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THE CASE FOR SIMPLICITY: A PARADIGM FOR THE POLITICAL ECONOMY OF THE 21ST CENTURY

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ABSTRACT

This is a pre-publication of the chapter of the same name which was first published in Freeman et al (2001), reproduced with the kind permission of the publishers. I have re-organized it for scholarly use as a separate text, with the references included and with footnotes instead of endnotes. I have made one correction to the numbers in the table at the top of page 7, which is footnoted on page 8. Thanks to Antonio Bernardeschi for pointing out this mistake. I have corrected the unfortunate mis-spelling of the name of Neugebauer, the prodigious historian of Astronomy. The text has been reformatted, and some minor spelling mistakes have been corrected.

The text is the same as the original in all other respects and can safely be used as a reference copy. It should be cited as "Freeman, A. 2001. 'The Case for Simplicity' in Freeman, A., Andrew Kliman and Julian Wells (eds) 2001. *The New Value Controversy in Economics*. Cheltenham: Edward Elgar. pp55-66."

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THE CASE FOR SIMPLICITY: A PARADIGM FOR THE POLITICAL ECONOMY OF THE 21ST CENTURY

Alan Freeman

WHAT ROAD TO THE 21ST CENTURY?

In his prodigious *History of Astronomy*, Neugebauer says that Copernicus added only one argument to the evidence that the earth was not the centre of the universe: it was simpler to suppose it went around the sun.

Since William of Ockham said that 'the simplest explanation should suffice' every advance in thought has, I think, replaced many complex propositions by a smaller number of simpler but more powerful propositions. The real difficulty in a new standpoint is never the complexity of its conclusions. It is the violent shift of perspective needed to accept its premises.

Before we accept the appealing argument that 'the road to the 21st Century lies through the 20th', it is worth noting where Copernicus' discovery came from. Actually, he did not invent it. It was laid down in the second century B.C. by Aristarchus of Samos. It came, not just from a previous century but from a previous millennium, entombed by fourteen centuries of obscurantism.

The following one and a half millennia perfected, with a complexity so great that it is still hard to follow today, an alternative system invented by Eudoxus, sanctified by Aristotle and perfected by Ptolemy. The movement of all heavenly bodies was explained by fifty-three concentric spheres, complete with epicycles, each turning on a different axis. This system predicted almost all the observed positions of the stars and planets, as well as eclipses, with very great accuracy. Except for comets, it was only when Galileo turned his telescope on the moons of Jupiter that any really serious conflict between theory and observation emerged.

Yet progress did not come through a forward development of this dazzling system, now unknown and forgotten. It arose in a return to an *earlier* system of thought with two, and only two, features to recommend it. It was easier; and it was right.

It is my argument that the present state of political economy calls for a revolution of this character, rooted in a thoroughgoing reinstatement of the earlier and better value theory of Marx. It is my argument also that this, sadly, involves the rescue of Marx's value theory from a great deal of what has been put forward in his name.

Laibman's (2001) view of what the so-called 'New Orthodox Marxists' are trying to do is based on a fundamental misconception; that progress in science is linear. Actually, thought does not progress linearly. The neoclassical 'revolution' was a counter-revolution, refining and honing to a mathematically brilliant but socially bankrupt edge the most reactionary aspects of political economy of the day, as it stood in the 1870s.

This counter-revolution has proceeded by imposing the linear view on its predecessors, judging them all from its own standpoint. It presents a coherent but fundamentally apologetic account in which, via the postulate of equilibrium, the assumption that the

market 'works' was transformed into an axiom. This axiom has permeated and transformed the entire conceptual apparatus of economics, to the extent that it is incapable of *thinking* the concepts appropriate to a market that does not work. The very idea of a price that differs from its market-clearing magnitude is alien. If such an idea is entertained, the equations which 'define' price can no longer be written down. Concepts and relations which include within them such price variation have become literally unthinkable, sadly even to Marxists.¹

The issue is not at all whether 'everything Marx says is right'. It is that modern thinking makes it impossible to find out. It defines not just his individual ideas, but his entire conceptual framework, to be logically impossible, and substitutes its own conceptual framework as the standpoint from which these individual ideas must be judged. This is a fundamental attack on science; it denies today's researchers the right, and the freedom, to test *all* theories, Marx's included, against the observed facts. To establish, as we have done, that the 'proof' of Marx's error is itself erroneous, is a blow for science, not dogmatism; it places at the disposal of today's researchers the *full* range of yesterday's theories.

Thus, what is required is not just to do the mathematics differently, but to rethink the conceptual structure with which we do the mathematics. The current state of the debate resembles the discussion which Copernicus provoked. Two sides might both use the word 'value' much as two astronomers used the word 'orbit'; but the words simply do not mean the same thing. For Ptolemaics the idea that the earth moves was not merely wrong but inconceivable. The earth by definition was the centre of the universe.² In like manner the words 'value' and 'price' have become by definition the solution to a simultaneous equation. The words are the same, but the concepts are universes apart.

Earlier debates focussed to some extent on mathematical technicalities. This was, I think, inevitable. One of the limits reached by the simultaneist paradigm is the supposed 'errors' it finds in Marx's writing which disappear in the non-dualist and temporalist paradigm. This had to be demonstrated mathematically before the current paradigm could be challenged. The methods of working and the results of the new paradigm had

¹ Contrast Sraffa's starting assumption – 'day in, day out, production continues unchanged' – with Marx's (1978:61): '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....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'. These are not just two different ways of looking at price. They express two different concepts of price.

² The entire focus of cause and determination was also different. For the Ptolemaics, the issue was to explain where the orbit of the planet must be situated. The actual motion of the planet in this orbit was more or less secondary. But for Newtonian physics, it is the motion of the planet that must be determined, and the location of the orbit itself is an unexplained accident of history. In like manner the focus of equilibrium economics is to 'determine' ideal prices that never actually exist, while Marx's focus was to explain society's law of motion.

to be established rigorously and to some extent on the terrain established by the existing paradigm. The dispute between temporalism and simultaneism has therefore appeared, on the surface, as a battle between rival mathematical systems.

This superficial appearance is misleading. In the first place, every conclusion that can be drawn from a simultaneous approach is a special case of an identical conclusion that can be drawn from a temporal approach, by assuming no technical change and no price variation. The temporal approach is thus not a replacement but a generalisation, just as Newtonian mechanics appears as a special case of relativity.

But, to extend the parallel, a fundamental conceptual reorientation is required before this relation can be understood. To a two-dimensional being, solid objects are inconceivable. In the simultaneous paradigm, an entire dimension — time — is missing. The concepts and results of the more general formalisation appear as shadowy intrusions or incomprehensible paradoxes. Just as the relation between Newtonian and Einsteinian mechanics is comprehensible only to an Einsteinian, the differences which temporalism has with simultaneism can only be grasped if the restriction of simultaneous time is removed.

This can make temporalism appear to the simultaneists as a crusade; we appear to be saying that we alone have seen the light, and that only belief can deliver the holy. This has led David Laibman to characterise temporalism as a new orthodoxy.

So is there a basis for a dialogue? I wish to approach this problem from a different angle: I want to argue that while the results of the temporalist approach are more general, its concepts are simpler, by arguing for the removal of the unnecessary restrictions of the standard simultaneous assumption — for example, the restrictive assumption that there is no technical change, the restrictive assumption that prices do not fluctuate, the restrictive assumption that profit rates equalise, and so on.

The question, quite simply, is this: can we explain the concepts of value theory without these restrictions? Can we define what value is, without requiring goods to exchange in proportion to their value? Can we explain what price is, without requiring profit rates to equalise? Can we explain what reproduction consists of, without requiring that the gross product should be reproduced with its composition and size unaltered every year for eternity?

I will show it is possible, with very little mathematical apparatus or technical sophistication — yet preserving all the rigour of Marx's conceptual analysis. No-one working in a simultaneous framework has to accept the whole raft of results, methods and conclusions advanced by those working in the temporal framework if they consider it too risky a leap of faith. They need only drop the restrictions with which they work — restrictions imposed not by Marx but by his Twentieth Century interpreters. They need only generalise from their present assumptions. In short, the Marxists need to throw off the chains which they themselves have forged. This is all they have to lose.

PRICE AND VALUE AS THEY APPEAR IN THE WORLD

Consider the following.

- In 1984 in round figures the capitalist class of Britain spent a total of £265bn on intermediate goods.
- In 1984 they realised £545bn in sales on the goods they produced.

Where did the difference of £280bn come from, and where did it go? Let us ask where it went first. £180bn went on wages and £100bn on profits.³

If we take the most extremely simplified, naïve view of Marx possible we would make the following identification (all units in billions)

C	V	S
£265bn	£180bn	£100bn

$$C + V + S = £265 + £180 + £100 = £545bn$$

Where did this sum of £545bn come from? There are two views. The 'adding up' view of Adam Smith, perpetuated by neoclassical theory, tells us that the 'labour' factor added £180bn and the 'capital' factor added £100bn. An alternative is to say: no, 'labour' added the whole £280bn, of which the capitalists took £100bn.⁴

This way of dividing up value added is fully compatible with the normal national accounting framework itself which, for example, categorises a payment to a state pensioner as a 'transfer' payment — money that came from value created by someone else. When the same pensioner receives income from privatised savings institution, it is treated as value added, because the pensioner is now considered to be a supplier of the factor 'capital'. In asserting that 'labour' is the sole factor of production, all we have done is categorise all payments to capitalists as transfers, so that we treat the state pensioner in the same way as the private saver, and, more consistently than the national accounts, treat all owners of capital in the same manner.

Having made this basic division of value added, we can then calculate how long it takes a worker to create a certain amount of value added, in money terms. Table 17.1 of the Blue Book tells us that there were 21 million employed workers in that year.⁵ Therefore

³ £7,274m went on taxes. Since these are taxes on business we make the simplifying assumption that the capitalists receive the sole benefit of it, and it is just a part of profit.

⁴ Further corrections must be made for unproductive labour; this involves correcting the numbers, not their presentation. To keep the presentation short, I omit this complication.

⁵ The correction for unproductive labour is: (1) establish which workers were productive (2) divide the remainder into unproductive workers paid out of wages and unproductive workers paid out of profits (3) correct the profit figure of £100bn by adding the wages of the second group of unproductive workers.

on average, each one of these 21 million workers added, each year, £13,333 in *value-product* (£282bn/21mn) and was paid £8,571 (180/21), the remaining £4,762 being the monetary equivalent of the unpaid labour of this average worker.

This gives us a direct, quantitative relation between time of work, and value added. One worker, working for one year, creates £13,333. That is, £13,333 is the *monetary expression* of one year of living labour in 1984.⁶

Now let us look at some of the individual sectors of the economy. Consider, for example, the oil and gas sector. The Blue Book tells us that this employed 616,000 workers. The I/O accounts tell us that they were paid £5,736bn, more or less the average wage.

But the profits of this sector were rather different: they were £21,248 bn or about £40,000 per worker — nearly eight times the average. The intermediate purchases of this sector being about £33bn we find that for this sector the breakdown of the product appears to read thus:

C	V	S
£33bn	£6bn	£21bn

$$C + V + S = £60bn$$

Moreover in this sector, each worker added £43,831 or over three times the national average. The rate of exploitation appears also to be much higher.

If we make a similar calculation in other sectors of the economy we find that in some cases the total value added is greatly in excess of the national average and in others greatly less.

What are we to make of this? We could of course accept appearance for essence and take it as literally true that an oil worker is eight times as productive as everyone else. Or we could adopt the account of both Marx and Ricardo, who assume that all labour has already been reduced by the market to simple labour. If each worker had merely added the national average of £13,333, we would have obtained the table below:⁷

⁶ This calculation, the same as that proposed by the New Solution, has to be developed into a more general form once we want to allow for inflation, which alters the relation between dead and living labour expressed in monetary terms. This temporal effect is a decisive one, ignored in simultaneous frameworks. Space does not allow me to enter into this complication here, which is discussed in Freeman (1997).

⁷ This table has been modified, compared with the printed version, by the addition of separate columns for V+S and for V and by the correction of an error in the original, which stated that £8.21bn was the value of the surplus, whereas, in fact, it is the total of value added. Thanks to Antonio Bernardeschi for pointing out the error in the original.

C	V	V+S	S
£33bn	£6bn	$616,000 \times £13,333 = £8.21bn$	$£8.21bn - £6bn = £2.21bn$

In my view, the simplest and most direct — but also the most rigorous — interpretation of Marx’s theory of value is to say that this *is* the value of the output of the oil sector. That is, the value of this output of this sector was the sum of the dead labour, represented by the £33bn spent on inputs, and living labour, that is the £8.21bn added on the basis that average, simple labour adds the same amount of value per unit time throughout the economy, namely £13,333 per year per worker. This value is not equal to the price of the same output, namely £21bn. Hence:

- 1) This gives a perfectly clear distinction between value and price. There is no question of price being directly identical to value.
- 2) The price-value difference is simply the difference between gross price and gross value, that is $(33 + 6 + 21) - (33 + 6 + 8.21) = £12.79bn$.
- 3) Surplus-value and hence exploitation is clearly defined: it is the difference between the value added by the workers and the wages they receive.
- 4) There is a clear difference between surplus value and profit. Profit in the oil sector, for example, is £21bn but surplus value is £8.21bn: difference, £12.79bn.
- 5) If we add up all the price-value differences over the whole economy, they must total zero, since the figure of £13,333 per worker is a social average.
- 6) If we add up all the profit-surplus-value differences over the whole economy, they must total zero by the same token.

I now want to make a straightforward case: in relation to the main points that have always been considered distinctive in Marx’s theory, this is Marx’s value analysis.

THE FINDINGS AND DISTINCTIONS OF VALUE THEORY

The analysis above could hardly be said to require mathematical sophistication. It contains not a trace of matrices, eigenvalues, or even equations. Does it *lose* anything we obtain from the more complex and difficult — but more restrictive — simultaneous equation approach? On the contrary:

- There is a clear distinction between value and price.
- Labour is clearly accounted for as the source of all value.
- Value is neither reduced to money nor to abstract labour but subsumes a definite relation between the two.
- Exploitation is quantitatively clear.

- Abstraction is quantitatively as well as qualitatively manifested; the only difference between oil workers and any others is the amount of value that they add, and quantitatively this value is the same for all workers.
- Marx's two equalities are satisfied.

Does this demonstrate the full complexity of Marx's analysis? No. It may be that in one sector or another, labour is actually more intense and that a closer investigation of the sector would reveal that. It may be that the value added per worker per hour fluctuates over time either due to monetary inflation or technical change. And the particular reasons why the oil sector realises higher profits (rent, technical superiority, and so on) have not yet been investigated.

But a paradigm is not to be judged on whether it explains all known phenomena instantly. If this could be done there would be no need for scientific labour; either mere observation would suffice or, once we knew the appropriate concepts, everything would be totally clear. The issue is whether we possess concepts which render it *possible* to explain currently-known phenomena, or whether we are saddled with concepts which obstruct this understanding. This in turn reduces to the following question: do the concepts of the paradigm allow us to make all the necessary distinctions between the varieties of phenomena we see, without introducing extraneous or accidental issues?

In relation to most of the central and entirely practical questions of economics, value theory as defined above satisfies this criterion.

REAL AND INFLATIONARY INCREASES IN PRICE

How could the total amount of value in the economy be changed in 1985? In actual fact we don't know the gross product of 1985 because I/O accounts are not kept. But it is not difficult to deduce, since we know what consumers bought in 1985, we know what the government spent and we know investment. The remainder must be the raw materials consumed during 1985, and we know the net product of 1985. The new gross product turns out on the basis of back-of-an-envelope calculations to be around £570bn.

What were the possible causes of this increase? Actually there are three possible sources of the increase, which we can explain by taking four extreme cases:

- (1) It could be that because of technical changes, more raw materials (C) were consumed
- (2) It could be that all prices rose, without any increase in either the productivity of the workers in use-value terms, or any change in employment. In this case, we are dealing with a purely inflationary increase in nominal values
- (3) It could be that the workers produced more actual product so that at the same prices, its price increased.
- (4) It could be that the workers actually worked longer. In this case, more actual value was added.

By distinguishing net from gross output it can be seen that raising £C has no impact on the mass of profits, but raises only turnover.

With a clear relation between money and labour time, any sum of money can be reduced to a quantity of labour hours and vice versa.⁸ Using this we can convert the gross output of society into labour hours and arrive at a genuinely universal measure of output and profitability which discriminates between purely inflationary increases in price and genuine increases in value.

The analysis demonstrates that a rise in physical output will not raise aggregate profits, because a proportionate reduction in unit values results if labour hours worked are constant, a simple result with no counterpart in neoclassical theory. More productive enterprises may secure artificially high relative prices — particularly if they are the first to innovate and secure a differential technical rent, or superprofit; this appears in the accounts as if labour in the high-profit sectors were more productive, but value analysis shows that this is really due to a transfer of value from the low-profit sectors, brought about by the working of the price system. Over the whole of the economy, any such aggregate rise in prices is inflationary. Moreover the apparent differences in productivity between workers in different enterprises, and particularly in different countries, are revealed for what they really are: inequalities in the distribution of capital.

Finally the analysis shows that extra profit — measured in money prices correctly deflated to reduce them to constant labour hours — can result only either from extra work or from the consumption of a decreased share of the total produce of society, whether measured in money or in labour hours. This 'law of value' result does not emerge from traditional index theory. Unlike various versions of the 'Fundamental Marxian Theorem' it is neither an inequality nor approximate but a mathematically precise invariant relation. This analysis clearly differs from neoclassical theory, for which 'real value' is given by the price-index-deflated cost of goods, rather than the activity of the workers.

The analysis clearly discriminates between the four principal different sources of a rise in the money denomination of gross outputs: inflation, rising productivity, a higher intensity of work and increased non-labour content. Moreover, no other body of economic theory can make these necessary discriminations without introducing extraneous or accidental causal factors. That is, Marx's analysis is the simplest, and it suffices. It passes Ockham's razor.

⁸ The relation does change, as indicated in note 7, when stocks of capital are considered. The 'value of money' is in my view not reducible to the ratio of net hours worked to net money value added, in the presence of technical change and/or monetary inflation. In this case, the number of hours represented by one pound is equal to the total money price of all commodities in existence (including fixed capital) divided by the total value in hours of these same commodities. A development of method above (Freeman 1997) yields this magnitude.

THE FALLING PROFIT RATE

Let us now consider a third sense in which this analysis allows us to explain what is happening in an economy. Here we shall illustrate with more hypothetical figures, for simplicity. Suppose in a given year that the capitalists begin with a capital stock of

$$K = \text{£}1000$$

Now suppose that in this same year they consume one-fifth of this stock, £200:

$$C = \text{£}200$$

Suppose that they pay wages of

$$V = \text{£}300$$

and finally suppose they produce new product that sells for £1000. In this case

$$S = \text{£}500$$

and the product C' is given by

$$C' = C + V + S = \text{£}1000$$

Thus at the end of the year the capitalists have the following assets:

$$K = \text{£}800$$

$$C' = \text{£}1000$$

so that the capital stock K has grown into a new stock of £1800. Clearly, if the capitalists want to resume production at the same level of money investment, they will have to spend £200 on replacing C . Let us also assume they spend \$300 on replacing V . Notice, however, that they do not have to spend these identical amounts and in general they do not. But on the assumption that they do, we now have

$$K = \text{£}1000 \text{ again}$$

$$V = \text{£}300 \text{ again}$$

and profit of £500 remains. What will they do with this profit? If they consume it all, we will have simple reproduction. But we know for a fact that they don't. They re-invest it. They accumulate. Suppose they accumulate half of it, and suppose the proportions are the same (again, they don't have to be: this assumption is purely for simplicity). The new capital stock will then be

$$K = \text{£}1100$$

$$V = \text{£}450$$

The surplus value produced, if nothing else changes, will be a straightforward 50 per cent more, that is £750. The capital stock having risen from £1300 ($K_0 + V_0$) to £1550, the rate of profit will rise, but notice that the capital stock has increased.

However, the variable capital cannot, in non-inflationary terms, rise indefinitely because it is limited by the size of the workforce.

How is this contradiction to be resolved? We could, if we just stuck with simple reproduction, declare that some kind of crisis will result when there are no more workers. But we know this is not what actually happens.

What actually happens is technical innovation. The capitalists do not in fact have to increase the labour force in order to get the same output in use-value terms. A more realistic assumption is that V remains at £300. But now we can see a very straightforward fact. K must increase if any part of the surplus is invested, and if the rate of exploitation does not rise, the rate of profit must fall.

The rise in the organic composition of capital therefore arises very straightforwardly and irrefutably out of the simple fact that the capitalists invest at least a part of their surplus.

Of course, the underlying physical relations will be more or less complicated. Some of the capital stock will cheapen, there will be rises in productivity distributed all over the place, and so on. But the crucial point is whatever the phenomenal physical form of the growth, in money terms the organic composition of capital must rise.

We thus see that, without at all abandoning the basic insight that every sum of money represents a definite portion of total social labour, nevertheless we can trace, through the movement of the total money in the hands of the capitalist class, a necessary law of motion of accumulation which is not only observed in reality to be the case, but constitutes one of Marx's most contentious assertions: the rate of profit falls as a direct consequence of capitalist accumulation, and can be permanently offset only by a periodic interruption of capitalist accumulation, namely crisis.

INEQUALITY

We stated earlier that mere rises in productivity cannot increase the value at the disposition of the capitalist class. However, it can transfer value from one section of the capitalist class to another. Marx's treatment of rent can easily be extended, as we have done in Freeman (1996) by looking at the way technical rent is produced and its relation to moral depreciation, to show how a systematic inequity in the accumulation process must result even under perfect market conditions, such that the producers of means of production which raise productivity must enjoy a permanent superprofit.

SUMMARY

This analysis took a handful of pages. In it:

- We refuted all the principal alleged 'errors' in Marx's theory.
- We contradicted none of what Marx wrote.
- We showed that value theory can account for the outstanding phenomena of the modern global market: mass world poverty in the midst of technical progress and recurrent crisis.
- We maintained all the standard distinctions between value and price, surplus value and profit.

- We made none of the standard ‘simplifying assumptions’; the method adopted was fully general and applies to the analysis of any economy. In particular it does not assume the equalisation of profit rates which, as our data show, does not happen.
- It is greatly simpler than the complex alternatives which arise from the standard treatment.

Is it rigorous? I think it is. In the book edited by myself and Mino Carchedi (Freeman and Carchedi 1996), and in the work of numerous authors working in this paradigm, we have shown that this is completely rigorously and mathematically sustainable.

Up until now, temporalism has been forced, by the excessively mathematical and, I would say, arrogantly superior approach of Marx’s detractors, to take the same ground and show that mathematically speaking there is a complete alternative.

But this mathematical activity is by no means necessary to carry out work in this paradigm. On the contrary, what we have shown is that the way a ‘naïve Marxist’ thinks is theoretically consistent both internally, and with Marx. This is not to worship naïvety as a source of truth but to assert something rather different which economics has largely forgotten; usually, a truly scientific way of conceiving the world is very hard to arrive at and to grasp, but once grasped, renders the world less, not more, complicated. The temporalist, single-system account is simpler than the orthodox approach, more rigorous, and explains the known phenomena with the minimum of extraneous factors. I think, therefore, that the time is ripe to begin work in a new empirical framework, to relaunch Marx’s original project and the purpose of his enquiry: to discover the law of motion of the modern economy.

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