The Monetary Issue in Bortkiewicz's setting of the Transformation Problem: Marx vs Ricardo

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ABSTRACT

In his famous solution of the transformation problem, Bortkiewicz assumed that gold served as measure of values and prices, and hence its transformation factor, denoted by z, had to be equal to 1. But he also assumed that gold was produced in the department operating with the smallest organic composition of capital in the economy. The result was that only one of Marx's two fundamental equalities was satisfied: the sum total of profits was equal to the sum total of surplus-values, but the sum total of prices (of production) was greater than the sum total of values. Thereby, after Bortkiewicz, the transformation problem was redefined: it did no longer consist in elucidating the profit rate equalisation process, nor in answering the contradiction allegedly involved in having prices diverging from values, but in trying to obtain the aforesaid equalities simultaneously. It has been argued that the monetary issue is a decisive aspect in this discussion. This paper sustains that Bortkiewicz's assumption $z = 1$ is in fact arbitrary since the notion of money used to justify it, Ricardo's notion of money, is incorrect—as Marx had observed. Once this is recognised, it becomes clear that z may differ from 1 without falling into inconsistency within Bortkiewicz's own transformation procedure. This suggests that the simultaneous verification of the two equalities is not so much related with the monetary issue as with the assumption that is chosen in order to solve the price system of equations that characterises this setting. This is, ultimately, a discussion about method.

[*] This paper is part of the doctoral dissertation *The Transformation of the Transformation Problem: Insights into the debate on the transformation problem from a methodological perspective*, which aim is to study the main changes in method and central concern that have taken place from the debate's initial formulation to the so-called 'traditional' or 'standard' transformation problem, viz.: from Marx's critique of Ricardo to Bortkiewicz's 'correction' of Marx. The subject of this paper belongs to the last phase, specifically to a discussion in which it is intended to show that the 'traditional' transformation problem (namely, the simultaneous satisfaction of the two fundamental Marxian equalities, as the debate was conceived after Bortkiewicz's 'correction') is in fact a false problem.

INTRODUCTION

In his *Correction* of Marx's transformation method, Bortkiewicz assumed that the transformation factor of the commodity serving as value and price (of production) unit, denoted by z, was equal to 1 (Bortkiewicz 1949 [1907], p. 202). Tacitly, this assumption implied that such commodity was money, and therefore, it was said to be gold, and the department producing it, department III, was said to operate with the smallest organic composition of capital in the economy.[1] The assumption that $z = 1$ would obey the self-evident principle according to which the price (of production) and the value of the money commodity cannot differ: 1 oz. of gold is equal to 1 oz. of gold regardless of whether values or prices are expressed; in other words, it cannot occur that 1 oz. of gold in the value-calculation system is equivalent to, e.g., 0.8 oz. of gold in the price-calculation system. Nevertheless, when Bortkiewicz's transformation algorithm was applied, only one of the so-called Marxian equalities was obtained: the sum total of profits was equal to the sum total of surplus-values, but the sum total of prices (of production) was greater than the sum total of values. This was interpreted as a challenge to the labour theory of value, and as a result the transformation problem was itself transformed: it did no longer consist in elucidating the profit rate equalisation process, or in addressing Böhm-Bawerk's criticism about the existence of a contradiction between *Capital* Vol. 1 and Vol. 3, but in finding a way in which the value of both inputs and outputs could be transformed into prices—namely, Bortkiewicz's 'correction'—while satisfying, at the same time, those fundamental equalities; or else, in finding a consistent explanation (consistent with Marx's theory) of why that did not happen. This became the 'traditional' or 'standard' transformation problem.

It is usually argued that the monetary issue is decisive to solve this transformation problem: that Bortkiewicz's result concerning the two equalities is connected with the fact that he uses monetary units instead of, for instance, labour-time units, i.e. that it has to do with the introduction of money into the transformation procedure (cf. e.g., Sweezy 1970 [1942] and Moszkowska 1979 [1929]). Our contention is that although it is true that the monetary issue is important for understanding Bortkiewicz's procedure and result, it is not true that this is what explains the non-satisfaction of the two equalities. A closer inspection of the treatment of money in Bortkiewicz's solution reveals that money is not really present, that the commodity serving as unit of value and price is not money—even if it is assumed to be gold. If this is the case, it means that in spite of what Bortkiewicz affirms, his transformation procedure contemplates barter not monetary units: commodities are exchanged directly for commodities. The reason behind this exclusion is the erroneous notion of money applied: Ricardo's notion of money. Bortkiewicz adopted Ricardo's notion of money, and with it the errors and deficiencies that Marx had observed in it. It follows that z may take a value different from 1 without this entailing an inconsistency within Bortkiewicz's own transformation procedure, for then there is no contradiction in affirming that the price and value of gold (if this is the product of department III) differ. This in turn implies that to solve Bortkiewicz's underdetermined price system of equations—to find absolute prices instead of relative prices—any assumption is (formally) valid, i.e. that the vectors that solve such system are infinite.

It is possible to show that the simultaneous satisfaction of the two equalities within this setting of the transformation problem depends on *(a)* necessary condition: the given technical conditions of production in the economy, i.e. the figures in the initial diagram in values. These conditions must be such that the organic composition of capital in department III (whose products are not inputs but final consumption goods) equals the social organic composition of capital;[2] *(b)* sufficient condition: the value assigned to the degree of freedom in the price system of equations, or what is the same thing, the assumption adopted to complete and solve the price system of equations. Either the coincidence between total price and total value or that between total profit and total surplus-value must be assumed from the outset. Naturally, if only the latter condition is fulfilled, only one equality will be satisfied: that which has been assumed. This is precisely Bortkiewicz's case, and it is also why his assumption $z = 1$ leads to an upward re-scaling of prices.[3] Conversely, if the necessary condition is fulfilled but the value assigned to the degree of freedom does not correspond to any of the sought equalities, then none of them will be satisfied.[4] It is therefore clear that the simultaneous satisfaction of the two equalities is not generally possible but constitutes, rather, a special case: if the necessary condition is not met—and there is no sound reason why it should be always met—then it is completely immaterial what assumption is adopted to solve the system of equations, the result will be that only the equality assumed is the equality satisfied. In this manner, the solution of the 'traditional' transformation problem depends on conditions that are given and/or decided from the outset, and not on the 'method of computation' applied. And since any assumption to solve the underdetermined system of equation is equally valid, the sufficient condition boils down to an arbitrary decision. These elements lend support to the assertion that this transformation problem, i.e. the 'traditional' transformation problem, is in fact a false problem.

To sum up, money is absent in Bortkiewicz's setting of the transformation problem, meaning that the simultaneous satisfaction of the Marxian equalities is unrelated with the monetary issue, and consequently z may take a value different from 1 since, in any case, there is not a unique, correct criterion for choosing the value of the degree of freedom to solve the system of equations. That absence is what this article discusses, taking into account for that Marx's treatment of money and the criticisms that he raised against Ricardo's. As is known, the failure to include money into the analysis is, by itself, in contradiction with Marx's theory, for it implies the consideration of money not as an organic part of the capitalist economy, but as something external, supplementary to its working and nonessential for its understanding—nay, as something that obscures that understanding.

BORTKIEWICZ'S SETTING AND RICARDO'S NOTION OF MONEY

Two things are to be noticed. First, the figures in Bortkiewicz's diagram in values (before transformation) are supposed to be already in monetary terms: they are hence prices, simple prices.[5] This calls attention to the fact that money functions as unit of account and measure of values before functioning as medium of circulation, which means that money, although a commodity, is a special commodity, a commodity to which the rest of commodities have assigned the role of general equivalent: its materiality, its use-value, is the expression of the value of all the other commodities. As a result, the use-value of the money commodity unfolds: on the one hand, it is a use-value like any other, which can serve as input for industrial production or satisfy final demand; on the other hand, it is a general use-value, a materiality that serves as the equivalent form of the value of the rest of the commodities. It is the latter what constitutes a social function, i.e. what makes it into money. So, even before exchange, or better said, necessarily before exchange, the commodities have a price: an ideal amount of the money commodity for which they are to be exchanged. Circulation, i.e. the actual sale of the commodity, confirms or denies that price. This is the 'market test' that every commodity has to pass for its value to be realised: the private labour expended in its production must be legitimised, recognised, as socially necessary labour. This is the result of the organisation of the social production as commodity production; and it is here where money functions as medium of circulation, as *realisator* of values (and prices). The discrepancy between demand and supply, which is translated into deviations of market-prices from (social) values, is what triggers the redistribution of the social labour among the activities through the movements of capital from one sector to another.[6]

Second, in Bortkiewicz's diagram the production of the commodity regarded as money is included next to the production of the rest of the commodities: money is considered as a commodity as any other, and therefore, as a simple medium of circulation, viz. commodities exchange directly for commodities.[7] Nevertheless, as previously said, "commodities are assessed in money before it circulates them" (*MECW* 1989, Vol. 31, p. 425), for "the rate at which two commodities exchange does not determine their value, but their value determines the rate at which they are exchanged." (*MECW* 1989, Vol. 32, p. 319) Neither the value of the commodity expressing its value in the money commodity, nor that of the money commodity (which is not expressed in the simple exchange relationship), are decided in the moment they are exchanged, for then the expression of the value of one through the use-value of the other would not be possible: "the value of A could not be expressed in B before it had been exchanged against B." (*Idem*). Commodities enter circulation with a price, and the money commodity with a specific value, which means that the latter is not only a medium of circulation, but also, and before that, a unit of account and measure of values.

The idea that money is a mere instrument of circulation, and therefore exchanges as a commodity for commodities, leads ultimately to the quantity theory of money, which Ricardo also sustained. According to this theory, the price of the commodities depends not on their production conditions (on their values), but on the amount of money that is in circulation at any given time. As is known, Marx denied this theory on the basis of the labour theory of value; whereas the latter was denied as a result of Ricardo's notion of money. Thus, Marx showed that the amount of money in circulation depends on the sum-total of prices—which depend on the value, i.e. the production conditions, of the commodity money—and not the other way around: "It is not the *greater amount of gold* in circulation after, for example, the discovery of new richer or of easier extraction deposits, what causes the increase in prices as the classical theory explains, but the fact that gold can be *produced at a lower cost*." (Gill 2002, pp. 156-157. Italics of the author. The translation is ours). In other words, prices increase because the value of the money commodity falls; the increase in prices is the result not of "a surplus of gold in circulation, but of an increase in the productivity of labour in gold mining and a consequent fall in the value of gold" (Pilling 1980). The dependence of the variables in the quantity theory of money, viz.: $p.Q = M.v$ (where p denotes individual price, Q the total amount of commodities produced, M the total mass of money circulating, and v the velocity of circulation of money), is thereby reversed. The quantity of money in circulation (M) is a function of the total value of the product ($p.Q$)—assessed in prices, i.e. divided by the value of the money commodity—and the velocity of circulation: $M = \frac{p.Q}{V}$. In criticising the quantity theory of money, "Marx shows that only the quantity of full-value money actually needed enters circulation and this quantity is fixed spontaneously, according to the law of value. Money (gold) has its own value, formed in production before the process of circulation. It fulfils its function as the measure of value of commodities before the direct act of purchase and sale." (Pilling 1980) Since commodities enter circulation with a price and money with a value, "it is thus impossible for the quantity of gold money to be more or less than that needed." (*Idem*)

The notion of money as a mere medium of circulation, leaving aside its primary function as measure of values, is part of Ricardo's ahistorical (analytical) method, which led him to a one-sided understanding of money:

> It was not, for him [Ricardo], a necessary form of the existence of the commodity in which the contradictory nature of the labour embodied in the commodity (abstract and concrete labour [which also implies the contradiction between social and private labour inherent in commodity production]) must manifest itself in exchange-value, as general social labour. Money was, for the Ricardians, a means for effecting the union of purchase and sale, of the buyers and sellers of products. The exchange of commodities was transformed unwittingly into the mere barter of products, of simple use-values… And implied here was the denial of any possibility of capitalist crisis. (*Idem*)

In this manner, the basic historical condition of the capitalist production, namely "that the product of labour must assume the commodity-form, and therefore this product must express itself in the alienated form of money" (*idem*), is omitted.

From the presence of the money commodity within the same diagram next to the rest of the commodities, when all of them are already expressed in monetary terms, it follows a contradictory result: either there is a double unit of account, i.e. a double measure of values; or the money commodity takes both the relative (exchange-value) and equivalent (use-value) forms of value at once, i.e. it expresses its value and at the same time serves as the expression of the value of all the other commodities. This is nevertheless impossible, "for in this case the need for exchange disappears." (Ilyenkov 1982, Ch. 5) It entails the abolition of the commodity-money polarity, the idea that any commodity can be directly exchanged for any other (barter): the absolute exchangeability of each and every commodity without the need of the mediation of money—with which the regulating role of value (namely, the distribution of social labour among the different productive activities) in a social organisation without ex-ante coordination or plan, would be non-existent. Commodity production itself would be impossible.

In short, in Bortkiewicz's initial diagram, the figures are supposed to be prices. This is consistent with the fact that commodities enter circulation with a price. But if the product of department III is said to be money, then it means that a double measure of values is involved. On the other hand, if the product of department III is regarded money, then it means that it is produced next to the rest of the commodities, that is one commodity more, and therefore that it exchanges as a commodity for commodities. This would imply, however, that commodities do not enter circulation with a price, and consequently, that the polarity between commodity and money is non-existent. These contradictory implications are part of the critique that Marx formulated against Ricardo's treatment of money—a discussion that is a matter of method. We examine these implications in more detail next. As this examination will show, they stem from the same confusion: the identification of money with a simple *numeraire*.

A DOUBLE MEASURE OF VALUES

Let us provide an example to illustrate this point. Assume that the unit simple price (the monetary expression of value) of the commodities in Bortkiewicz's diagram are, respectively:

$$w_1 = 1.5\,mu, \qquad w_2 = 1\,mu, \qquad w_3 = 0.625\,mu$$

and that 1 unit of labour-value, say one hour of socially necessary labour, is equivalent to 1 monetary unit (mu). This means that each unit of money commodity (e.g. 1 $oz.$ of gold), each monetary unit, is produced in one hour of socially necessary labour. As in Bortkiewicz's diagram, the values of the commodities are already expressed in monetary units, they are prices (although not yet prices of production), and the sum of these prices, which is equivalent to 3.125 hours of socially necessary labour, is $3.125\,mu$, provided that only one unit of each commodity is produced in the period considered.[8] Let us assume in addition, following Bortkiewicz's logic, that commodity 3 plays the role of medium of circulation, such that the exchange rates are:

$$\frac{w_1}{w_3} = 2.4, \qquad \frac{w_2}{w_3} = 1.6$$

i.e. a unit of commodity 1 is equivalent to 2.4 units of commodity 3, and a unit of commodity 2 is equivalent to 1.6 units of commodity 3. The values of commodities 1 and 2 appear as measured in terms of commodity 3. If now we assume that prices rise whereas the structure of production in the economy remains unchanged, viz.:

$$w_1 = 2.4\,mu, \qquad w_2 = 1.6\,mu, \qquad w_3 = 1\,mu$$

each price has been multiplied by 1.6, and the sum total of prices is now 5 mu. Still, the exchange ratios between the commodities, i.e. when their values are expressed in terms of commodity 3, have not changed, they are 2.4 and 1.6, respectively (while, logically, one unit of commodity 3 exchanges for one unit of commodity 3). There seems to exist thus a double measure of values, an unequal measure, for when the value of the commodities are expressed in money terms their prices change, but they remain unchanged when expressed in terms of commodity 3.

Yet, commodity 3 plays here the role of medium of circulation, not of general equivalent, i.e. it is not the measure of values, but a simple *numeraire*. Hence, what has changed is not the value of the commodities, their conditions of production, but the value of the general equivalent, of the money commodity—which production does not appear next to the production of the others commodities, i.e. 'within the diagram'—, and this is why all prices have increased. Since now 3.125 hours of socially necessary labour is expressed in 5 mu, and not in 3.125 mu as before, or what amounts to the same thing, since one hour of socially necessary labour is now equivalent to 1.6 mu and not to 1 mu, it is clear that 1 mu is now produced not in 1 hour, but in 0.625 hours. The value of the money commodity, say gold, has decreased, and as a result the values of the commodities are expressed in a greater amount of it, for "when gold rises or falls in value, from whatever causes, then it does so to the same extent for all the commodities which are assessed in it" (*MECW* 1989, Vol. 31, p. 425), provided that no change has occurred in the production conditions of these other commodities. A change in the value of money modifies the prices of all the commodities and not only of some of them while leaving others intact, for otherwise there would indeed exist a double measure of values. And still, "gold always renders the same service as a fixed measure of price, however much its value may vary… a change in the value of gold does not prevent it from fulfilling its function as measure of value. The change affects all commodities simultaneously, and therefore, other things being equal, leaves the mutual relations between their values unaltered, although those values are now all expressed in higher or lower gold-prices than before." (Marx 1976 [1867], p. 193)

The sum total of the prices appears now to be greater than the sum total of values, but since prices and values are measured in different units, viz. monetary units and labour-time, this comparison is not really valid: 5 mu are equivalent to the same quantity of socially necessary labour-time as 3.125 mu was before the change in the value of the money commodity, but now every hour of socially necessary labour is equal not to 1 but to 1.6 mu. This is what may seem to be behind Sweezy's statement that the divergence between sum total of prices and sum total of values in Bortkiewicz's method is not significant.[9] However, that is not true, not only because for it to be so it would be necessary that Bortkiewicz's transformation from values into prices of production included a conversion from values in labour-time to prices of production in money units (as with Tugan-Baranovsky), for it is not possible to compare prices (whether simple prices or prices of production) with values in labour-time; but also because it is not possible to compare prices of production with simple prices on the basis of their unit of account. The comparison between prices of production and simple prices entails the redistribution of surplus-value, i.e. the equalisation of profits, and not a mere conversion of units of account. If the value of the money commodity were to decrease (e.g. if the productivity of the industry producing it increased due to a larger organic composition), then both simple prices and prices of production will rise, but this is a different thing from the process of transforming the former into the latter. Besides, even if all the figures were expressed in labour-time, the equality between total values and total prices (both in labour-times) would still not hold, because what Bortkiewicz does to solve the system of equations amounts to an arbitrary increase in the organic composition of department III to the level of the social average organic composition, while, at the same time, that organic composition remains the smallest in the economy. This inevitably results in prices of commodities 1 and 2 higher than their respective values, whereas the price of commodity 3 is equal to its value (cf. note 3). As discussed above, that sum total of prices is greater than sum total of values in Bortkiewicz's procedure is the result of the assumption $z = 1$ together with the given production conditions, i.e. the specific set of figures in the case studied. If under these conditions the equality assumed was total prices (of production) equal to total values, then, of course, the latter will be the one 'obtained', whereas the other equality will be disrupted. In short, both of them will not be simultaneously satisfied. It is not, in other words, a monetary issue, even if that assumption is justified by referring to the latter. In the end, regardless of what the unit of account is, commodities exchange for commodities, while the value assigned to the degree of freedom to solve the system of equations can be any. What constitutes a problem in Bortkiewicz's transformation method as far as the monetary issue is concern is, rather, his consideration of commodity 3 not as a *numeraire* but as the money commodity.

If we were to assume instead that what changes is the value of commodity 3, that the socially necessary labour-time to produce it has increased from 0.625 to 1 hour, *ceteris paribus*, then the exchange relations would be:

$$\frac{w_1}{w_3'} = 1.5, \qquad \frac{w_2}{w_3'} = 1$$

where $w_3' = 1\ mu = 1$ hour. Each unit of commodities 1 and 2 would exchange for less units of commodity 3 than before, and yet their prices would remain the same, viz. 1.5 mu and 1 mu, respectively, for neither their production conditions nor those of the money commodity have been modified. In this case, the sum total of prices would be 3.5 mu equivalent to 3.5 hours of socially necessary labour.

Once again, this would entail a contradiction if commodity 3 were considered not as a simple *numeraire* but as the general equivalent, because then it is not possible to have changes in the prices of the commodities as expressed in units of commodity 3 while, at the same time, their prices in monetary terms have remained unchanged, unless two different measures of values existed.[10] But the role of general equivalent is the exclusive function of one and only one commodity. Two commodities cannot be money, and it is precisely because of this that commodities can be compared with one another through the mediation of money, i.e. that a *numeraire* can exist. One commodity has, in this case, to be *numeraire*, and this is a commodity like any other.

It follows that in Bortkiewicz's method, the product of department III may assume the role of *numeraire*, but not of general equivalent. In fact, it cannot be so as long as appears next to the rest of the commodities, for money "is not a commodity among others. It is a commodity to which all others have given the status of money, a status that is qualitatively different from that of the simple commodity because all the commodities must be able to be transformed into it for its social existence to be recognised. Money is the general equivalent of the commodities, but this relation of equivalence is a relation of polarity." (Gill 2002, p. 184. The translation is ours) To be money, a commodity has to be 'excluded from the diagram', and its production treated as a special case.

When commodity 3 is not seen as the general equivalent but as a commodity like any other, even if it plays the role of *numeraire*, then its price of production may well diverge from its value, i.e. z may have a value different from 1 without falling into contradiction. Only if commodity 3 is conceived as the general equivalent is that $z \neq 1$ constitutes a contradiction. Put differently, only because Bortkiewicz's, following Ricardo's notion of money, confuses a *numeraire* with the general equivalent is that $z \neq 1$ seems to be a contradiction. But such contradiction does not exist because a *numeraire* and the general equivalent are two different things. A *numeraire* implies barter, which is possible in commodity production only because of the existence of a general equivalent.

Furthermore, insofar as price is the monetary expression of value, it is clear that the expression 'price of money' cannot exist without being a tautology, unless its value is measured with respect to something else. As Marx put it:

> The *price* of the commodity which serves as a measure of value and hence as money, does not exist at all, because otherwise, apart from the commodity which serves as money I would need a second commodity to serve as money—a double measure of value. The relative value of money is expressed in the innumerable prices of all the commodities, for in each of these prices in which the exchange value of the commodity is expressed in money, the exchange value of money is expressed in the use value of the commodity. There can therefore be not talk of a rise or fall in *the* price of money. I can say: the price of money in terms of wheat or clothes has remained the same; its price in terms of cotton has fallen. But I cannot say that the *price* of money has risen or fallen. But Ricardo actually maintains that, for instance, the price of money in terms of cotton has risen or the price of cotton in terms of money has fallen, because the relative value of money has risen as against that of cotton while it has retained the same value as against clothes and wheat. Thus the two are measured with an *unequal* measure. (*MECW* 1989, Vol. 31, p. 426. Italics of the author)[11]

In order to know the value of the money commodity it is necessary to reverse the prices of all the commodities, i.e. the exchange relations of commodities for money, such that the 'price' of money appears as different amounts of different commodities. In this manner, the money commodity assumes the relative form of value while the simple commodity against which its value is expressed, the equivalent form of value; otherwise that 1 oz. of gold is equal to 1 oz. of gold does not provide any information. But just as with the simple prices of the commodities, the same can be done with their prices of production. The reversion of the price of production of a commodity would give us the 'price of production' of the money commodity in terms of it, which would generally diverge from its 'simple price' on account of the equalisation of profits. At the aggregate level, however, they will coincide for not a change in magnitudes but a mere redistribution has taken place, i.e. the divergences cancel each other out. But since the commodities against which money is measured are not homogenous, i.e. they are different use-values, they cannot be summed up. To do so, they need to be first reduced to a common, immanent, measure, namely the social labour-time, with which we would obtain the monetary equivalent of social labour-time.

This was the link that, due to his ahistorical methodology, Ricardo could not grasp, for to operate such reduction it is essential to understand money as the necessary mediation in an economy where labour is carried out privately: the products of private labour need to be validated, to be sold; and this sale is not guaranteed from the outset. Hence the necessary character of money.[12] Both functions of money, measure of values and medium of circulation, operate at the same time and in a highly complex manner in the transformation from values into prices of production. While the commodity has a price (that may tend to the market-value) before being sold, that price may change when the sale takes place in agreement with the social need (demand and supply) and the imbalances among the productive spheres (the different rates of profits). This is what triggers the equalisation of profits, which involves capital movements from one sector to another.

Moseley (2005), in the context of the debate on the transformation problem, has correctly raised the point of money not having a price, and has attempted to propose a way to deal with the special case of the industry producing money. However, in our opinion, his treatment is not entirely satisfactory. He overlooks the fact that both the 'price' and the 'price of production' of money may be found by reversing the exchange relations between money and the commodities produced in the economy, that is to say, that the same commodity may, in different moments, assume the relative and the equivalent forms of value. This is why, for him, under no circumstance can gold express its value in something different from itself. Actually, in his analysis, he replaces the assertion 'money has no price' with 'gold has no price', with which gold is seen as having only one use-value, to be money, and not a use-value as a simple commodity (as input for production or as consumption good). Moreover, he adopts Ricardo's assumption according to which the money commodity is always produced under the social average technical conditions (just like Winternitz 1948 and Moszkowska 1979 [1929]), with which money is transformed into an 'invariable' measure of value. This is because Moseley, in this article, does not question Bortkiewicz's Ricardian settings of the transformation problem, which not only entails the withholding theory (i.e. the equalisation of profits not as the redistribution of the surplus-value created by surplus-labour, but as the imposition of a rate of profit determined only by the sectors producing workers' consumption goods), but also that the production of money appears within the same diagram as the production of the rest of the commodities, as a commodity like any other. In this manner, like Bortkiewicz, he falls into the confusion of *numeraire* and general equivalent, confusing at the same time Marx with Ricardo.[13]

THE COMMODITY-MONEY POLARITY

As mentioned before, the relation of equivalence between commodity and money is a relation of polarity, a relation in which the two extremes are mutually exclusive. This is what the genesis of money reveals: what triggers the development of money, the appearance of money in commodity production, is the presence of a struggle within the commodity.

A commodity cannot express its own value in isolation, by itself, it needs to relate to another commodity in order to do so.[14] It is only through the materiality of the latter that the former can express its value. Thus, the simple form of value, i.e. the direct, casual exchange of a commodity with any other, is also the simple form of appearance of the contradiction between use-value and value contained in the commodity (cf. Marx 1976 [1867], p. 153). According to Marx, the simple form of value conceals the whole mystery of the value form, and consequently, the nature and development of money:

> Here two different kinds of commodities (in our example the linen and the coat) evidently play two different parts. The linen expresses its value in the coat; the coat serves as the material in which that value is expressed. The first commodity plays an active role, the second a passive one. The value of the first commodity is represented as relative value, in other words the commodity is in the relative form of value. The second commodity fulfils the function of equivalent, in other words it is in the equivalent form. The relative form of value and the equivalent form are two inseparable moments, which belong to and mutually condition each other; but, at the same time, they are mutually exclusive or opposed extremes, i.e. poles of the expression of value… I cannot, for example, express the value of linen in linen. 20 yards of linen = 20 yards of linen is not an expression of value. The equation states rather the contrary: 20 yards of linen are nothing but 20 yards of linen, a definite quantity of linen considered as an object of utility. The value of the linen can therefore only be expressed relatively, i.e. in another commodity. The relative form of the value of the linen therefore presupposes that some other commodity confronts it in the equivalent form. On the other hand, this other commodity, which figures as the equivalent, cannot simultaneously be in the relative form of value. It is not the latter commodity whose value is being expressed. It only provides the material in which the value of the first commodity is expressed. Of course, the expression 20 yards of linen = 1 coat, or 20 yards of linen are worth 1 coat, also includes its converse: 1 coat = 20 yards of linen, or 1 coat is worth 20 yards of linen. But in this case I must reverse the equation, in order to express the value of the coat relatively; and, if I do that, the linen becomes the equivalent instead of the coat. The same commodity cannot, therefore, simultaneously appear in both forms in the same expression of value. These forms rather exclude each other as polar opposites. (Marx 1976 [1867], pp. 139-140)

As soon as a commodity functions as the equivalent in the value equation, its value magnitude stops being expressed, and it only figures as a certain quantity of some other commodity: its "use-value becomes the form of appearance of its opposite, value." (*Ibid*, p. 148)[15] This is why the value of a commodity can only be expressed in its relationship with another commodity, when it is equated with it. A commodity cannot serve itself as equivalent, its own materiality cannot be the expression of its own value, just as a kilogram of iron, for instance, which is used to measure the weight of things in a scale, cannot serve to measure its own weight. The iron is, within this relationship, the bodily expression of weight, its form of manifestation; and can only play this role when in a relationship with things that have weight, for otherwise no comparison is possible. Similarly, to be the equivalent form of value, i.e. the expression of value, is a property that a commodity acquires only within its relationship with another and not something that springs from its own physical shape and characteristics. Such relationship must necessarily be, in addition, a relationship between commensurable things. "Here, however, the analogy ceases. In the expression of the weight of the sugar-loaf, the iron represents a natural property common to both bodies, their weight; but in the expression of value of the linen the coat represents a supra-natural property: their value, which is something purely social." (*Ibid*, p. 149)

That a commodity needs another commodity, different from itself, to express its value, i.e. the relative form of value, "indicates that it conceals a social relation" (*Idem*). The equivalent form of value, however—inasmuch as there is not another commodity next to it expressing its value—, obscures this fact by seeming to take the property of expressing value, and of 'being' value, from the nature, the materiality, of the commodity playing this role, and in so doing, it is mystified: "The coat… seems to be endowed with its equivalent form, its property of direct exchangeability, by nature, just as much as its property of being heavy or its ability to keep us warm. Hence the mysteriousness of the equivalent form, which only impinges on the crude bourgeois vision of the political economist when it confronts him in its fully developed shape, that of money." (*Idem*) From here emerges the general belief that gold is money because it is gold, i.e. because it has an 'intrinsic' value, and this is why the other commodities express their values in it; when in fact gold is money because the other commodities express their values in it, even if gold is chosen as money due to its physical characteristics—since they make it adequate for this role.

But the simple form of value encloses a contradiction: from the standpoint of the owner of linen, the coat serves as the material in which the value of his commodity is measured, expressed. Nonetheless, the owner of the coat is in all aspects equal to the owner of linen, and consequently, from his perspective the opposite is true. Thereby, each commodity measures its value in the other whilst serving, at the same time, as the matter in which the other's value is measured. Each commodity "mutually presupposes that the equivalent form of value is realised in the other commodity, the very form in which the latter can no longer be because it is in the relative form." (Ilyenkov 1977, p. 212) The simple mutual relation of the two commodity owners implies that each commodity is simultaneously in the relative and the equivalent form of value. Each commodity is a useful thing and a social thing: each is use-value and value at the same time. But this cannot occur. In the hands of the same person a commodity can be either value or use-value, exchanged or consumed, but not both at once. The internal struggle of the commodity is thus exposed, viz. "the inner relation of a commodity to itself, outwardly revealed through the relation to another commodity. The other commodity plays only the role of a mirror in which the inwardly contradictory nature of the commodity that expresses its value is reflected." (*Ibid*, p. 214) Since under these conditions value cannot be expressed, nor can its nature be grasped, exchange cannot take place without conflicts, hindrances. The contradiction has to be resolved (even if temporarily) for the commodity to move, i.e. for commodity production to exist. Value and use-value must unfold, be distinguished from one another in different bodies. Hence the material, objective need for the simple form of value to evolve.

The simple form negates its singularity by expressing the value of the commodity not in one but in a series of commodities of a different kind, by transforming all the other commodities into equivalent forms. This transformation takes place automatically since to express its value a commodity needs only the presence of a second commodity, and "what this second commodity is, whether it is a coat, iron, corn, etc., is a matter of complete indifference." (Marx 1976 [1867], p. 154) E.g.: 20 yards of linen = 1 coat, or = 10 lb. tea, or = 40 lb. coffee, or = 1 quarter of corn, or = 2 ounces of gold or = $\frac{1}{2}$ ton of iron, or = etc. (cf. Marx 1976 [1867], p. 155); "the number of such possible expressions is limited only by the number of the different kinds of commodities distinct from it." (*Idem*) The casual expression of the value of a commodity is thus "transformed into the indefinitely expandable series of different simple expressions of that value." (*Idem*)[16] This form is what Marx called the total or expanded form of value, which possibility was latent within the simple form of value.

With this form, the existence of a common element between the two commodities, viz. a third thing to which they are both equal and which "in itself is neither the one nor the other" (*ibid*, p. 127) can be detected. The commodities must be reducible to this third thing, for otherwise they would not recognise each other as equivalent and therefore they could not be exchanged. Value starts thus to transpire, and with it, its constituent substance: undifferentiated labour. "The labour that creates it is now explicitly presented as labour which counts as the equal of every other sort of human labour, whatever natural form it may possess, hence whether it is objectified in a coat, in corn, in iron, or in gold." (*Ibid*, p. 155)

In the expanded form of value, the individual commodity is equated with the whole world of the commodities, which indicates that its equation with any particular one of them is not accidental. "The value of the linen remains unaltered in magnitude, whether expressed in coats, coffee, or iron, or in innumerable different commodities… It becomes plain that it is not the exchange of commodities which regulates the magnitude of their values, but rather the reverse, the magnitude of the value of commodities which regulates the proportions in which they exchange." (*Ibid*, p. 156) But this form of value is still insufficient, incomplete, for not only the relative expression of value of the commodity can be continuously expanded by newly produced commodities, but also because the equations expressing its value are disconnected from one another. Besides, only one commodity at a time can express its value, since all the others assume, with respect to it, the equivalent form. An expression of value common to all the commodities is absent. The different use-values in which the value of a commodity is expressed represent different specific, useful, concrete labours, i.e. labours of a particular kind, and "not an exhaustive form of appearance of human labour in general." (*Ibid*, p. 157) Because it is nothing more than a series of different equations of the first form, the expanded form of value is unable to express value in a single form. Nevertheless each one of these equations “implies the identical equation in reverse: 1 coat = 20 yards of linen, 10 lb. of tea = 20 yards of linen, etc.” (*Idem*) Thus, by reversing the series of simple form equations that compose the expanded form, the general form of value is attained. The value of all other commodities is now expressed in the use-value of one single commodity, i.e. it is expressed in a simple and unified form, in a form common to them all. The commodity in the equivalent form of value becomes, in this way, the general equivalent.

> The new form we have just obtained expresses the values of the world of commodities through one single kind of commodity set apart from the rest, through the linen for example… Through its equation with linen, the value of every commodity is now not only differentiated from its own use-value, but from all use-values, and is, by that very fact, expressed as that which is common to all commodities. By this form, commodities are, for the first time, really brought into relation with each other as values, or permitted to appear to each other as exchange-values… The general form of value… can only arise as the joint contribution of the whole world of commodities. (*Ibid*, p. 158)

The use-value of one commodity is now the expression of value in general, and the concrete, private labour that produced it, the expression of abstract, social labour. The concrete labour that produces the commodity serving as general equivalent becomes the expression of abstract labour, reflecting its own abstract quality of being labour: “concrete labour becomes the form of manifestation of its opposite, abstract human labour.” (*Ibid*, p. 150) The equivalent form proves thus to be the necessary mediation between concrete and abstract labour, but also between private and social labour: it expresses the *ex-post* relation of coordination among private individual producers in an economy where labour is not immediately social. This is why commodity production is bound to evolve money.

The commodity functioning as universal equivalent acquires this role because the rest of the commodities—including the newly produced ones—appoints it as the bodily expression of their values, bestowing on it social validity. In other words, a commodity can perform this role only if it “is excluded from the ranks of all other commodities.” (Marx 1976 [1867], p. 162) And only when this exclusion becomes restricted to one commodity, money comes into existence. History has indeed bestowed that role on one particular commodity on account of its physical characteristics: gold.[17] But “gold confronts the other commodities as money only because it previously confronted them as a commodity… As soon as it had won a monopoly of this position in the expression of value for the world of commodities, it became the money commodity, and only then… the general form of value come to be transformed into the money form.” (Marx 1976 [1867], pp. 162-163) Finally, when the value of all other commodities is expressed in the money commodity, the price-form emerges. Money is thus “not a thing but a particular form of value.” (Marx 1981 [1894], p.1003)

In the general form of value, and *a fortiori* in the price-form, the polarity between the relative form and equivalent form becomes acute, palpable. In the simple form, each of the two commodities could be placed now in one now in the other extreme by only reversing the equation. The antagonism between the two was thereby not so easily grasped. In the expanded form, because all the commodities with the exception of one were placed in the equivalent form pole, it was not possible to reverse the equation without modifying the quality of the value form, without transforming it into the general form. But in the general form the opposite is the case: all commodities except one appear in the relative form pole, and therefore, they are excluded from the equivalent form pole. A single commodity is placed in the latter, and consequently is excluded from the general relative form pole. Thus, in the example considered above, the total sum of prices was $3.125\ mu = 3.125$ hours, and not $6.25\ mu = 6.25$ hours. In other words, the total sum of prices expressed the socially necessary labour-time to produce commodities $1, 2$ and 3, but not that to produce the monetary units in which their values were expressed. The money commodity was excluded from this total sum, for the money commodity is excluded from the total mass of commodities expressing their values in it.

It is by this exclusion that the general equivalent acquires the social form of direct exchangeability with the rest of the commodities, i.e. the mediation through which any commodity can be transformed into any other. The polarity between relative form and equivalent form is now expressed as the polarity between commodity and money. In other words, use-value and value are separated into commodity and money. But this has a powerful implication. While the mediation solves the commodity's internal struggle, for now its value can be expressed and consequently realised, the commodity can only be confirmed as bearer of value if it is transformed into money, if it is sold. This means that the conflict is not really solved but merely placed 'outdoors', in circulation. With the appearance of money exchange splits into two moments: sale—which transforms use-value into value—and purchase—which transforms value into use-value. If the separation between these two moments becomes severe, the actuality of their unity, i.e. of being the two sides of the same relation, makes itself be felt violently through crises. Thus, money allows exchange but it does not guarantee it, it does not solve the antinomy within the commodity but gives it a new form of expression. Hence the persistence of conflict and the possibility of crises.[18]

Still, as Marx points out, it is "by no means self-evident that the form of direct and universal exchangeability is an antagonistic form, as inseparable from its opposite, the form of non-direct exchangeability, as the positivity of one pole of a magnet is from the negativity of the other pole." (Marx 1976 [1867], p. 161n.) It is precisely the failure to identify this conflict what gives place to the false perception that "all commodities can simultaneously be imprinted with the stamp of direct exchangeability" (*idem*), that commodities can be directly exchanged with one another, and that the money commodity is just one of them, in fact any of them. This is what Ricardo's notion of money involves. When Bortkiewicz includes in his single-period diagram what he regards as the general equivalent—and not as a *numeraire*—next to the rest of the commodities, he confuses the relative form with the equivalent form of value: the money commodity appears to be expressing its value like any other commodity while being, at the same time, the expression of value of all the others, i.e. it appears as equivalent to itself. This is tantamount to eliminating the commodity-money polarity—which would ultimately eliminate commodity production itself. As already asserted, the money commodity cannot appear within the same diagram, next to the rest of the commodities. If it does, then it cannot be the money commodity but a simple *numeraire*. This suggests, once again, that the alleged contradiction involved in assuming that $z \neq 1$ is false, for it is based on the merging of the two forms of value, on the abolition of their polarity. The product of department III, and of any other department in the diagram, can only assume the relative form of value—even if that product is said to be gold.

> If the linen, or any other commodity serving as universal equivalent, were, at the same time, to share in the relative form of value, it would have to serve as its own equivalent. We should then have: 20 yards of linen $=$ 20 yards of linen, a tautology in which neither the value nor its magnitude is expressed. In order to express the relative value of the universal equivalent, we must rather reverse the form C [the general form]. This equivalent has no relative form of value in common with other commodities; its value is, rather, expressed relatively in the infinite series of all other physical commodities. Thus the expanded relative form of value, or form B, now appears as the specific relative form of value of the equivalent commodity. (*Ibid*, p. 161)

It is therefore clear that the genesis of the money commodity is different from that of the simple commodity. Only the study of the genesis of money can dissolve the illusion of the direct exchangeability of the commodities, viz.: the study of how and why a commodity assumes that social function. The latter necessarily requires to regard commodity production in its movement, as a socio-historical form, and not to regard exchange as an isolated event: namely, the elucidation of the nature of value as distinct from exchange-value, the understanding of the cause which makes products commensurable and therefore exchangeable, the understanding of what makes them into commodities, etc. Both, the genesis of money and the identification of value as distinct to, although connected with, exchange-value, refer ultimately to method. All the transformations involved in passing from one form of value to another, viz.: from the simple to the expanded form, from the expanded to the general form, and from the general to the money form, reflect the dialectical character of both value and money. Throughout these transformations we return to the initial point, to the simple expression of the value of the commodity. Nevertheless, this initial point appears now not only explained, but also as the result of negating and including, i.e. of merging within itself, all the earlier phases: as a rich totality, the concentration of many determinations. It "may in this respect be compared to the old man who utters the same creed as the child, but for whom it is pregnant with the significance of a life time." (Hegel, *Shorter Logic* §237) Hence the need of a method able to unveil such dialectical character.

A MATTER OF METHOD: MARX *VS* RICARDO

According to Marx (1976 [1867], p. 148), the quantitative aspect of the expression of value is not determined by the equivalent form of value. It involves, rather, the elucidation of "the connection between value, its immanent measure—i.e. labour time—, and the necessity for an *external* measure of the value of the commodities." (*MECW* 1989, Vol.

31, p. 426. Italics of the author; cf. also Marx 1976 [1867], p. 153) Value, he asserted, is union of content, magnitude and form.

Ricardo, for his part, talked about relative value but not about value as such. He did not distinguish between value and exchange-value, nor did he find the abstract labour as the content of value. The study of the form of labour, of the socio-historical characteristics on account of which labour is the source of value, is absent in his analysis, and consequently, the two-fold nature of labour remained imperceptible for him. Instead of starting from the study of the commodity, that is, from the result of the productive activity as organised in this particular historical period, he started from the exchange of things in general, and this led him to concentrate on exchange-value, and specifically on its quantitative side. By an abstraction limited to empirically registering common attributes, i.e. by a method that resulted in simple abstract generalities, he found that the relative value of the commodities was governed by the relative quantities of labour that were expended in their production (cf. Ricardo 2001 [1817], p. 35), while considering labour as a transhistorical activity, i.e. from a technico-material point of view. He arrived thus at the question of finding a way to measure that relative value in an accurate manner, the problem of finding an invariable measure of value.[19] However, as he himself explained, there was no commodity able to play that function because the value of all commodities changes in agreement with the quantity of labour. And even if "this cause of variation in the value of a medium could be removed—if it were possible that in the production of our money, for instance, the same quantity of labour should at all times be required, still it would not be a perfect standard or invariable measure of value" (Ricardo 2001 [1817], p. 32) for, as his theory sustained, the rise or fall of wages, the proportions of fixed and circulating capital, the degrees of durability of fixed capital, and the time needed to bring the product to the market, would differ between that medium and the other commodities. The invariable measure of value could exist only theoretically under certain assumptions. If gold were to be taken as this invariable measure, then it would be necessary to assume that the same quantity of labour is always required to produce the same quantity of gold, but also that such quantity is produced with the same combination of fixed and circulating capital (constant and variable capital in Marx), etc. as all other things. And still, it would only be a perfect measure of value for those things produced under the same exact conditions, but not for the rest of them.[20] Nevertheless, given that for him the most important cause of variations of value is the quantity of labour, "if we suppose this important cause of variations removed from the production of gold, we shall probably possess as near an approximation to a standard measure of value as can be theoretically conceived." (*Ibid*, p. 34) Finally, gold should be considered to be produced with that combination of 'the two kinds of capital' that approaches the average proportion used in the production of most commodities, i.e. it should be assumed to be produced under the social average technical conditions. In this manner, gold could stand as an effective measuring rod by means of which the variations of value, exposed by the variations in the rates of exchange between gold and other commodities, could be attributed solely to the latter and not to the former: i.e. value could be accurately measured.[21]

Yet, as Marx pointed out, it is not necessary that the value of the commodity in terms of which the value of the others is measured is invariable in order to establish an external measure of value. As a matter of fact, it must be variable for otherwise it would not be a commodity, and therefore, it would have no immanent measure in common to the other commodities. "If, for example, the value of money changes, it changes to an equal degree in relation to all other commodities. Their relative values are therefore expressed in it just as correctly as if the value of money had remained unchanged. The problem of finding an 'invariable measure of value' is thereby eliminated." (*MECW* 1989, Vol. 32, p. 320) Such problem is, notwithstanding, an indicator of a deeper and more significant problem. Indeed, "for commodities to express their exchange value independently in money, in a third commodity, the exclusive commodity, the *values of commodities* must already be presupposed… An *homogeneity* which makes them the same—makes them values—which as values makes them qualitatively equal, is already presupposed in order that their value and their differences in value can be represented in this way." (*Ibid*, p. 321. Italics of the author) To solve the problem of expressing value in gold or in any other commodity, and even before that problem can arise, it is imperative to see that commodities are already identical as values—as distinct from their use-values—, i.e. that they are the materialisation of the same social substance. Only then it is possible to observe that the immanent measure of value, which necessarily precedes its external measure, is not another commodity but the amount of value content:

> The problem of an 'invariable measure of value' was in fact simply a spurious name for the quest for the concept, the nature, *of value* itself, the definition of which could not be another value, and consequently could not be subject to variations as value. This was *labour time, social labour*, as it presents itself specifically in commodity production. A quantity of labour has no value, is not a commodity, but is that which transforms commodities into values, it is their *common substance*; as manifestations of it commodities are *qualitatively equal* and only *quantitatively different*. They [appear] as expressions of definite quantities of social labour time. (*Ibid*, p. 322. Italics of the author)

Because Ricardo did not grasp the form of value as different from its content, and therefore from its magnitude, he was not completely aware that labour is not an external but an immanent measure of value. The latter, in opposition to the former, is not another commodity but the very source of value. This is why he needed to assume that gold, as the money commodity, had a value that did not change, which immediately invalidated it as a commodity. Besides, because he did not grasp the difference between labour and labour-power, labour appeared to him as a commodity. Ricardo did not derive money from the working of commodity production. In his process of investigation, he made abstraction of the most important aspect for understanding what he was trying to understand: the socio-historical context, the social relations that, within this particular productive organisation, transforms the products of labour into commodities, and the labour employed in their production into value. He focused on the magnitude of value inasmuch as 'relative' quantities of labour, as external expressions of value. But relative value refers, first of all, to a magnitude of value, which must necessarily be immanent for it to be expressed. Without this immanent measure it would be impossible to express the value of a commodity in terms of any other before they are exchanged: commodities would enter circulation without a price. What is to be studied then is their quality of being value: the unity of content, magnitude and form. The magnitude of value cannot be other than the amount of substance that makes it value, while its form, its manifestation, cannot be other than another commodity.[22]

Even if gold were to be assumed to have an invariable value such that the variations in the values of the other commodities could be ascertain through it, it would still be necessary that commodities and gold are first identical as values. Put another way, to measure the value of commodities in gold, both commodities and gold have to be first considered as definite quantitative expressions of the same thing. "The invariable value of gold and the variable value of the other commodities would not prevent them, as *value*, from being the same, [consisting of] the same substance. Before the invariable value of gold can help us to make any step forward, the value of commodities must first be expressed, assessed in gold—that is, gold and commodities must be represented as equivalents, as expressions *of the same substance*." (*Idem*. Italics of the author)

It was thanks to this insight that the function of money as measure of value, in contradistinction of its function as medium of circulation, could be identified. Commodities, that is, their conditions of production, can be compared precisely because money functions first as a measure of value. This is the reason why, in this function, money may have an ideal or imaginary existence: to make known the price of a commodity, i.e. for a commodity entering circulation with a price, it is enough to declare it as equal to a given amount of money. This is what merchants do when they put tags on their products announcing their prices and display them on the shop windows. This depends on the 'kind of money', i.e. on the materiality of the commodity performing this role (gold, silver, etc.). In other words, the question of the physical characteristics of the money commodity is here what matters, even though its presence is not required (x unis of commodity A = y oz. of gold, etc.). Evidently, this presupposes the whole development that transforms a given commodity into money; its ideal existence is enabled by the socio-historical context in which money emerges: commodity production. On the other hand, in its function as medium of circulation, through which commodities realise their social values, i.e. their ideal values are denied or confirmed and the private labour expended in them socially validated, the presence of money is compulsory for it is the vehicle of exchange. Still, this function may be performed by a simple token (e.g. paper money), meaning that in this case its materiality is irrelevant while its quantity is all that matters: money must exist in an adequate quantity for exchanges to be realised. Such quantity is thereby a direct function of the volume and prices of the commodities in exchange, and an indirect function of the velocity of circulation of money. In sum, the representation of commodities as money, in price, "appears firstly only as something nominal, a representation which is realised only through actual sale… The commodity receives this [monetary] expression in so far as the money serves as a measure and expresses the value of the commodity in its *price*. It is only through sale, through its real transformation into money, that the commodity acquires its adequate expression as exchange value. The first transformation is merely a theoretical process, the second is a real one." (*Ibid*, p. 318 and 323. Italics of the author) To evaluate commodities, ideal money is enough; but to exchange them, existent, tangible, money is indispensable. That value is present, measured, before exchange when commodities are commodities (a social form that presupposes exchange) is the work of commodity production itself, of this particular mode of organising labour: things are produced for the sole purpose of being exchanged (cf. Marx 1976 [1867], p. 166), and so value as a social attribute, is 'latent' within them. The determination of the price level, the monetary expression of value, is linked not to the function of money as medium of circulation—and therefore to its quantity—but to its function as measure of values—and therefore to its materiality (cf. Gill 2002, p. 185). The different functions of money make evident the fact that commodity producers are connected to one another through exchange, that money is not a simple unit of account, nor a simple medium of circulation, but the expression of a social relation.[23]

It was Bailey's critique of Ricardo's theory of value (cf. note 16) what, according to Marx, called the attention to the immanent measure of value *vis-à-vis* the function of money as the expression of that value: "Bailey's book has rendered a good service in so far as the objections he raises help to clear up the confusion between 'measure of value' expressed in money as a commodity along with other commodities, and the immanent measure and substance of value." (*Ibid*, p. 324) By limiting the measure of value to an external one, provided that the value of all commodities varies, Ricardo did indeed make value unattainable. But without it, commodities could not be measured before exchanged, they could not be compared, and they would not be commodities either. It is the fact that value has an immanent measure what allows the price-form, i.e. the representation of commodities as comparable magnitudes of the same common denominator.[24]

The immanent measure of value is the measure of the amount of social substance that makes it value. Because abstract labour is the substance of value, it 'creates' value, the magnitude of value is the quantity of abstract labour that is socially necessary for the production of the commodity, "and the measure of the quantity of labour is time." (*Ibid*, p. 323)[25] Ricardo talked about 'quantity of labour' but not about labour-time. In his analysis, time appears as a separate element that influences the value of the commodities (as the time that must elapse before a commodity can be brought to market, or as capitals of different durability, etc.).[26] The fact that he measures the quantity of labour by working-days creates the impression that his conception is the same as Marx's. In Marx, however, the labour that is measured is not any labour, or labour in general, but a socially and historically determined labour:

> Ricardo often gives the impression, and sometimes indeed writes, as if the quantity of labour is the solution to the false, or falsely considered problem of an 'invariable measure of value' in the same way as corn, money, wages, etc., were previously considered and advanced as *nostra* of this kind. In Ricardo's work this false impression arises because for him the decisive task is the definition of the magnitude of value. Because of this he does not understand the specific form in which labour is an element of value, and fails in particular to grasp that the labour of the individual must present itself as abstract general labour and, in this form, as *social* labour. Therefore he has not understood that the development of money is connected with the nature of value and with the determination of this value by labour time. (*Ibid*, p. 324. Italics of the author)

Insofar as a social relation, value is the result of the process that transforms the concrete, private, individual labour (different in quantity and quality) into abstract, social labour, that is, the result of the working activity as organised in the commodity society. Value is the connecting, regulating, element of a labour that is not immediately social but must become social for the social economy to exist. The labour that creates value is a labour of a definite social type, with specific social qualities that are acquired in and by specific social relations: it is the fact that it is performed to produce things that are expressly for exchange, i.e. exchange as a mode of organising labour (cf. *MECW* 1989, Vol. 31, pp. 316-317), what gives it that character, what makes it into the source of value, and not the fact that it is labour *per se*. Its measure is thereby also the result of those social relations. In the use-value creating process, the labours of the individuals differ from one another, even if they produce the same kind of commodities, and consequently, they cannot be reduced to the same quality, they cannot be compared nor measured, they are not social, but private. Concrete labour becomes social, and hence the source of value, when transformed into equal, homogeneous, abstract labour. This transformation occurs within commodity production, when the products of labour are equated through exchange.[27] Only then can they be measured, compared, according to time. The magnitude of value appears therefore as socially necessary labour-time. Ricardo's quantity of labour is fundamentally different from Marx's labour-time; there labour as concrete, transhistorical, basic human activity "was continually confused with labour in its specific form as a value-creating process." (Pilling 1980)

Marx did not deduce labour from value as the common (remaining) element of all exchanged things; quite the reverse, from labour and its social organisation, he found value as the necessary social form that the products of labour assume in commodity production. Labour was the starting point from were value was developed. A major methodological difference is here involved: "If we follow the analytical method, start out from value and ask ourselves what lies beneath this concept, we can certainly say that physiologically equal labour and socially equated labour are concealed beneath the value of products. But neither answer will be adequate, since there is no way to make the transition from physiologically equal labour or from socially equated labour to value." (Rubin 1978 [1827], p. 117) Labour divorced from the characteristics imprinted by the social organisation in which is performed, viz. commodity production, cannot lead to the notion of value. If, on the other hand, a materialist dialectic method is applied, so that what appears as immediate concrete reality is, in the process of cognition, the arrival point, "then we must take the concept of labour as the starting point and develop the concept of value from it." (*Idem*) In this case we have to include "those features which characterise the social organisation of labour in commodity production and necessitate the appearance of value as the particular social form of the product of labour." (*Ibid*, p. 118) Hence the derivation of abstract labour, from where value and money follow: the individual labour is transformed into social universal labour, and its product assumes the form of universal equivalent. Labour is socially equalised through the equation of its products: through exchange, the different kinds of labour contained in the different products are reduced to uniform, simple, unskilled labour. "Only by its alienation does individual labour manifests itself as its opposite. The commodity, however, must have this general expression before it is alienated. This necessity to express individual labour as general labour is equivalent to the necessity of expressing a commodity as money." (*MECW* 1989, Vol. 32, p. 323. Italics of the author) Abstract labour and universal equivalent are therefore inseparable. With money, the form of value, i.e. exchange-value, acquires an independent existence: commodities express the magnitude of their values, but also become the manifestation of social labour, acquiring thus the form of absolute direct exchangeability.[28] But this "absolute effectiveness as *exchange value*" (*ibid*, p. 323), has nothing to do with the magnitude of value, it is not a quantitative but a qualitative determination.

When Ricardo asserts that the quantity of labour embodied in the commodities constitutes the measure of the magnitude of their value, that "the comparative quantity of labour which is necessary to their production, [is] the rule which determines the respective quantities of goods which shall be given in exchange for each other" (Ricardo 2001 [1817], p. 54. Cf. also p. 206), he treats labour as the foundation, the cause, of the value of the commodities, and therefore, as the common measure of their values. However,

> all commodities can be reduced to labour as their common element. What Ricardo does not investigate is the *specific* form in which labour manifests itself as the common element of commodities. That is why he does not understand money. That is why in his work the transformation of commodities into money appears to be something merely formal, which does not penetrate deeply into the very essence of capitalist production… Ricardo does not sufficiently differentiates between labour in so far as it is represented in use values or in exchange value. (*MECW* 1989, Vol. 32, p. 325)

Value is the specific form in which the social character of labour manifests itself in the commodity production. Labour has existed in all the historical forms of society, but there its manifestation did no acquire the social form of value, nor were its products commodities.[29] By overlooking the specific social formation in which value develops, Ricardo was unable to link his theory of value with the nature of money. Besides, to the extent that he deals with exchange-value and not with value as such, labour appears with him as the measure of exchange-value, i.e. as the common factor of the products in exchange. Yet, as Marx pointed out, such common factor is not labour but value (cf. Marx 1976 [1867], p. 128): it is not possible to make a direct transition from exchange-value to labour, but exchange-value must be mediated by value.[30] In the *Notes on Wagner*, for instance, Marx states:

> Nowhere do I speak of '*the common social substance of exchange value*'*;* I rather say that exchange-values *(exchange-value*, without at least two of them, does not exist) represent something *common to them,* which 'is quite independent of their use-values'…, namely '*value*'… I do not say 'the common social substance of exchange value' is 'labour', and as I deal with the *form of value,* i.e. the development of exchange-value, at some length in a separate section, it would be curious if I were to reduce this 'form' to a 'common social substance', labour. Mr. Wagner also forgets that for me neither 'value' nor 'exchange-value' are subjects, but *the commodity.* (*MECW* 1989, Vol. 24, pp. 533-534. Italics of the author)

Marx does not proceed from 'concepts', and hence his departure point is not the 'concept of value'. He proceeds from "the simplest social form in which the product of labour presents itself in contemporary society, and this is the '*commodity*'." (*Idem*, p. 544. Italics of the author) His starting point is the 'social thing': the product of a specific form of labour, and therefore, labour as organised in this particular social organisation. Empirical reality is Marx's starting point, but this reality is not devoid of its social forms. On the contrary, these social forms are the subject-matter of his investigation. Ricardo, on the other hand, followed the exact opposite path: by taking the social forms as given, he reduced the complex phenomena he found in reality, e.g. exchange of things, to simple, abstract, 'essential' concepts, e.g. exchange-value, and after this to their material content, e.g. labour. This procedure resulted in concepts present in all historical periods. His starting point was also the empirical reality, but emptied of the elements necessary to understand it as a historical, transient, alterable, reality. The ahistorical and therefore uncritical study of capitalist society, the use of abstraction to merely distillate from the observed phenomena what remains as 'constant' or general through all social organisations without grasping their particular nature (nor their universality: origin and development), i.e. the consideration of the social forms as natural and eternal, neglecting thus contradiction and movement, was Marx objection to the empiricist-analytical method of Ricardo and political economy, and not the fact that the process of cognition starts from immediate perceptions.[31]

Categories are the reflection (the negation) of the real socio-historical process, they follow from it. This is why Ricardo could not find the invariable measure of value that he searched for.

> Ricardo begins his work with an attempt to define value precisely. He implicitly assumes that the category already exists and attempts to explain the production and exchange of commodities on this basis. Having started with value, Ricardo then sought for some commodity with which it (value) could be measured. Here was a vicious circle. Ricardo failed to see that this 'value' was an expression of social relations which emerged only with commodity production. To start from a concept of value and to try from this to explain the production and exchange of commodities was precisely the opposite of a correct scientific procedure. The value relation had to be deduced from the commodity. (Pilling 1980)

Due to the anarchic nature of the capitalist commodity production, Ricardo's quest was futile: since labour is not directly social and only becomes social through exchange, an invariable measure of value as he conceived it cannot exist. Moreover, it is because of that anarchic nature that money necessarily appears: to equate the products of their private labours, individual producers need first to compare them to one particular commodity which, by the social action of all the others, is set aside and recognised as universal equivalent. As a commodity, its value is variable, but this does not impair it as measure of values; on the contrary, it allows it to play that role.

The neo-Ricardian tradition, which blended Marx with Ricardo while rejecting Marx's method, saw Ricardo's quest as the search for something 'constant' on which erect in an allegedly consistent manner the labour theory of value—hence Sraffa's standard commodity. Nevertheless, as Pilling (1980) observes, "values are measured spontaneously, becoming embodied in one commodity (money) because the production relations are not, and cannot be, planned in advance." The task is therefore to explain how this spontaneous process takes place, and not to formulate measures which lack reality and explanatory power in an economy where "the most complete anarchy reigns among the bearers of [the] authority, the capitalist themselves." (Marx 1981 [1894], p. 1021)

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NOTES

[1] In the three-department economy under simple reproduction equilibrium assumed by Bortkiewicz (following Tugan-Baranovsky), department III produces luxury goods: its products do not enter the production process of the other two departments but are destined to satisfy final demand, specifically capitalist consumption.

[2] This was first noticed by Sweezy (1970 [1942]), and referred to by other authors afterwards such as, for instance, Seton (1957). We develop a proof of it in the thesis *The Transformation of the Transformation Problem* (2017).

[3] One way of seeing this is as follows: since $O_3 < O_o$, then $p_3 < w_3$ (where $O_i, i = 1, 2, 3$, denotes the organic composition of capital in department i, O_o the social organic composition of capital; p_i the price of the product of department i; and w_i the labour-value of the product of department i). Nevertheless, it is assumed that $z = 1$, that is, that $p_3 = w_3$ as if $O_3 = O_o$. Therefore, given that $O_3 < O_1$ and $O_3 < O_2$, it follows that $p_1 > w_1$ and $P_2 > w_2$, or what amounts to the same thing, that $x > 1$ and $y > 1$ (where x is the transformation factor of the product of department I; and y the transformation factor of the product of department II), hence the upward re-scaling of prices. Because the simple reproduction conditions are assumed to be satisfied, Bortkiewicz's assumption $z = 1$ is equivalent to sum total of profits equal to sum total of surplus-values. Moszkowska (1979 [1929]), for instance, chooses the other equality as key assumption, viz. sum total of prices equal to sum total of values. Applied to the same set of figures used by Bortkiewicz, the result is that sum total of profits is smaller than the sum total of surplus-values. This is only logical for $O_3 < O_o$ implies that $p_3 < w_3$. The assumption adopted by Moszkowska is tantamount to determining the divergence between the price and value of the commodity in agreement with the divergence between the organic composition of the sector that produces it and the social average organic composition.

[4] This is Tugan-Baranovsky's case. Cf. *Theoretical Groundwork of Marxism* (1905).

[5] Recall that according to Marx the (simple) price of a commodity is the monetary expression of its value (measured in labour-time)—and not a mere exchange rate—: "The simple expression of the relative value of a single commodity, such as linen, in a commodity which is already functioning as the money commodity, such as gold, is the price form." (Marx 1976 [1867], p. 163). "Price is simply the expression of value in money." (*MECW* 1989, Vol. 32, p. 520. Cf. also p. 513) "Expressed in money, this market value is the *market price*, just as in general, value expressed in money is price." (*MECW* 1989, Vol. 31, p. 429. Italics in original)

[6] In the starting 'diagram in value' considered in Winternitz's (1948) and Meek's (1956) procedures, the function of money as medium of circulation is still more evident due to the possibility of the non-satisfaction of the market equilibrium conditions, for it is thus implicitly suggested the necessary redistribution of social labour among the productive activities.

[7] "Ricardo's false assumption that money, in so far as it serves as medium of circulation, exchanges as a commodity for commodities." (*MECW* 1989, Vol. 31, p. 425)

[8] If the quantities produced of each commodity are, e.g. 250, 300 and 320 respectively, then the total product in simple price of each department will be 375, 300 and 200 monetary units respectively; and the total product in simple prices, 875 monetary units.

[9] "It is simply a question of unit of account. If we had used the unit of labor time as the unit of account in both the value and the price schemes, the totals would have been the same… Since we elected to use the unit of gold (money) as the unit of account, the totals diverge." (Sweezy 1970 [1942], pp. 122-123)

[10] It may also occur, of course, that a change in the value of money is accompanied by changes in the structure of production. If, for instance, the value of the money commodity, the socially necessary labour-time to produce one unit, were increased from 1 to 2 hours, then the prices of all commodities will be

expressed in less monetary units. But if the value of one unit of commodity 3 was also doubled, then the price of the latter would remained the same as before, while the price of commodities 1 and 2 would be smaller: the price of money in terms of commodities 1 and 2 would have increased because it would be produced in more labour-time than before, while the labour-time of commodities 1 and 2 has remained unchanged; but it would have remained the same as against commodity 3 because its labour-time has also doubled.

[11] Starting from Ricardo's explanation of how the 'relative value' or price of the commodities vary as a result of an increase in wages according to whether they have been produced with a higher or lower proportion of fixed capital to labour, viz.: "only those commodities would rise which had less fixed capital employed upon them than the medium in which price was estimated, and that all those which had more, would positively fall in price when wages rose. On the contrary, if wages fell, those commodities only would fall, which had a less proportion of fixed capital employed on them, than the medium in which price was estimated; all those which had more would positively rise in price." (Ricardo 2001 [1817], p. 34) Marx detects the presence of a double measure of value, and therefore, the need of distinguishing between money as a mere medium of circulation, as a *numeraire*, and money as general equivalent (which involves, before the function of medium of circulation, that of measure of values). This is why Marx affirms that with regard to 'money' prices, i.e. to prices in terms of gold as general equivalent, Ricardo's assertion is wrong, for when the value of gold changes, it changes for all the commodities, assuming that their production conditions have not changed. But Ricardo's assertion refers also to the different price movements that a rise in wages brings about depending on the production conditions of the commodities. He assumes that gold, the money commodity, is always produced with the social average proportion of constant capital to variable capital, and this is why its value never changes (which is related with Ricardo's search of an 'invariable measure' of value). So if wheat were to play the role of *numeraire*, then "consequent upon a rise in wages, wheat as a commodity into which enters more than the average variable instead of constant capital" would experience a rise in its price, meaning that "all commodities will be assessed in wheat of a higher 'relative value'." (*MECW* 1989, Vol. 31, p. 425) Let, for instance, 1 kg of wheat be equal to 1 mu. If wages increase, then, because the organic composition of wheat production is smaller than the social average organic composition, its price will rise to e.g. 2 mu. All the commodities' values would be now expressed in a smaller quantity of wheat. If, for instance, commodity A has a price in terms of money of 5 mu, then its price in terms of wheat will fall from 5 kg to 2.5 kg of wheat as a result of the increase in wages. However, the increase in wages will also affect the 'relative value' of A depending on whether it is produced with an above or below average organic composition, which means that its rate of exchange with respect to wheat will also vary for this reason. If the organic composition for producing A is below the average, then its price will rise from 5 mu to e.g. 6 mu, and therefore, its exchange rate with respect to wheat would not be 2.5 but 3 kg. Its price in terms of wheat has diminished but not as much had its value expressed in money remained unchanged. The contrary is the case of a commodity B produced with an organic composition above the average: its price in terms of wheat would fall due to an increase in the price of wheat, but also because its own value would have diminished. "The commodities into which more fixed capital enters, would be expressed in less wheat than before, not [only] because its specific price has fallen compared with wheat but because their price had fallen in general." (*Idem*). This confusing situation arises because of the presence of 'two measures' of value in Ricardo, i.e. of his incomplete understanding of the nature of money. The different two effects, i.e. the change in price of a commodity due to a change in the value of the *numeraire* and the change in its price due to changes in its own value, is what it cannot be cleared up with him. Besides, "the assumption that variations in the price of wages in England, for instance, would alter the cost price of gold in California, where wages have not risen, is utterly absurd. The levelling out of *value* by labour time and even less the levelling out of *cost prices* [= prices of production] by a general rate of profit does not take place in this direct form between different countries." (*Ibid*, pp. 425-426. Italics of the author) To be sure, this is one of the main difficulties for formulating an adequate explanation of the special case of the production of money at the international level, or else, regarding the world economy.

[12] "It is not enough that the individual labour has been executed according to the average technical norms (the social necessary labour-time), but it is necessary that this labour, which is private, prove to be neither in excess nor in scarcity [at a social level]... In the commodity society this is never known beforehand… [Nevertheless] money cannot be considered solely from the quantitative point of view… If money were a simple commodity which use-value or function was to facilitate the exchanges, it could be enough to study how the monetary authorities adjust, by means of and adequate monetary policy, the quantity of money to the demand of money. To this functional and quantitative dimension is what the monetary issue amounts in the classics such as Ricardo and in the modern Keynesians and monetarists, let aside the differences that distinguish them… even if the quantity of money in the economy is equal to the needed one, exchange does

not necessarily take place. The best possible monetary policy cannot guarantee the sale of the commodities. Money is not only a medium of circulation. Precisely as general equivalent, it may stop circulation, it may be hoarded, to function as pure general equivalent. Commodity production contains within itself the material possibility of the interruption of circulation." (Gill 2002, p. 150 and 184. The translation is ours)

[13] Moseley's interpretation of the transformation problem on the basis of Marx's theory of money (cf. Moseley 2016), on the other hand, seems to us to be quite sound and interesting—in spite of the fact that the transformation problem is there regarded as the simultaneous verification of Marx's equalities (i.e. Bortkiewicz's redefinition), for, in the end, it leads to the rehabilitation of Marx's transformation problem, viz. the explanation of the formation of the general rate of profit. Departing from the capital valorisation cycle, M – C – … P … – C' – M' (money – commodity – … production… – commodity of an increased value – initial money plus surplus), the social capital outlay of a production period is regarded as 'advanced money', M, and therefore, as given. In other words, $C + V$ is given in each productive period (it enters the 'current' productive period as a fixed amount of money), and thus, since C and V are products of the previous production period, they are already in prices of production which sum total is equal to its value. With this advanced money, a new total value is produced, which is, in its turn, equal to its total price of production, M'. From this follows immediately that the transformation, operated in circulation, C' – M', is strictly a redistribution of surplus-value among the individual capitals, but also, subsequently, that the sum total of surplus-value is equal to the sum total of profit. So, the divergences between values and prices of production are valid only from the individual capital point of view: the individual capital outlay in labour-values differs from the individual capital outlay in prices of production, but the sum of all these divergences, at the social level, compensate or cancel one another out such that $C + V$ is the same amount of money in values and in prices of production. Put differently, the participation of the individual capital outlay in the total social capital outlay varies when considered in labour-values than when considered in prices of production. The exact same thing happens with its individual surplus-value *vs* its average profit; and therefore, with its product's value and price of production. The totals do not change from values to prices of production. What changes during the equalisation process is the distribution of these totals among the individual capitals depending on their size and organic compositions of capital (as in Marx). This reading is possible thanks to the consideration of the commodities employed in production not as mere inputs (physical amounts) but as an amount of money, i.e. as commodities necessarily expressed in money (which is consistent with Marx), an amount that remains constant during the production process. But it is also possible thanks to the consideration and distinction of Marx's two levels of abstraction: capital-in-general and many-capitals, which constitute not only a methodological tool but a reality. Besides, a sequential approach, instead of 'simultaneous' one (i.e. algebra), is applied: values (and surplus-values) are first produced and after distributed, which renders the whole process (production and distribution) as dynamic and not as static, which is the case in the standard (Bortkiewicz's) setting of the transformation problem. So, in a somewhat similar spirit with the 'New Interpretation', where $V + S$ is assumed to be constant (so as to find the monetary expression of labour-time, MELT) and to replace the equality 'sum total of prices of production = sum total of values', Moseley assumes $C + V$ to be given, to be a given amount of money, M, regardless of how this is divided among the individual capitals in values *vs* in prices of production. At the same time, it is admitted that the sum total of prices of production must also equal the sum total of values expressed in money, M'. These two conditions result in the equality between sum total of profits and sum total of surplus-values, for in circulation, C' – M', a mere redistribution of the surplus-value (the amount by which the initial C is increased) produced in P (labour and production process) occurs. In this manner, the equalities are always satisfied, just as Marx's had ascertained. It is worth bearing in mind though that V is also (part of the) added value, i.e. it does not enter the productive process as an already given amount of money but is produced during it. In other words, capitalists do not pay workers in advance but buy labour-power on credit. Hence the struggle for the length of the working-day and the intensity of labour between capitalist and workers, as well as capital's need for constant technical change. And yet, at a particular period of time, in the short run, the value of labour-power constitutes a fixed, 'agreed', stipulated by contract amount of money, *prior* the production process. Owing to the continuous reproduction of the capitalist production process—and along with it, of its social relations—, labour-power appears as a 'condition of production', while its 'price', as a constituent part of the production price of the commodity, a formative element of price (and value)—as is the case with the rest of such 'constituent pats', viz. constant capital and profit. Thereby, the "cost price of a commodity appears to each capital as a given quantity and constantly presents itself as such in the actual production process." (Marx 1981 [1894], p. 1010)

[14] "This form of manifestation is exchange-value, and the commodity never has this form when looked at in isolation, but only when it is in a value-relation or an exchange relation with a second commodity of a different kind." (Marx 1976 [1867], p. 152)

[15] "Because they had a superficial conception of this fact, i.e. because they considered that in the equation of value the equivalent always has the form of a simple quantity of some article, of a use-value, Bailey and many of his predecessors and followers were misled into seeing the expression of value as merely a quantitative relation; whereas in fact the equivalent form of a commodity contains no quantitative determinant of value." (Marx 1976 [1867], p. 148)

[16] The value of the commodity is expressed now as different quantities of different commodities. From here arises the illusion that the value of the commodity is not 'one thing' but many different things, that there are as many 'kinds' of value as commodities. This was precisely Bailey's critique of Ricardo's theory of value, on the basis of which he concluded that the concept of value was impossible in political economy: "S. Bailey… was under the delusion that by pointing to the multiplicity of the relative expressions of the same commodity-value he had obliterated any possibility of a conceptual determination of value. Still, despite the narrowness of his own outlook he was able to put his finger on some serious defects in the Ricardian theory." (Marx 1976 [1867], p. 155n.)

[17] Even if nowadays it is not officially recognised as so. See on this important subject Gill 2002, pp. 166-183.

[18] "Value remains an internally contradictory relation of a commodity to itself, which is no longer revealed, though, on the surface through a direct relation to another commodity of the same sort, but through its relation to money. Money now functions as the means by which the mutual, reciprocal transformation of the two originally exposed poles of the expression of value (value and use-value) is effected." (Ilyenkov 1977, pp. 216-217)

[19] "When commodities varied in relative value, it would be desirable to have the means of ascertaining which of them fell and which rose in real value, and this could be effected only by comparing them one after another with some invariable standard measure of value, which should itself be subject to none of the fluctuations to which other commodities are exposed." (Ricardo 2001 [1817], p. 32)

[20] "If, for example, it were produced under the same circumstances as we have supposed necessary to produce cloth and cotton goods, it would be a perfect measure of value for those things, but not for corn, for coals, and other commodities produced with either a less or a greater proportion of fixed capital, because, as we have shown, every alteration in the permanent rate of profits would have some effect on the relative value of all these goods, independently of any alteration in the quantity of labour employed on their production." (Ricardo 2001 [1817], p. 33)

[21] As Pilling (1980) observes, the inconsistency of Ricardo's theory of money can also be detected here in relation to the quantity theory of money. Since gold is a commodity like any other, its value is determined by the quantity of labour employed in its production. At the same time, however, Ricardo affirmed that gold has "more or less value according to the number in circulation, and that, as the quantity of gold increased, its value would fall… Reducing the essence of money to a simple function (instrument of circulation) the upholders of the quantity theory of money confused the laws of full-value gold money and token money (paper money) and wrongly assumed that any quantity of full-value gold money could be in circulation at any one moment. From this it followed that commodities entered circulation without a price and money without a value, and that prices of commodities altered according to the quantity of money on the market."

[22] "Ricardo's mistake is that he is concerned only with the *magnitude of value*. Consequently his attention is concentrated on the *relative quantities of labour* which the different commodities represent, or which the commodities as values embodied. But the labour embodied in them must be represented as *social* labour, as alienated individual labour… This transformation of the labour of private individuals contained in the commodity into *uniform social labour*, consequently into labour which can be expressed in all use values and can be exchanged for them, this *qualitative* aspect of the matter which is contained in the representation of exchange value as money, is not elaborated by Ricardo. This circumstance—the necessity of *presenting* labour contained in commodities as *uniform social labour*, i.e. as money—is overlooked by Ricardo." (*MECW* 1989, Vol. 32, p. 318. Italics of the author) Salama (1975) has raised a pertinent point on this respect. In his view, the study of value in terms of units of labour is only apparent in Ricardo (and in the neo-Ricardians, especially in connection with the use of the input-output matrices in their models), for it is the result of the failure to introduce money in the analysis. The reference to amounts of labour conceals the direct exchange of commodities against commodities. Because exchange-value is not derived from, or even linked to, value, exchange-value is not regarded as a phenomenal form but as the only form of value.

[23] Money performs, in addition, the function of universal reserve of value or real equivalent of value. It consists of its being (*i*) a medium of hoarding; (*ii*) a means of payment; and (*iii*) world or universal money. Inasmuch as medium of circulation, money does not always guarantee circulation, for it can be hoarded up

or payments can be delayed. In this function, money must have a real presence, it cannot be replaced by a token of value. This is what gives it the character of international money and means of payment. This function is associated with credit: although the immediate presence of money is not required for the commodities to move from one hand to another, it is always so in the end, when the liquidation of the balances between creditors and debtors is executed. The latter, as well as the possibility of interrupting circulation, opens the way to crises (cf. Gill 2002, p. 155). All this refers, ultimately, to the structure of commodity production, which is the basis of the essence of money. Commodity producers face one another first as immediate buyers and sellers of commodities in the context of money as medium of circulation; after as creditors and debtors in the context of money as means of payment; later on as sellers who save the money obtained from their sales and buyers who postpone the moment of the purchase in the case of money as medium of hoarding; and finally as buyers and sellers of different countries and holders of universal reserves of value in the function of money as universal money (cf. Gill 2002, p. 166).

[24] The immanent measure of value makes the assumption that the money commodity is always produced under the social average technical conditions, superfluous, even if its production constitutes a special case.

[25] Substance and magnitude of value are two different things: the product of labour acquires the social form of value, but also it has a value of a specific magnitude. This has been a cause of confusion for some critics who have intended to refute Marx's theory of exploitation by arguing that, according to Marx, the substance of value is labour-time. See Pilling (1980).

[26] Cf. e.g.: "The superior price of one commodity is owing to the greater length of time which must elapse before it can be brought to market… One commodity is more valuable than the other, although no more labour was employed on its production. The difference in value arises in both cases from the profits being accumulated as capital, and is only a just compensation for the time that the profits were withheld." (Ricardo 2001 [1817], p. 28)

[27] "In commodity production comparison of this kind is impossible, since there is no organ which consciously equates all these kinds of labour. The labour of a spinner and that of a weaver cannot be equated, so long as they are concrete useful labour. Their equation results only indirectly through the assimilation of each with the third form of labour, namely 'abstract universal' labour (cf. *Critique*). This determined kind of labour is 'abstract universal' (and not concrete universal) precisely because it does not include the distinctions between the various concrete kinds of labour but precludes these divergences: this kind poses all the concrete kinds of labour in that it appears as their representative." (Rubin 1978 [1927], p. 119)

[28] Abstract labour is "labour which was made equal through the all round equation of all the products of labour, but the equation of all the products of labour is not possible except through the assimilation of each one of them with a universal equivalent. Consequently the product of abstract labour has the ability t be assimilated with all the other products only in the form that it appears as universal equivalent or can potentially be exchanged for a universal equivalent." (Rubin 1978 [1927], p. 118)

[29] "The product of labour is an object of utility in all states of society; but it is only a historically specific epoch of development which presents the labour expended in the production of a useful article as an 'objective' property of that article, i.e. as its value. It is only then that the product of labour becomes transformed into a commodity. It therefore follows that the simple form of value of the commodity is at the same time the simple form of value of the product of labour ,and also that the development of the commodity-form coincides with the development of the value form." (Marx 1976 [1867], pp. 153-154)

[30] "Regarding value as the unity of content and form, we link value through its content with the preceding concept, with labour; on the other hand though, we link the concept of value through the form f value with what follows, with exchange value. In fact when we maintain that value is not labour in general, but labour which has assumed the form of the exchangeability of the product, then we necessarily have to make the transition from value to exchange value. Thus the concept of value is inseparably linked with, on the one hand, the concept of labour, and, on the other, with the concept of exchange value." (Rubin 1978 [1927], p. 134)

[31] "Classical Political Economy also speaks of 'bourgeois' production and of private property as if these were the 'essence' of the concepts, 'production' and 'property' and exhaust their historical content. In this way, Political Economy too presented the capitalist mode of production, not as a historical structure, but as the natural and inevitable state of things. At *this* level, even classical Political Economy retained an ideological presupposition at its 'scientific' heart: it reduces, by abstraction, specific historical relations to their lowest common, trans-historical essence. Its ideology is inscribed in its method." (Hall 2003, p. 116. Italics of the author) To apprehend reality, categories must disclose "the real nature of a thing and not its similarity with other things; and not only should it express the abstract generality of its object… but also

the *special nature* or peculiarity of the object." (Ilyenkov 1977, p. 118. Italics of the author) Categories must be the dialectical unity of universality and particularity. To disclose the immanent nature of a thing means to find its essence, its inner kernel, for that nature does "not always appear on the surface of phenomena in the form of a simple identicalness, of a common sign or attribute, or in the form of identity. If that were so there would be no need for any theoretical science." (*Idem*) The essence is not immediately given but manifests itself through the external phenomenon which is produced by the everyday, historically determined, human practice. The phenomenon both conceals and reveals the essence. "Reality is the unity of the phenomenon and the essence." (Kosik 1976, p. 3)