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Transforming the Transformation Problem: Why the "New Interpretation" Is a Wrong Turning

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Abstract

The new interpretation (NI) offers a particular understanding of important problems in value theory, especially the value of money and labor power and the structure and dynamics of capitalist accumulation. The NI is to be welcomed for raising these issues but not for the way in which it has dealt with them. Above all, the NI falsely assumes that value is directly and immediately represented by money. The authors propose alternatives that emphasize the processes (mediations) through which value is expressed as price. They draw on an alternative methodology and understanding of money, the value of labor power, and production and circulation of capital in the context of accumulation.

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1. Introduction

The new interpretation (NI), previously known as the new approach or new solution to the transformation problem, has been the most striking development in Marxist value the-

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ory during the past two decades.[1] The NI is inspired by the "Rubin school";[2] it draws on social rather than technical relations and maintains that labor becomes abstract (and is socialized) only through the exchange of commodities with money. Therefore, money is the immediate, direct, and exclusive expression of abstract labor. The NI takes this view one step further, arguing that such representation of value by money prevails at the level of the aggregate magnitudes of the capitalist economy.

This interpretation is appealing for those committed to value analysis for several reasons. First, it has links with the previous value debates, especially through the Rubin school and the transformation problem. Second, it is supportive of Marx, retaining value as an underlying abstract and, in some respects, causal category. It preserves, with some modification, key properties of Marx's transformation (ever perceived to be the Achilles's heel of value theory), especially the aggregate equalities between price and value and between profit and surplus value. Third, it seeks to put value theory on sound technical foundations, which were perceived by many to have been shaken by "errors" in Marx's transformation. Fourth, it incorporates money into the analysis, where previously for the transformation problem it had been notably absent, other than as a gold sector setting absolute prices. Fifth, it has inspired concrete analyses, forging an empirical connection between Marx's theory of exploitation and profits and wages.

This article reviews the analytical foundations of the NI in order to clarify its methodological implications in the wider context of alternative approaches to Marx's value theory. This is not simply a disinterested service to the reader. We believe that the NI's intention of reasserting the social foundations of the labor theory of value, while disposing of the transformation problem and deriving empirical macroeconomic results, is valuable. Nevertheless, the NI is highly questionable from perspectives other than that derived from Rubin. This is demonstrated through detailed criticism of its structure and content, especially its conceptualization of the value of money and the value of labor power and the sequencing and dynamics of the capitalist economy.

We show, moreover, that the NI precludes consideration of a range of issues that are vital to radical political economy. That is not to suggest that the complex factors impinging on value formation, for example, through accumulation and technical change, cannot be introduced into the NI. They can, but only after aggregate value and price relations are posited without reference to (the already assumed) value theory. Put differently, the NI collapses the capitalist economy into a simple, two-level dialectic of value and price, mediated by money. Further analytical progress could be achieved, such as developing an account of capital as a structured and dynamic system of accumulation but only independently of the NI's own contribution. For the latter, one of the most complex outcomes, that is, price formation, is already predetermined. Our general conclusion is that the NI is to be welcomed for the issues that it raises but not for the manner in which it has dealt with them, for which

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1. Seminal contributions include Duménil (1980, 1983–4, 1984) and Foley (1982, 1983, 1986) and, at a later stage, Lipietz (1982, 1983, 1984).

2. Rubin ([1927] 1978, [1928] 1975); see also Aglietta ([1976] 1979) and de Vroey (1982, 1985). For a critique, see Saad-Filho (2002: chap. 2).

we offer alternatives. In each case, there is a difference in method, with our emphasis being on the progressive dialectical movement from more abstract to more concrete and complex economic categories, in contrast to the more immediate movement between value and price in the NI.

This article is structured as follows. Section 2 presents a formal summary of the NI demonstrating the significance for it of the labor expression of money (LEM), of reliance on the net product, and of the peculiar definition of the value of labor power. Section 3 criticizes the NI concept of the value of money, suggesting that it obscures the real processes underlying determination of prices and the role of money. Section 4 critically reviews the NI concept of the value of labor power and argues that NI (as well as Sraffian) views are insufficient to explain its determination. Section 5 reviews broader methodological issues surrounding the NI, in terms of its capacity to contribute to an understanding of accumulation and crises. Finally, section 6 offers a conclusion in terms of value theory as an alternative rather than as a complement to the NI.

2. The NI: A Simple Formal Presentation

The NI, by virtue of its origins in the transformation debate, has been heavily associated with elaborating the relationship between values and prices. But as is now fully recognized, the NI is not concerned with individual values and prices. The point can be simply captured by presenting the NI through a set of equations that are totally independent of individual values and prices, with two exceptions: those of labor power and money.[3]

Assume total profit, P; total net revenue (total revenue minus nonwage costs), R; money wage rate, w; total amount of living labor, L; total surplus value, S; and the ratio L/R (the LEM, symbolized below by m). Three equations follow immediately: profit is net revenue minus wages, surplus value is living labor minus the value represented by wages, and the value of net product equals living labor:

$$P = R - wL \tag{1}$$
$$S = L - wLm \tag{2}$$
$$Rm = L. \tag{3}$$

Equation (3) implies that the labor equivalent of the money value of the net output equals total living labor. Although this equation is a tautology, given the definition of m,[4] it is taken by the NI to be the analogue of Marx's proposition that total value equals total price (though applied to net rather than gross output). Multiplying equation (1) by m and substituting for Rm from (3) gives

$$Pm = L - wLm. \tag{4}$$

3. To the best of our knowledge, such a simple formal presentation is novel within the literature since it leaves aside sectoral equations. For the record, the original draft of this article preceded the more recent papers of Foley (2000) and Duménil and Lévy (2000).

4. We thank Gary Mongiovi for pointing this out.

In other words,

$$S = Pm. \tag{5}$$

Profit is the money form of surplus value, as claimed by Marx's other proposition. Thus, it appears that value theory has been vindicated since both of Marx's much-disputed propositions in solving the transformation problem can be made to hold in a completely general framework.

The reason why the above presentation of the NI is simpler than others in the literature (e.g., Lipietz 1982; Mohun 1994) is that it makes no reference to individual values, prices, or production conditions, which are "an irrelevant detour" in specifying the analytical content of the NI. In other words, first, the NI is compatible with any set of pricing equations, whether based on an equalized rate of profit or some other pricing principle, as long as these satisfy (1) to (3). Despite this, much of the related literature is concerned with different pricing models, and these can be generalizations of the Sraffian approach to take account of, for example, joint production (Ehrbar 1989), imperfect competition (Reati 1986), and value-price ratios for any pricing system (Szumski 1989, 1991).

Second, the NI does not involve a solution to the transformation problem, or, to put it another way, it is compatible with any pricing solution. It is simply an "interpretation" whose formal content is a tautology arising out of the way in which the LEM (or the value of money) and the value of labor power have been defined. Here we appear to be pushing against an open door as far as the proponents of the NI are concerned:

> In the late 1970s Gerard Duménil and I, independently of each other suggested a reconstruction of Marx's labor theory of value emphasizing the relation between money and labor time that preserves the rigorous quantitative relation between paid and unpaid labor on the one hand and the aggregate wage bill and aggregate gross profit . . . on the other. This approach was rather uninformatively described as the "New Solution" to the transformation problem, and, after Duménil's observation that it actually abolished the "transformation problem" as such, and thus was not really a solution to anything, equally uninformatively as the "New Interpretation."[5]

Similarly, Mohun (1994: 407), whose article offers a particularly clear presentation of many of the issues, recognizes that "clearly there is an infinite number of conceivable price systems compatible with this understanding of theory, each price system being a different redistribution of labour-times, and each a price representation of abstract labour, or a form of value." Nevertheless, his own exposition descends to the level of individual values and prices (if not production conditions) even though this is entirely unnecessary.

Despite being neutral with respect to pricing, the NI is not without economic content, for it includes an implicit understanding of how the workings of the capitalist economy should be analyzed (see section 5). In fact, our most telling methodological comment on the NI is its immediate identification of production categories (labor and value) with those of exchange (wages, profits, and money). This explains why Duménil (1984) has been so savage in rejecting Lipietz's (1984) suggestion that the NI is compatible with the Sraffian solution where the wage is based on a given bundle of goods.[6] As is apparent from equation (2),

5. Foley (2000: 20); see also Duménil (1984: 347).

6. The same ferocity is also directed at Szumski (1991) by Duménil and Lévy (1991).

the value represented by wages is derived from a monetary magnitude (subject to a conversion factor, the LEM or value of money, see section 3). This is incompatible with the view that the value represented by wages is given by the value of a certain bundle of goods, showing that the NI has important implications for the understanding of the value of labor power (see section 4). In short, as will be shown below, the NI is not analytically neutral in method and theory. As such, it is open to criticism.

3. Value of Money

The definition of the value of money by the NI (the inverse of the LEM) provides a theoretical instrument for the ex post transformation of monetary quantities into value equivalents, especially of wages into the value of labor power. This section shows that by defining the value of money in this fashion, the NI precludes analysis of the process of determination of the value of money and its interaction with other socioeconomic factors.

Traditionally, in Marxist analysis, a money commodity (e.g., gold) is assumed to exist, whose unit value, λ^g, is determined by the labor time socially necessary to produce it (other forms of money are discussed below). The value of gold plays an essential role in expressing the abstract labor time embodied in output as price. However, unlike the LEM, the role of gold in price formation is neither immediate nor direct but rather mediated by several economic factors, two of which are especially important.

First, if we assume homogenized labor across the economy, the value of gold is determined by the material conditions of its production, including the value composition and turnover rate of gold-producing capital.[7] Differences between the value composition, or turnover rate, of the gold industry and of the averages for the economy create a discrepancy between the intrinsic value of the monetary unit and its expression in circulation. For example, if the value composition or turnover rate of gold-producing capital is above average, commodity values are expressed in prices generally lower than those prevailing when value composition and turnover rate are below average. Therefore, it is wrong to express commodity values directly as price by simply multiplying them individually by $1/\lambda^g$; the value of the money commodity does not operate identically with the LEM.[8]

Second, two attributes of money in the sphere of exchange are fundamental to the way in which it mediates the expression of value as price, its quantity (M) and velocity (V). If we assume that the entire gross output is sold for money (no trade credit or financial transactions), the relationship between the monetary aspects of exchange, the material and value aspects of production, and the price aspects of exchange is given by[9]

$$MV = \frac{\lambda x}{\lambda^g} = px \, , \tag{6}$$

7. For discussion of the content and analytical significance of the differences between homogeneous, abstract, and normalized labor, see Saad-Filho (2002).

8. This is clearly explained by Foley (1982: 39–40). See also Lapavitsas (2000) and Saad-Filho (2002: chap. 5 and 7).

9. Lapavitsas (1996, 2000); see also Lavoie (1986).

where λ and p are the $(1xn)$ value and price vectors, respectively, and x is the $(nx1)$ gross output vector.

Any interpretation of value theory must provide an explanation of the relationship between monetary and production factors in the expression of output value as price. Marx, as is well known, rejects the quantity theory of money (QTM) on the grounds that the material and value characteristics of production determine the monetary and price aspects of exchange. With velocity assumed fixed by institutional, historical, and geographical factors, Marx presumes that the quantity of circulating gold is constantly readjusted, through hoarding and dishoarding and the production of gold, to conform to the shifting material and value characteristics of production, the latter also dictating changes in prices. Hoarding and dishoarding are concrete ways in which money mediates the expression of the value of aggregate output as price and allows it to occur in accordance with the material conditions of production. If, for example, gross output rose, all else equal, the resulting increase in λx would be expressed as an increase in px (p unchanged) through an increase in M, the latter elicited from hoards. In contrast, for the QTM, a rise in x would lead to an increase in λx, but there would be a fall in p exactly compensating the rise in x, since M would have remained the same (no hoards supplying an increase).[10]

This simple example shows that money's functions and the institutional framework of the monetary system are concrete ways in which money mediates the expression of value into price for output as a whole. It is misleading to assume that money can express value as price directly and without mediation: the monetary regime matters greatly, even under our extraordinarily simplifying assumptions. In the example used above, if the monetary regime allowed M to be appropriately adjusted, the increased λx would leave individual prices unchanged; if, on the other hand, the monetary regime prevented M from changing, individual prices would fall. The same value of output would be expressed as higher total price in the former case and unchanged in the latter. Had we measured the LEM after the event (assuming that net output behaved identically with gross), it would be unchanged in the former but higher in the latter. But the difference would contribute nothing to our understanding of the process of expressing value into price.

It also follows from equation (6) that there is a complex relationship between, on one hand, the value of the money commodity, λ^g, and, on the other, the ratio $\lambda x/px$, that is, the value commanded by units of money in exchange (which is exactly analogous to the LEM in this context). Analyzing the relationship between these two values depends on assumptions made about money's functions and the monetary regime. In the example above, when the quantity theory approach is adopted, the value commanded by gold appears to rise while value embodied in gold remains the same.[11] Such a disparity has important implications for monetary theory. It means, for instance, that capitalists who happen to find themselves in possession of large amounts of the money commodity, as well as capitalists who produce it, make windfall gains, while capitalists with payment obligations make corresponding losses. The characteristic conclusion drawn by the quantity theory in this case, namely, that

10. Readers familiar with the history of economic thought will recognize here Ricardo's ([1816] 1951) analysis of the price implications of a rise in the volume of commodities in circulation. Since our presentation uses vector terms, there are some inevitable problems of interpretation of expressions such as "rise in x" or "rise in p." The economic conclusions are, however, clear.

11. As Marx ([1859] 1987: 403–9) pointed out in discussion of Ricardo's analysis of the interaction of gold and commodities in the sphere of exchange.

there will be imports of the money commodity, can be understood as a particular resolution for the disparity between these two values of money.[12] If, on the other hand, the quantity theory is rejected, neither the value commanded by gold nor the value embodied in it appears to change. But for that to be the case, a very different functioning of the monetary system and of its articulation with accumulation has to be postulated, one that relies on regular money hoarding.

It is misleading to assume, as the NI does, that money directly expresses the value of output as price and without mediation. As already noted for the above example, had we simply measured the LEM before and after the event (assuming that net output behaved identically with gross), it would be unchanged in one case but higher in the other. This calculation, based on the definition of the value of money simply as the value commanded by money in circulation, detaches both money and its value from the monetary and financial processes that link money to the general movement of capital accumulation. How deeply unsatisfactory that is becomes obvious when noncommodity forms of money are considered, such as credit money and state fiat money. The functions of these forms of money in and out of the sphere of circulation, especially hoarding, cannot be taken for granted but must be analytically elaborated. Analogously, analysis ought to be undertaken of the mechanisms and institutions (the monetary regime) through which the circulating quantity of these forms of money is determined, for which the NI is hardly useful.

The circulating quantity of state fiat money, for instance, retains an arbitrary element to the extent that the state can manipulate it. In contrast, the quantity of credit money is determined largely through the operations of the credit system and their interaction with the process of real capital accumulation (especially the advance and repayment of loans). Furthermore, given the proliferation of the forms of credit money, there could be differences of determination of quantity among banknotes, deposits, bills of exchange, share trust accounts, and so on. Thus, the processes and relations through which noncommodity forms of money come to command value in circulation differ qualitatively for each of these forms, as well as between each of them and commodity money (if one exists).

It is intuitive that such variations in the mediating role of money could have significant implications for the expression of the value of output as price.[13] If the value commanded by money in exchange depends on the functioning of the monetary regime, it is important to establish its precise relationship with the value embodied in the money commodity (if one exists). Divergences between the value commanded by money and the value embodied in the money commodity, for example, are unlikely to be eliminated by purely monetary processes. Sudden disruptions of exchange, monetary crises, recessions, and full-fledged economic crises, in which the money commodity could play an important role as means of payment and means of hoarding, are some of the turbulent ways in which money in practice mediates the expression of value as price.[14] Political economy ought to be able to account for sudden and forcible realignments of the value of money. If the value of money is defined

12. For a full analysis of this process in terms of the intrinsic and the exchange value of the money commodity, see Lapavitsas (1996, 2000).

13. A fuller analysis of these issues along lines suggested here can be found in Itoh and Lapavitsas (1999: chap. 2); see also Lapavitsas (2000).

14. Marx's ([1859] 1987: 391–417) analysis of pure price inflation can be interpreted in this way. He shows that reconciliation between the value embodied in and the value commanded by money is neither a smooth nor costless process. Moreover, it is a process that may have important distributive implications.

in aggregate, as in the NI, it is a definition that must be discarded as soon as the real processes of capitalist accumulation are addressed rather than set aside.

In this respect, the NI could not be more deficient. Foley (2000: 21–2) stated that

> this definition of the monetary expression of labor time [MELT, the inverse of the LEM] . . . does not depend on any assumption about the particular monetary system operating in the economy. In particular, it works well for a commodity money system like the gold standard, or for state-credit based monetary systems like those of the late 20th century. This point underlies the fact that the *definition* of the monetary expression of labor time in this way does not commit us to any particular theory about the *determination* of the MELT . . . [the] determining mechanisms are quite different, but in each case money can be viewed as functioning (in part) to express labor time quantitatively.

This does not go beyond tautology, as is revealed to some extent by equations (1) through (3) and is essentially orthogonal to value (as labor) theory. For the value of anything in money can be expressed by the inverse of the unit of the quantity of money with which it is priced. This sharply reveals the NI's exclusion of the real processes that establish the money form of value through hoarding, dishoarding, credit, and so forth. This separation of definition from determination is completely arbitrary, and the analytical power of the NI, in this respect, is negligible. Moreover, introducing these more complex factors after the NI has already been laid out is equivalent to rubbing it out and starting again with a new LEM and then doing the same as soon as an even more sophisticated approach is taken to the monetary/financial system and its interaction with the accumulation and circulation of both capital and commodities.

4. Value of Labor Power

We have shown, in section 2, that for the NI, the value of labor power is given by transforming the monetary payment of wages through the LEM, while surplus value is the value left over from living labor after the deduction of the value represented by wages. Alternatively, the value of labor power is the workers' share of the net product, while the rate of exploitation measures their inability to command the entire net product. This definition diverges from that traditional conception in which the value of labor power is given by the value of a fixed bundle of wage goods, usually justified by reference to "social, institutional, and historical" factors.

The difference between these two definitions is significant. They are usually seen as being mutually exclusive because they represent different ways of understanding how the workers are remunerated.[15] The fixed bundle of wage goods represents the value of labor

15. See Bellofiore (1989), Foley (1982), Gleicher (1989), Laibman (1982), Lipietz (1982), and Mohun (1994). For Duménil (1984), the money approach to the value of labor power is essential for the new interpretation (NI), and it is incompatible with the Sraffian solution for prices. Duménil and Lévy (1991: 363) asserted their position most clearly: "The rate of exploitation must be assessed in terms of redistribution value. The specific bundle of commodities that workers buy from their wages is irrelevant. . . . The issue is that of the potential purchasing power of their product, i.e., of the total net product which they created. This is equivalent to saying that the rate of exploitation must be determined in nominal terms, whereas the conventional measure of exploitation refers to labour originally embodied in the bundle of commodities that workers buy."

power in advance; in this case, the money wage is determined only after prices have been established. This approach can be criticized on three grounds. First, it leaves unexplained where the wage bundle comes from; how it changes with society, history, and custom; and what happens if individual workers do not buy the standard bundle. Second, it implies that labor power is the only commodity to be purchased at its value after the transformation, which is unjustifiable theoretically. Third, it induces a conflation between the workers and the goods they consume. In this case, it is arbitrary to suppose that workers are exploited because the model leads to identical results if corn, iron, or energy is considered to be "exploited" in place of labor.

In contrast, the NI definition is ex post. The value commanded by labor power varies with the price system, only grinding out a corresponding quantity of labor time after production and exchange have been completed and prices and working-class consumption established. This approach is seductive, both because it avoids the limitations of the traditional analysis and because it corresponds to actual processes in the capitalist economy, specifically, that wage bargaining is undertaken in money terms. However, the NI definition is limited in two important ways. First, no direct account is taken of social and historical elements in the value of labor power, other than the shifting balance of forces between capital and labor; for example, how does the money wage relate to the economic and social reproduction of the workforce, of which the customary standard of living is one component?[16] Second, the value represented by wages bears no relation to the value of the commodities consumed, given that prices and values diverge from one another.[17]

These limitations arise because the NI leaves undefined the relationship between the value of labor power and the value of other commodities. This raises the question of the commodity character of labor power itself, with potentially destructive consequences for value theory. Moreover, the NI cannot probe beyond one of the effects of exploitation, the inability of the workers to purchase the entire net product.[18] This is the same aspect of exploitation emphasized by "Ricardian socialist" economists in the early nineteenth century and derided by Marx as being an insufficient explanation of capitalist exploitation (Saad-Filho 1993).

The analysis above shows that both interpretations are riddled with contradictions because they seek to translate the value of labor power directly into a concrete outcome. They are, in fact, flat mirror images of one another, each failing in its own way to acknowledge that the notion of value of labor power is not appropriately attached initially either to a quantity of money or to a quantity of goods. The direct relationship between the value of labor power and a quantity of either goods or money, in these approaches, precludes an account of how the value of labor power is determined except by external agency (nonmarket custom or market wage conflict, for example). The special nature of the commodity labor power, which is neither capitalistically produced nor reproduced directly, allows for both

16. See Wells (1992) for the idea that the value of labor power is ground out by a combination of the roles of the state, households, and consumerism.

17. Foley (2000: 30) conceded this point: "Saad-Filho [1996] persuades me more by his criticism of the New Interpretation for being excessively reductionist . . . I think this criticism has some merit. For example, there may be a real role for a concept of the value of labor power independent of the ex post realized wage share in a fully developed Marxist theory."

18. See Foley (1982: 42–43; 1986: 15).

interpretations but neither for a choice nor a synthesis between them, as they are mutually exclusive.

In our view, the value of labor power should be understood as a simple abstract concept; as a *value* rather than as a use value or exchange value magnitude, whose more complex form as money wages and commodity purchases is constructed out of the historically and socially specific consequences of accumulation. Fine (1998a) has developed this understanding of the value of labor power in some detail in the context of labor market theory. Its constituent elements are reported here insofar as they bear on the positions adopted around the NI.

First, the value of labor power is neither a quantity of money nor goods but a quantity of value. The value of labor power is determined at the aggregate level through the exchange between capital and labor as a whole (i.e., as social classes), prior to the process of production. This is because at the most abstract level, advancing the value of labor power is a precondition for the production and realization of surplus value and, subsequently, the performance of labor and exploitation in production. Second, one of the consequences of accumulation is to raise the level of productivity through the production of relative surplus value. This has two effects. It tends to raise the rate of surplus value and lower the value of labor power (through providing wage goods with less value expended), but it also tends to increase the commodities that can be purchased with a given value of labor power as wage goods are cheapened. Thus, the accumulation of capital on the basis of a given value of labor power tends both to redefine (lower) the value of labor power and (increase) the wage bundle.

So far, we might appear to be concerned with elementary propositions concerning the sharing of productivity increases between capital and labor. But this is to jump to an outcome, that is, more money or more consumption, without examining the processes by which such outcomes are achieved, as is typical of the two unmediated approaches outlined previously. Third, then, there is an issue that cannot be addressed by either of the mutually exclusive standard approaches, namely, how do new customary standards become established? A start can be made by recognizing that consumption norms are differentiated between distinct sections of the population. They are not an average as such, even with some above and some below the norm. This norm is more appropriately understood in a more complex way; for the levels and incidence of consumption are determined as the outcome of continuing socioeconomic processes that grind out customary patterns of consumption. Fourth, what those patterns are and how they are determined are very different from one commodity to another. Food habits, housing, entertainment, and so on are not only differentially consumed, but the patterns and levels of consumption are the consequences of very different structures and processes of causation.[19] Nonetheless, each of these elements in the wage bundle is subject to change as a consequence of accumulation, with the exact outcome dependent on the complex determination of the value of labor power across these constituent elements.

The previous paragraph can be seen as a critique of the wage bundle approach to the value of labor power. It has its counterpart in the critique of the money approach. For the value of labor power should not be seen as an average quantity of money, with some work-

19. For a general argument along these lines, see Fine and Leopold (1993) and Fine (2002), and Fine, Heasman, and Wright (1996) and Fine (1998b) in the specific context of food.

ers paid more and some paid less. Rather, corresponding to the structure of employment, there are established patterns of remuneration both within and across enterprises, sectors, and occupations. The value of labor power is the basis on which the accumulation of capital interacts with, and influences, such structures and payment systems and overall levels and incidence of remuneration. Interaction and transformation occur through the socioeconomic processes explained, for example, in *Capital*: deskilling, reskilling, collective labor, formation of trade unions, and so on. The restructuring of labor markets, wages, and conditions of service is the other aspect (apart from consumption) of the redefinition of the value of labor power at a more complex level.

In sum, we claim that the value of labor power as a determinant of the price system cannot be legitimately constructed independently of the contradictory tendencies associated with the accumulation of capital, for which a complex analysis ranging over the dynamic structures of both consumption and employment is a precondition. In a nutshell, the value of labor power is an abstract category whose more complex and concrete reworking depends on addressing the specific nature of different commodities and the differentiation of the workforce. The NI, specifically, excises the mediation between the value of labor power and prices. By posing the value of labor power as a level of wages, the NI is guilty of chaotic abstraction in the ordering of concepts, as analysis moves between the spheres of production and exchange (and from abstract value to differentiated workers, consumers, and objects of consumption). This is not a matter of the more complex variation of the value represented by wages around the value of labor power over time in accordance with, for example, balance in the labor market. Rather, it reflects a direct identification of the rate of surplus value with distributive shares between profits and wages rather than the dialectical building up of such distributional shares out of the more abstract categories attached to production and its shifting conditions with the accumulation of capital.

5. Structure, Sequence, and Dynamics

As is implicit in the analysis of the value of money and labor power, one of the key characteristics of the NI is that it understands the capitalist economy in terms of a definite structure (production of value as opposed to its sale and purchase in exchange) and sequencing of activity across those structures. While this might appear to be an elementary insight, it opens up the important consequence that in contrast to most equilibrium approaches to the transformation problem, especially the Sraffian, the determination of values and prices does not take place simultaneously. For the NI, as was shown in section 4, the value of labor power is determined in exchange only after production has taken place and after the money wage and the value of money have also been determined.

Despite this important development for value analysis, the solution advanced by the NI forces an analytical wedge between variable and constant capital. In the absence of technical change, the NI preserves the value of constant capital in the passage from production to exchange, but the same is not true of variable capital. For the NI, the value of labor power is transformed because it contributes living labor that has to be evaluated after the event within exchange. Moseley (2000) has made this point the focus of his critique of the NI, claiming that it represents a major logical inconsistency. According to him, if the LEM were used to transform constant as well as variable capital, there would be no analytical problem with the NI and Marx's own transformation procedure in *Capital* would be confirmed as complete and consistent (312).

Foley (2000: 24) acknowledged this difficulty and attempted to bypass it by claiming that he is not averse to using the LEM to render "the money flow of purchases of intermediate outputs . . . [into] the labor time equivalent of the flow of constant capital." However, he admits (24–5) that there is "no plausible interpretation of the labor time equivalent of the constant capital or invested capital (since these measures will in general be equal neither to the historical labor embodied in the means of production, nor to the labor that would be required to reproduce them with contemporary technology)."

The issue runs deeper than the (in)consistency of the NI. If only variable capital were transformed through division by the LEM, the homogeneity of the labor expended during production would provide a logical and real foundation for the analytical procedure adopted by the NI. However, the NI would be open to charges of inconsistency. In contrast, if the release of dead labor during the same period were also transformed using the LEM, severe problems would emerge despite Foley's conciliatory statements. There is no logical or economic reason for treating labors expended at different periods in the past, in the several vintages of constant capital that have passed into the value of the current output, as immediately, directly, and generally equivalent with each other, as well as with labor expended in the current period, via division by the ratio of the flow of living labor to the price of current net output.

Deploying the LEM would completely disregard the real problems of achieving equivalence between dead and living labor. This is one of the most profound problems of capitalist accumulation and an endless source of disruption, upset, and disequilibrium. Different vintages of capital influence the competitiveness of capitalist enterprises and affect their product price. Competition brings technical change, which leads to sudden readjustment of capital values through the cheapening of their elements as well as "moral depreciation" (Saad-Filho 2002: chap. 5). These forcible and violent changes of valuation of capital are left entirely out of account when the value of constant capital is derived through the simple division of the price of constant capital by a value "transformer."

The NI's analytical choice of operation on the net rather than gross product is a direct consequence of its treatment of labor power. It claims that using the gross product would involve double counting of constant capital on each occasion that it was passed through exchange from one producer to another (Duménil and Lévy 1991).[20] This is, however, simply a red herring. For the double counting becomes an issue only because of the need for the NI to define value and price in aggregate and confront them with one another in determining, ex post, the value of money and the value of labor power. In that context, preventing double counting requires that only living labor be counted.

Attention to the issue of double counting has, in some respects, been both misplaced and misleading. For much more important than the technical issue of double counting for unchanged values are the implications for the NI of changes in values during capital accu-

20. "What is redistributed in the economy is the value created during each period, i.e. the value of the net product of the period. In the aggregate, productive workers expend in a given period of time a certain amount of labour which defines the added value during the period. This value is embodied in the net product of the period. The redistribution of value . . . must be interpreted on this basis, and not on that of the gross product of the period which leads to double-countings for inputs produced and consumed productively during the period or inherited from previous periods" (Duménil and Lévy 1991: 363).

mulation. In this case, the value of each commodity potentially changes in the passage from the purchase of labor power to the sale of output. Both constant and variable capital are devalued as commodities become cheaper: whatever the value with which they enter the production process, they leave with a different value. In this respect, there is no distinction between dead and living labor, although only living labor adds new value.[21]

The misplaced focus on the choice between net rather than gross product is a symptom of the NI's approach to Marxist political economy. In general terms, the NI seeks to confront problems in economic theory to carry out empirical work. In contrast, we claim that political economy ought to confront real processes to appropriate them in thought. At a more specific level, the NI's methodological stance has implications for the analysis of the contradictions of accumulation. For the NI, structured and sequential reevaluation is already incorporated within what is effectively a static economy. Consequently, the dynamics of accumulation can be added only by superimposition of transformed production conditions. The result is liable to be either a form of dynamic Sraffianism or a resort to post-Keynesianism: take one static model on the basis of given technology, confront it with another, and speculate about their differences. Alternatively, take one model and change the distribution of income, the state of expectations, or the structure of the banking system, and imagine the consequences. Analyses of this type are insufficient to explain the complex and contradictory tendencies attached to the accumulation of capital and how these are represented in and through exchange.[22]

Finally, the NI accepts that price is a relatively concrete expression of value. This carries the implication that analysis is pitched at the level of many capitals in competition (although the NI does not specify the nature of that competition). Nevertheless, across the NI, there is a chaotic mixture of levels of abstraction. Some are pitched at the most concrete level since they hold for each individual capital, while others are derived at the level of capital as a whole, but often for the totality of exchanges, which exists only at the most complex level.

These points can also be addressed from the perspective of appropriate abstraction in the context of sequencing or moving over the circuit of capital. Equation (1) seems to imply that for the NI, all forms of payment (sales, profits, and wages) can legitimately be treated as if they were simultaneous (see below). This assumption may appear realistic for an individual capital, although the treatment of wage payments as simultaneous with commodity sales is peculiar.[23] In addressing capital as a whole, however, the situation is more complicated because the revenues of all sectors of the economy should not, in general, be treated as if they were simultaneous. This assumption would, of course, involve a violent abstraction, since individual industrial cycles are necessarily sequenced relative to one another. Similarly, equation (3) not only splits out living labor alone as defining the value represented by money, but it does so by collapsing what are necessarily sequenced labors into being simul-

21. See Marx (1981: 259–61). In other words, neither double counting nor the divergence of input values from their prices can be used legitimately either for or against the NI. Proponents of the latter tend, however, to seize the evidence that Marx recognized these issues as signifying his unwitting support (despite his unambiguous and frequently repeated stance to the contrary).

22. For contributions in this vein, see Ernst (1982), Bellofiore (1989), and Naples (1989), whose sequenced disequilibria, however, arise on the basis of given production conditions.

23. Note that the timing of payment is not so much at issue as the timing of the exchange. The purchase of labor power must precede production even if payment is made with a lag (although only accidentally at the time of selling the commodities produced).

taneous. In the case of living labor, further abstraction is required to strip away the constant capital that is also realized when commodities confront money.

The use of abstraction to render sequenced activities simultaneous is inevitable in any theory and, as such, is not objectionable. However, the NI involves chaotic abstraction. It moves seamlessly between value and price and surplus value and profit, without regard to whether this conforms to the simultaneous movement from capital as a whole to individual capitals. Specifically, capital as a whole is restored at the level of the price system whenever this is convenient, even though the analysis has already moved to the more concrete level of individual capitals. The method of abstraction is also highly simplified with direct mediation between value and price, without the filling in of the intervening processes of determination. It is precisely such chaotic leapfrogging in abstraction that leads to the absence of the other considerations that we have brought to the fore: accumulation, technical change, the complex forms and functions of money, and the social and historical determination of the value of labor power (Gleicher 1989).

In sum, the NI brings macroeconomic processes to an abrupt halt once the value of labor power has been defined through the wage revenue. In a capitalist economy, the value represented by wage revenue is transformed once again after it has been spent. In other words, the economy starts with production and ends with exchange before, presumably, starting with production again. However, the NI disregards this transition. The problems this creates are glossed over through reliance on aggregate static conditions, as in equations (1) and (3), and in the lack of concern with the complexity of how values are transformed into prices. As with other assumptions about which values get transformed, how, and when, the exclusive focus of the NI on the passage from production to exchange is arbitrary. While collapsing levels of abstraction across the value/price relationship, the NI fixes its sights on a sociology of exploitation in which selective aspects of Marx's procedure of transformation are subject to piecemeal (and arbitrary) survival.

6. Conclusion

Two important features of the NI have endeared it to its supporters. First, it appears to offer support to Marx, albeit in a modified way given the direct mediation between value and price and the substitution of net for gross product in the aggregate identity between value and price. This only goes to show that appeal to Marx embodies a slippery rationale and needs to be handled with considerable caution. Second, because of its understanding of the value of labor power and the value of money, the NI allows, subject to data and conceptual refinement, for the immediate empirical measurement of Marxist categories not least because the rate of surplus value is construed to be identical to the ratio of profits and wages. However, once these measurements have taken place, it is far from clear what significance they have since they omit the contradictory processes by which the complex categories give rise to the data.

This limitation arises because the NI deploys a notion of abstract and concrete, or essence and form, which has only two layers: value as the essence and price as the form. Translation between them is immediate and unproblematic since using the LEM assumes that money represents value in a direct, unmediated, and ideally abstract manner, thus allowing the derivation of macroeconomic relationships. The neutrality of equations (1) to (3) with respect to price formation shows that the material structures, processes, and relations through which value becomes price are largely irrelevant for the NI, except as far as quantitative outcomes are concerned. It is as if the simple elaboration of the commodity form at the beginning of *Capital* is sufficient to address wages and profits, without prior attention to the production, distribution, and circulation of (surplus) value, technological change, conflicts over the labor process, and their influence on accumulation. In effect, the NI seems to imply that the bulk of the three volumes of *Capital* are only marginally (and unsystematically) relevant for the analysis of how the social relations attached to labor become translated into price relations between commodities. However, to collapse the mediated expression of value as price into the simple division of the total hours worked over the price of the total net product is to dissociate the formation of wages and profits from the complexity and significance of the real processes involved. In a sense, the NI is a theory of the commodity form applied directly to the wage-profit relationship, without otherwise elaborating the laws of capitalist production.

The way in which prices are built up out of abstract labor is extremely complex and requires a theory that appropriates that complexity. Constructing such a theory is not simply a matter of gathering together all the factors involved. For they have to be ordered in relation to one another, and the abstractions employed should be justified by demonstrating that they correspond to material relations, structures, and processes, rather than being ideal abstractions speculatively constructed in the mind. Consistency requires that the more complex categories of thought reproduce the simpler categories at a more concrete level, rather than undermining them.

For what is the point of a theory of value and price that takes no account of accumulation and of shifting productivity? How do we know that the NI, with its emphasis on redistribution as the means by which value becomes price, is compatible with what are, arguably, much more fundamental structures and processes within the capitalist system? While some contributors to the NI literature seem to be uninterested in such questions, others tend to presume that their approach is compatible with a full analysis of accumulation, although such compatibility is rarely, if ever, demonstrated in practice. Such a conclusion is strikingly illustrated by Duménil and Lévy (1993). Consideration of value theory is confined to an appendix of just two pages that bears no relationship to the remainder of their book, despite the coverage suggested by the title. In particular, their work includes the most abrupt and peculiar of dialectics:

> The transformation problem is not a problem of the derivation of prices of production from values. The knowledge of values is not helpful in the computation of prices of production. Actually, the relationship between values and prices is fully independent from the fact that profit rates are equalized. (48)

In this case, Marx's value theory is merely a sociology of exploitation:

> This does not mean, however, that the labour theory of value is irrelevant to the analysis of capitalism. On the contrary, it is crucial to the theory of exploitation. . . . The capitalist mode of production is simply a new variant of a class society based on the appropriation of surplus labour. . . . The concept of value is, thus, a necessary component of the theory of exploitation under capitalism, whose analysis was a primary purpose of Marx's work in *Capital*. (48–9)

No other purpose is demonstrated for value theory.[24] Instead, as in other works within the NI, the dialectical mediation between value and price, which has been excised at the outset, is reintroduced after the event. That can take the form of Sraffianism or the presumption that institutional and historical factors or state policy determine the price vector or other economic variables. The essentially exogenous nature of price determination allows more or less arbitrary attachment of a variety of economic principles, on one hand, and the more or less direct estimation of Marx's aggregate value categories through national income statistics and input-output data, on the other.

Although the NI represents an important advance over Sraffianism, in which price and value are simultaneous concepts derived from conditions of production and distribution, whatever advance has been made carries a heavy cost. While raising crucial issues for value theory around the form of value, the value of labor power, the value of money, and the structure, sequencing, and dynamics of the capitalist economy, the NI resolves none of them. Rather, it proceeds only by setting value theory aside and confining it to a (static) theory of exploitation.

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24. The same emphasis on value theory as confined to a theory of exploitation is explicitly revealed in Duménil and Lévy (2000).

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