to be a relation between the commodity and the humans who buy it. It becomes an invariant, an intrinsic property like weight, determined only by the commodity’s role in the reproduction of all other commodities. The hidden hand of Adam Smith becomes the dead hand of Jean-Baptiste Say.

The constant price hypothesis next invades the concept of value, which has to be redefined as a special price that can reproduce an imaginary society where profits do not even try to equalise – the polar opposite of the price system in which they equalise perfectly. Commodities acquire the ‘properties’ of their constant price and constant value, which follow them everywhere like Mary’s lamb.¹⁷ Marx’s incessant reminders that value is a social relation which the commodity *enters* at definite points in time are forgotten. We have made the fetishistic transition which leads to the death of money; in the passage of things from human to human, we follow the thing and not the human.¹⁸

Determination is next reduced to *relations between the intrinsic properties of things*: a totally new issue surfaces; namely, how to ‘determine’ these ‘properties’ of these things from *each other*. We have to determine the prices of commodities from the values of commodities, independent of what is happening to them. This is like trying to establish if someone is a grandmother from the fact that they are an aunt. Value is no longer assigned to the commodity by the process of reproduction but resides within it; therefore the starting point of all determinations must be the intrinsic properties of commodities, not the social relations from which they receive these properties.

But in fact prices and values of outputs are determined by the value of the capital which produces them: the link with the circuit of capital, with the particular

function that the commodity is playing at the time of the measurement, has thus been broken. It becomes unthinkable to determine the prices or values from the money form of capital because commodities are produced by things, not capitals. Unlike Mary's lamb, the commodities substitute for the properties of their owner. We reach absurd conclusions; for example, technical change is instant and costless. The money spent on the old technology – representing, we should recall, the real social effort that produced this technology at the time – is an irrelevancy as bankrupt capitals are each day born again in the Great Equilibrium In The Sky.

1.15 THE DISSOCIATION OF PRICES FROM VALUES

This system now disintegrates. Capital dissociates into the two separate personalities of Value and Price. Correspondingly, two main schools of thought emerge.

Variant a of Step 7: the Price System is primary.

There is a difficulty since prices, it appears, are determined by themselves. The reasoning seems circular. However, it turns out (praise Perron-Frobenius) that only *one* set of price ratios will result in reproduction, that is, will allow producers being able to purchase their inputs with the 'proceeds' of their outputs and receive equal profits. Therefore, since we know that society in fact reproduces, these prices are determined, at least their ratios are, which is good enough for us.

This creates a problem: it now appears that the two 'equalities' of Marx are not satisfied by any other than a very restricted set of conditions (equal organic compositions, various peculiar 'invariance postulates'. and so on). Therefore Marx was wrong in asserting these equalities: the 'Transformation Problem' is born.

This leads to a further two possible developments.

Variant 7a.I: the economist as cynic

Price means a definite multiple of value which is the same at all times. Value remains the 'foundation' of price, since price is a simple multiple of value. In fact, however, this is a double-edged weapon. If price is just a multiple of value, then value is a multiple of price. So why not say that price determines value? But in this case value is redundant and can be dispatched. An economist, to paraphrase Wilde, is someone who knows the price of everything and the value of nothing

Variant 7a.II: the commodity as dalek

Since value is just a multiple of use-value, everything is in fact determined by use value. From here it is a tiny step to say 'everything is *actually* determined by use values and their ratios, and values are therefore completely redundant'. It escapes such philosophers that price is equally redundant. The ultimate destiny of this

system is a world of self-reproducing use-values, robots built by robots. Why pay them? The concept of 'shadow prices' is not a description but an epitaph: Here Lies Money.

Variant b of step 7: the Value System is primary.

We know values are primary because of all Marx's qualitative arguments concerning the nature of exchange, because of a wealth of empirical evidence, and because of the many philosophical and socio-political arguments on the role of human labour. Let us therefore take the 'primary causal' role of value as an axiom. Let us postulate that, against substantial evidence from the texts, Marx unconditionally asserted that the value of every commodity is determined without the mediation of money.

This leads to a veritable garden of forking paths. We can discern at least the following variants

Variant 7b.I: philosophico-mystical

The determination of price by value takes place behind our backs. It is part of the internal workings of the capitalist system which are ever so mysterious and can only be understood by reciting *das Kapital* six times before breakfast and joining my group. There is no such thing as the transformation problem and it doesn't matter that the figures don't add up, but you wouldn't understand that because you are a bourgeois revisionist.

Variant 7b.II: pseudo-dialectical

The determination of prices takes place as the Sraffians describe it, and the determination of values takes place as Marx describes it. This can only be understood by reciting *das Kapital* twelve times before breakfast and joining my study circle. It is true that the figures don't add up, but that is because capital is inherently contradictory, and you should learn to live with it. You can't understand that because you haven't read Hegel.

Variant 7b.III: fake materialist

As Marx explains, the forces of production determine everything.¹⁹ This as Plekhanov explains is the basis of historical materialism. What Marx meant by the determination of value by labour time was the determination of value by technology²⁰ as you will realize if you read Sraffa and buy my newspaper. The figures do add up.²¹ You don't understand this because you are not a worker.²²

The merit of all these positions is that faced with quantitative difficulties they have stoutly defended the scientific proposition that labour time is the magnitude of value. But as with the post-Ricardians, they have retreated into logic-chopping as a means of avoiding the quantitative relation between price and value.

1.16 MARXISM, MONEY AND THE DEMENTIA OF MODERN ECONOMICS

Money like Banquo's ghost returns to haunt the guilty about their normal business. Keynesianism, the first practical variant of neoclassical economics, comprised a vacillatory struggle to reinstate dead King Money as Prince Liquidity Preference. Neoclassical economics metamorphosed it into the perversion of a separate discipline of monetary economics, and the fiction of a separate goods and money market. The Neoclassical Synthesis rests on the idea of a 'real' market for goods and a 'nominal' market in money. Behind this is a systematic drive to quarantine money from the real world. Agents seek equilibrium in an idealized market untainted by monetary influences – the goods market – and money intervenes as an external factor, a sickness to be treated by government intervention. This separation is conventional and mythical. As the Post-Keynesians rightly exclaim, no-one bargains for 'real' wages. Political economy's job is to integrate money at every level of the economy's functioning, for the simple reason that money is the mediation of every actual social relation in a market economy.

This is Marxism's distinctive contribution. The 'redundancy' of value is an ideological expression of the redundancy of money. In any system where money plays a real as opposed to a fictitious role, the question arises 'what does money purchase?' to which the only possible answer is 'value', that is, some other thing of which price is composed. Every economic system gives this answer, even if it makes no deference to the labour theory of value. The first thing an undergraduate learns in any practical encounter with economic statistics is to manipulate price indices to measure 'real' as opposed to 'nominal' price. The most basic monetary theorem – the Quantity Theory of Money – involves a variable P, the 'general price level'. But in order to have a price level, that is, a price which is a multiple of something else, one must have a concept of the something it is a multiple of. This 'something' is value, no matter how many theoretical treatises against value. *In Walrasian Marxism value is the ghost of money.*

Thus the unfinished task of non-Walrasian economics is the systematic exposition of the laws governing the movement of 'real' value in the above sense; starting as Marx did from an axiomatic definition of value derived from the private exchange relation, to derive an analytical framework in which not only the general process of production, circulation and accumulation can be expressed in terms of value, but in which *no* a priori assumptions concerning supply, demand or the movement of prices are imposed.

This brings me to the conclusion, but also the real point of this study: in what direction can the real development of economics proceed? There are two essential steps. One is a proper integration and development of the concept of money. I would certainly not be the first to attempt this; however, my distinctive view developed in the last chapter of this book, is that *money can only be properly integrated in a successivist framework.* All the 'simplifying' – in fact stultifying –

assumptions which Walrasian economics has grafted on the Marxist stem should be left to wither in their chosen fashion. Economics must be situated in real time and the real world. The fiction of a uniform profit rate and rate of exploitation, production without machines, capital without money and determination without time: all these are baggage foisted by an uninvited benefactor on an unwilling guest in an unnatural place. They do not belong to a science of political economy. It is time to pack and leave.

NOTES

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- ¹ See for example, on the transformation problem Wolff, Roberts and Callari 1984a, Carchedi 1984, Roberts 1987, Kliman and McGlone 1988, Freeman 1991, Ramos 1991, Ramos and Rodríguez 1993, Giussani 1991 and on the tendency of the rate of profit to fall Kliman 1988, Freeman 1993b.
 - ² The total value added by all workers in society is measured by the number of hours that they work; the value added by the workers in a particular labour process is also measured by the number of hours they work, but may be a larger or smaller multiple of this time (that is, a larger or smaller proportion of total labour time) if the workers are more or less skilled, or work harder or less hard, than average.
 - ³ This issue is treated rigorously in the final chapter of this book.
 - ⁴ This has a further consequence noted by Marx which we cannot elaborate on here but must be recognized as part of accumulation. Suppose, through innovation, the capitalists can restart production on the same scale for less outlay: for example at a cost of £50 in labour and £50 in raw materials. Of their liquid capital (sales of the product C') of £300, only £100 is necessary to resume production on the same scale. In addition to the surplus value S = £100, therefore, a further £100 in freed-up capital is available to expand production. Changes in labour productivity therefore impact directly on accumulation as well as indirectly through the rate of surplus value. See Marx (1994:219).
 - ⁵ This was given extremely elegant expression in N. Okishio's theorem discussed in Andrew Kliman's chapter, which states the rate of profit must rise continuously if individual capitalists always invest in cost-reducing technology. Profits can fall only through a rise in wages.
 - ⁶ In the *Theories of Surplus Value* Marx uses the term 'cost-price' in place of 'price of production'.
 - ⁷ Although several authors have independently noted and referred to this passage, to my knowledge the first to draw public attention to it were Wolff, Roberts and Callari (1984a).
 - ⁸ Note once again that this exchange at prices different from values appears in Volume I, where Marx has allegedly not considered the transformation of value into price. Note also that money is the measure of value, and finally that the rates of exchange have nothing to do with production but are a pure phenomenon of exchange.
 - ⁹ Bortkiewicz (1952:23-24). I am indebted to Michele Naples for pointing out this passage.
 - ¹⁰ Only neoclassical economics is sufficiently convinced of its superiority to defy the normal laws of time.
 - ¹¹ 'Price, after all, is the value of a commodity as distinct from its use-value (and this is also the case with market-price, whose distinction from value is not qualitative but merely quantitative, bearing exclusively on the magnitude of value)' (Marx 1981:476); 'Price, in its general concept, is simply value in its money form' (Marx 1981:295).
 - ¹² Marx recognized this extremely early on: 'It is not the sale of a given product at the price of its cost of production that constitutes the "proportional relation" of supply to demand, or the proportional quota of this product relatively to the sum total of production; it is the *variations of supply and demand* that show the producer what amount of a given commodity he must produce in order to receive in exchange at least the cost of production. And as these variations are continually occurring, there is also a continual movement of withdrawal and application of capital in the different branches of industry ... If M. Proudhon admits that the value of products is determined by labour time, he should equally admit that it is the fluctuating movement alone that makes labour the measure of value. There is no ready-made constituted "proportional relation" but only a constituting movement' (Marx 1976:56). Engels in his introduction to the same work writes 'the continual deviation of the prices of commodities from their values is the necessary condition in and through which alone the value of the commodities can come into

existence'. The same applies *mutatis mutandis* to prices of production. Marx and Engels, who supposedly failed to comprehend the role of supply and demand, recognise that supply and demand can only operate as a force in the real world through *deviations* of market prices from values and from prices of production. Neoclassical economics and Walrasian Marxism alike *require that these deviations be eliminated before prices can exist*.

- ¹³ 'Ainsi, le moment est venu de fermer, pour ainsi dire, le cercle de la production en introduisant la condition, conforme à la réalité, que les produits s'échangent contre les mêmes quantités de service qui entrent dans leur confection' (Walras 1984:585).
- ¹⁴ Although both Walras and Sraffa were perfectly clear that the price and quantity requirements (input prices equal output prices, input demand equals output supply) are interchangeable and mutually imply each other, this necessary logical relation is obscured by some later presentations. Leontieff's (1953, see also Pasinetti 1977 and Cameron 1952) input-output formulation is framed in terms of output proportions rather than magnitudes. Systems of linear inequalities beginning with von Neumann (1937) and developed by Morishima (1973) suggest that price and quantity determinations are independent. The illusion vanishes as soon as one asks what happens to the excess product when supply does not match demand. Farjoun (1984) demonstrates that the price and quantity systems are separated by the technical trick of labelling all excess products as *waste* which has a zero price. This is already a violation of the price postulate since commodities now have *two* prices, their 'normal' and their 'waste' price. One has only to enquire what would happen if people were actually entitled to purchase all excess products for nothing to see that this is an artificial construction.
- ¹⁵ 'The conception (which really belongs to James Mill), adopted by Ricardo from the tedious Say (and to whom we shall return when we discuss that miserable individual), that overproduction is not possible or at least that no general glut of the market is possible, is based on the proposition that *products* are exchanged *against products*, or, as Mill put it, on the "metaphysical equilibrium of sellers and buyers", and this led to the conclusion that demand is determined only by production, or also that demand and supply are identical' (Marx 1969b:493).
- ¹⁶ 'Money is not only "the medium by which the exchange is effected" but at the same time the medium by which the exchange of product with product is divided into two acts, which are independent of each other, and separate in time and space. With Ricardo, however, this false conception of money is due to the fact that he concentrates exclusively on the *quantitative determination* of exchange-value, namely, that it is equal to a definite quantity of labour time, forgetting on the other hand the *qualitative* characteristic, that individual labour must present itself as *abstract, general social* labour only through its alienation' (Marx 1969b:504).
- ¹⁷ For the benefit of readers who lack an English nursery education:
 Mary had a little lamb/ Its fleece was white as snow
 And everywhere that Mary went/ The lamb was sure to go.
 It followed her to school one day/ It was against the rules
 And all the children laughed and played/ To see a lamb at school.
- ¹⁸ 'Once all things that can be appropriated (that is, all scarce things and nothing else) have been appropriated, they stand in a certain relationship to each other, a relationship which stems from the fact that each scarce thing, in addition to its own specific utility, acquires a special property, namely, that of being exchangeable against any other scarce thing in such and such a determinate ratio' (Walras 1984:67)
 'As values, commodities are *social* magnitudes, that is to say, something absolutely different from their "properties" as "things". As values, they constitute only relations of men in their productive activity. Value indeed "implies exchanges", but exchanges are exchanges of things between men, exchanges which in no way affect the things as such' (Marx 1972:129).
- ¹⁹ In the last analysis.
- ²⁰ In the last analysis.
- ²¹ In the last analysis.
- ²² In the last analysis.