WILLIAM JEFFERIES REPUBLISHES HIS ARTICLE ON WHY CAPITALISM IS TOO COMPLEX AND VOLATILE TO STRUCTURE THE RELATION BETWEEN VALUE AND PRICE.

> *William Jefferies and his co-author reassert the view that the structure between prices and values cannot be structured because capitalism is too chaotic a system, one turned upside down by competition and inside out by the restless movement of capital. They are wrong again. All sciences, except it seems Marxism, are allowed to abstract or simplify their enquiry to map out the basic structure of the phenomenon under examination. Marx did this in Chapter 9.*

William Jefferies and his co-author have republished an article on the Transformation Problem discussed by Marx in Chapter 9 of Volume 3 of Das Kapital. The difference between this article and the previous one I consider to be inconsequential. As I have said before, in their article, the authors act as historians rather than applied scientists who do not adhere to Marx's methodology. Instead, they focus on the historical conditions which ripped price from value. In as much their article reviews the history of this problem, and the successive attempts to answer it, from Adam Smith to Kliman, the article acquits itself providing a valuable overview of the problem and the attempts to resolve it.

To begin, resolving The Transformation Problem, and it is a problem because its solution is not immediately apparent, is not merely an academic exercise. It is the key to locating price in value, and thus value in the expenditure of labour. Without resolving this problem the origin of price remains unclear and the labour theory of value unsubstantiated.

The authors repeat a mistake. They acknowledge a double transformation that of value into its monetary expression – price and subsequently into market prices of production. "*Yet here and throughout v. Bortkiewicz conflated—and thereby confused—two distinct transformations: first, the transformation (or more accurately, the expression) of values as prices through money; and second, the transformation of values into prices of production through the redistribution of surplus value to equalise profit rates. This apparently trivial mistake had profound consequences for all subsequent debate. The transformation of values into money historically and logically precedes generalised commodity production or capitalism, the transformation of values into prices of production is later, it occurs in the transition from simple commodity production into capital commodity production…* Actually, it is the authors who are in error as this sentence reveals. "*Prices of production modify the value of the individual commodity,"* How so? The order is reversed. The value of a commodity represents the socially necessary labour expended on it. The commodity crystalises this value, embodies it, it is a product of labour, which once fixed is invariable. Prices do not change value; they only diverge because it the price which is modified. Hence the first transformation they declare seems to infer prices are able to alter values.

However, this is by and by. The bigger issue exists in terms of history and category. Yes, there are two transformations. The first converts individual values into market value which forms *the* first market prices in the period of generalised commodity production prior to the industrial revolution. This period is the period known as manufacturers a period the authors are well aware of being historians. The period of manufacturers is based on wage labour and capital though production still remains small scale, which incidentally did not preclude crises brought on by overproduction during this time.

The authors further entangle themselves when they quote a letter from Marx to Engels. "*Simple money circulation does not contain the principle of self-reproduction within itself and therefore points beyond*

itself. Money, as the development of its determinations shows, contains within itself the demand for value which will enter into circulation, maintain itself during circulation and at the same time establish circulation—that is, for capital. This transition is historical also." In other words, money which is the social form of value in circulation allows the output of private production to be socially consumed both productively and unproductively. Precisely because money represents social value or revenue it is able to redistribute individually produced surplus values, or as Marx says, it points beyond itself. By including the potential of money to act as capital does not add anything to our understanding of the transformation problem nor how the movement of capital influences prices.

On page 228 of their treatise the authors make the common mistake all Marxists make tackling the Transformation Problem, they limit their analysis to the price of gross output. They do not take the further step I have taken, and that is to convert aggregate output prices into individual input prices of production to complete the process. Only by using the resulting individual prices of production to modify the final output prices do we finally arrive at the market prices of production. Thus, when excluding this final step, disproportions appear when they need not. For a fuller explanation of this complete process please view my article on Von Bortkiewicz and Eugen von Böhm-Bawerk. By taking this previously omitted step, the issues Von Bortkiewicz raised are laid to rest.

The authors also do not take the additional step of splitting the stream of surplus value being redistributed into the stream needed to reprice capital and the stream needed to adjust profits to achieve a uniform rate of profit, not on the old capital but on the newly priced capital. That is because they believe it is mathematically impossible to derive prices from values because capitalism is too chaotic and fluid due to the incessant and restless movement of capital chasing profits.

They quote approvingly from Marx. *'the sum of prices of production for the commodities produced in society as a whole—taking the totality of all branches of production —is equal to the sum of their values' however, there is no absolute identity of values and prices of production as 'with the whole of capitalist production, it is always only in a very intricate approximate way, as an average of perpetual fluctuations which can never be firmly fixed, that* ***the general law prevails as the dominant tendency'****. (My emphasis)* The authors also provide numerous quotes from the Grundrisse to Capital that the complex evolution of capitalism turns linking individual prices to values into fool's gold.

But this is to fundamentally misstate what Marx is seeking to achieve in Chapter 9. There Marx is providing a vector. His example provides five capitals of a similar magnitude, five rates of exploitation of a similar magnitude and five compositions of capital of a dissimilar magnitude. He then shows, taking into account the two constants and the one variable, how much surplus value needs to be redistributed and in what direction to equalise the rate of profit. This is what vectors are made up of; direction and quantity. The quantity is 26 and the direction if from Capitals 2 and 3 to 1, 4 and 5.

What Marx is saying in effect is that while price and value may spar, the ring in which they do so is finite, set by the vectors. The ring cannot be bigger than 26 nor smaller than 26 using the tables found in Chapter 9. When vectors are involved, and they can be distilled, it is possible to link prices to value because the link is not indeterminate. The structure is mapped even if Chapter 9 merely models the process.

And Marx says as much, not in his early writings, but in his final writings where his theory is most developed and his contemplation more complete. This is what Marx says in Chapter 50 of Volume 3,

titled: **The Illusion Created by Competition**. "*Market prices rise above these governing production prices or fall below them, but these fluctuations balance each other out. If one compiles price lists over a prolonged period, and ignores those cases…it is surprising how narrow the limits of these divergences are and how regularly they are balanced out.*" (Page 1000 of the Penguin Edition or follow this link) This would not be the case were there no underlying limits to the divergences. Further, throughout Volume 3 Marx observes how the average industries are the ones which act as the center of gravity preventing the outlier industries, i.e. the ones with the most extreme compositions on either side, from moving too far apart.

In today's LLMs with GPUs powerful enough to connect millions of data points, it is not beyond the realm of the possible, with the correct assumptions and the rich data provided by the System of National Accounts, to presume that the linkages between prices and values cannot be constructed. It all depends on the assumptions being made, which do not include - it cannot be done. It will be difficult admittedly. Here are the minimal assumed steps I believe need to be undertaken in real or concrete life.

Step 1. Our base period would the 'phase of rising prosperity' located in the up phase of the cycle as this is the only time total prices equate to total values.

Step 2 Estimate economic hours and use it to calculate MELT-EH which is the net product divided by total economic hours. (Economic hours is arrived at by multiplying the physical hours expended by productive workers multiplied by the coefficient of skill for their industry. It means economic hours exceed physical hours probably by a factor of three.)

Step 3. Calculate the average composition of capital.

Step 4. Calculate the average rate of exploitation.

Step 5. Calculate the composition of capital in individual industries and by how much they differ from the average.

Step 6. Using the density of skills for that industry calculate the economic hours expended there and by how much they differ from the average.

Step 7. Weight the aliquot share of labour time per industry by dividing its economic hours into the total number of economic hours for the economy as a whole. This sizes the industry in terms of labour time and value.

Step 8. Using the average rate of exploitation calculate the likely amount of surplus value produced by workers in that industry. The higher the density of skills the higher the quanta of surplus value. (This is weak step, because at this stage the full quantum of industry specific surplus value is not known.)

Step 9. Using this, solve for the indigenous rate of profit. Determine by how much this indigenous rate of profit diverges from the average.

Step 10. Using the weight of the industry, and the deviation of its profit rate from the average, calculate the amount of surplus value needed to be redistributed to it to equalize its profit rate.

Step 11. To this redistribution of surplus value formed by the equalization process return the value transferred by inputs other than the inputs to be worked up.

Step 12. Reverse discounts and add back their value to the productive industries. (By now much of the 'value added' in unproductive industries will have shrivelled up while the 'value added' in productive industries will have swelled.)

Step 13. Convert the new 'value added' in the productive industries into labour time by dividing the value actually produced there into labour time via MELT-EH.)

Thus, it is a process which begins by averaging out the size of capital and its composition, the rate or degree of exploitation and the rate of profit over the whole economy. Then mapping out the individual deviations from this average and finally adding back what has been removed by discounts* (these can be found) and the redistribution of surplus value (which cannot be seen). Complicated but not impossible. A good project for a PHD student with access to a powerful computer.

To sum up in conclusion. We cannot use Moseley's method which begins with aggregate value and aggregate prices because this ignores the differences between capitals in terms of their composition which creates the Transformation Problem in the first place. And we cannot use Kliman's TSSI which begins with prices when the whole object is to map the journey from value to price.

We can only use the method lodged in Chapter 9 and complete it. Marx takes 5 capitals which are dissimilar in composition. His starting point is market value. His vector of 26 with its specific directions are intended to convert these values into prices of commodity in a structured way. But he is still providing an incomplete arithmetic example, which can be demonstrated when at the end of the cycle of production the capitalists withdraw their 122 in profits returning each capital back to their original value of 100. Yes, Chapter 9 is incomplete, but that does not make it wrong in terms of its assumptions and conclusions. What is required from us is not to render Chapter 9 more profound, nor to mystify capitalism, but to develop the solution further by building on the methodology first found in that chapter.

*The Stern School of Business provides net and gross margins for a large number of industries.

Brian Green, 6th July 2026.