Marx's Value, Exchange and Surplus Value Theory: A Suggested Interpretation

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The concept of commodity society based on a specific division of labour (opposition between private and social labour) and that of surplus-value are the most prominent achievements of Marx's intellectual efforts in dealing with the economy of capitalism. This paper attempts to evaluate the consistency of the theoretical propositions inherent in these concepts. The main contention is that an internal criticism of Marx's theory of exchange and surplus-value leads one to restate it in a different framework. This framework, which may be called monetary approach, represents an alternative to value theory.

The first section of the paper is devoted to Marx's value theory, especially to the form of value analysis. We suggest that Marx did not succeed in deriving money from commodity. As a consequence, money, if any, has to be presupposed at the same time as the specific division of labour. Doing so is breaking with the typical abstraction of value theory which substitutes values for monetary magnitudes, the former being thought of as expressing the essence of society in contrast with the latter conceived as surface phenomena.

The second section points out the logical inconsistencies which make the surplus value theory unsuitable for its purpose. A restatement will be suggested in which the monetary character of economic relations is again central.

I

It is not necessary to expound once again Marx's theory of value. We shall insist only on the analysis of the form of value which seems the weakest link in the long chain of reasoning starting from the presupposition of the particular division of labour and culminating in the formal possibility of crisis... Before embarking upon this task, we shall briefly recall the main propositions Marx establishes and which we take for granted at this stage:

(i) Commodity production is the outcome of a specific division of labour: "Only such products can become commodities with regard to each other, as result from different kinds of labour, each kind being carried on independently and for the account of private individuals"([1] p.42)

(ii) The value of commodities expresses what private labours have in common: it is a socially necessary quantity of labour.

(iii) Exchange relations are the manifestation of the social character of value: "If we bear in mind that the value of commodities has a purely social reality (...)it follows as a matter of course, that value can only manifest itself in the social relation of commodity to commodity"([1] p.47)

It is with this last point that the theory of form of value deals. The link between the deeper concept of value as a quantity of social labour and the outward reality of exchange on the market place has to be established. Market is the place where money plays the most evident role. The task "which has never yet been attempted by ~~bourseois~~ economy, the task of tracing the genesis of this money-form" has no significance other than to show how the commodity specific division of labour generates determinate forms of social life, like money and markets (and not barter!).

Starting from the elementary form x commodity A = y commodity B ["The mystery of the form of value lies hidden in this elementary form" p.48)], Marx puts forth the concept of relative form of value and that of equivalent for denoting, respectively, the commodity the private agent produces and supplies for the market and the commodity he wishes to bring back from the market. This relation is clearly not reversible for the agent, as Marx rightly insists (but the use of the sign = by Marx is somewhat misleading from this point of view).

With more than two commodities, the corresponding form is the expanded form. The bearer of A expresses the relative value of his product through several equivalents: commodities B, C etc. This form is not suitable to the general character of commodity production, Marx notes. All commodities ought to express their relative value in a unique equivalent, the same for all. This more adequate form is obtained by the reversal of the expanded form. Now B, C etc. express their relative values in terms of a unique commodity, the universal equivalent.

The theory is completed by the determination of the particular use value suited for that task: precious metals. Put very briefly, the reason for the choice of gold is that gold exhibits in a concrete way the abstract properties of value.

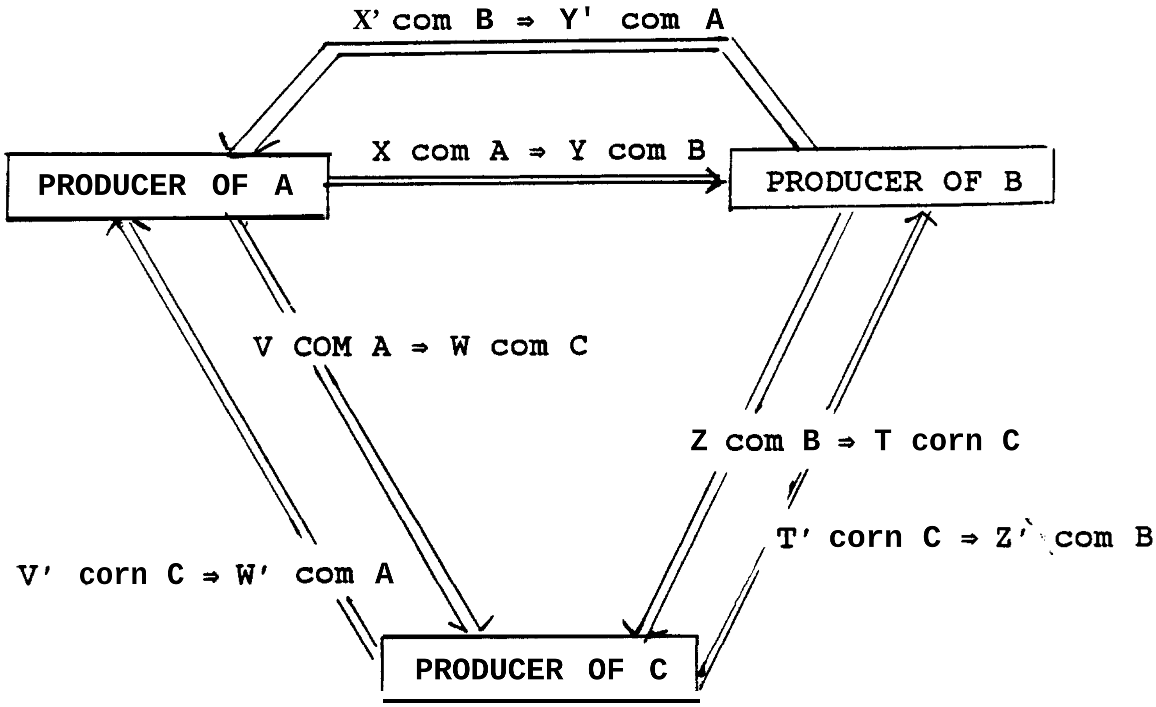
The internal criticism of Marx's approach is very simple in principle. One need only be aware that relative value and equivalent are not relevant concepts except when related to determinate agents. In other words, x commodity A => y commodity B concerns only the producer of A. For the producer of B, the relevant description would be x'commodity B => y'commodity A. It is the straightforward consequence of the division of labour (so as not to be misleading, sign = is replaced by => which clearly manifests the irreversibility of the relation).

The purpose of the theory of form of value is to bring out the conditions of effective exchange relations. For the exchange taking place, the equalities $x' = y$ and $x = y'$ are required. If these conditions are fulfilled, then equality x commodity A = y commodity B holds (and is of course reversible!)'. The exchange (the "somersault" of commodity) realizes the transformation of two subjective or, private projects into an objective or social relation (and, by the way, produces social quantities).

Extending this argument to an economy with at least three private producers and three commodities makes apparent a logical flaw. Schema 1 clearly shows that the reversal of the expanded form does not generate anything but the expanded form itself! To change the direction of the arrows does not significantly alter the schema. As before, a general equivalent is lacking. The universal equivalent cannot be deduced from any manipulation of the expanded form'.

Marx is perfectly aware of this point and he acknowledges it in Chapter 2 of Capital. "Let us look at the matter a little bit closer. To the owner of a commodity, every other commodity is, in regard to his own, a particular equivalent, and consequently his own commodity is the universal equivalent for all the others. But since this applies to every owner, there is, in fact, no commodity acting as universal equivalent, and the relative value of commodities possesses no general form under which they can be equated as values and have the magnitude of their values compared. So far, therefore, they do not confront each other as commodities, but only as products or use-values"([1] p,86).

It is not possible to express more clearly the problem to be solved. If effective exchanges cannot be derived from



Scheme 1 — EXPANDED FORM OF VALUE (AND ITS REVERSAL) the presupposition of the commodity division of labour, the latter is deprived of any meaning. Goods produced are not even commodities but mere use values. Marx tries to escape the issue. Exchangers are supposed to act before thinking. They select a commodity as a universal equivalent." But a particular commodity cannot be the universal equivalent except by a social act" (id.).

Let us try to be more precise and ask what kind of social action may be suited. for that task. Obviously this action does not take place on the market. It is, in fact, an essential condition for markets being brought into existence. Far from being a consequence of the generalization of market relationship, as Marx seems to believe, the universal equivalent is a prerequisite for such relations to exist. The procedure by which a universal equivalent is instituted, whatever it may be, has then to be part of the basic assumptions <u>on the same footina as the commodity division of labour</u>.

In other words, to restate Marx's analysis in a more consistent way, we have to admit that the existence of a universal equivalent (and thus of money) is part of the commodity division of labour. The division of the social labour force in private labour processes is not conceivable except by presupposing a minimal form of communication between individuals. This amounts to <u>postulatinu monev</u> and, by the way, to discarding value theory (and its pretension to deducing money and monetary magnitudes from an alleged deeper level). By putting money at the very outset of the analysis, one would rejoin an old (but not well respected!) tradition which Schumpeter calls <u>monetarv analvsis</u> (in opposition to real or value analysis).

Strong objections could be raised at this stage: main Marxian categories do not seem to be dissociated from his value approach and to embark on unusual tracks may prove to be less than fruitful. However, the way of dealing with the question Marx addressed (handled by many leading economists as well) ought not to hide the question itself. Roughly stated the question is: how can we give a rational account of the formation of merchant society through voluntary actions of free individuals pursuing their own goals (in other words private agents)?

It certainly makes sense to build value theories for answering this question as Marx.and others did. However, given the shortcomings of this approach (as the unsolved problems of the formation of prices reminds us), it is not unreasonable to explore other directions. The basic question can be put in terms other than those of value theory. It makes sense, too, to consider a plurality of individuals connected by money (in fact a monetary system) determining their relative wealth through a network of monetary flows. Moreover, such a monetary approach appears to give more consistency to Marx's surplus value theory as well.

II

As everybody knows, Marx starts the study of surplus value by contrasting two modes of circulation: C-M-C corresponding to simple commodity production on the one hand, M-C-M' for the capital on the other. Less noticed is the fact that the two schemes come into the _Capital_ on a very different footing. Whereas C-M-C is the outcome of a very careful and rigorous reasoning which attempts to elucidate the links between Marx's basic presupposition (the contradiction between private and social labour) and the form the circulation takes (the surface of society), M-C-M' is put forth as mere empirical evidence. "But alongside this form [C-M-C] we find another specifically different form: M-C-M, the transformation of money into commodities, and the change

of commodities back again into money..." ([1] p.147). There is, in fact, **no** theoretical foundation for M-C-M'. It is, however, **in** taking M-C-M' as a starting point that Marx endeavours to raise and solve the surplus-value puzzle.

Before examining Marx's argumentation it may be useful to restate it as a set of nine successive propositions.

<1> Marx's section 2 of Capital is shaped as an heuristic device. The starting point is a question presented as an enigma or a logical contradiction- how may exchange and value theory be compatible with surplus value ? - and the terminal point is the solution to the puzzle - labour-power as a commodity. Nine propositions seem to constitute the successive stages of the progression and shape the formal structure of the theory:

(i) Capital's mode of circulation is M-C-M', "buying in order to sell".

(ii) The raison d'être of M-C-M' is the quantitative difference between M' and M (in contrast with the qualitative transformation typical from exchange); M-C-M' makes sense only if M' > M.

(iii) M' > M contradicts the laws of commodity circulation (equivalence would imply M=C=M') and the laws of money circulation (how is it possible to draw more money from circulation than has been put in?).

(iv) Capitalist mode of production being a commodity society (see Capital's first sentence) this difficulty must be solved.

(v) It would be solved if there were a commodity the use value of which had the faculty to create value.

(vi) Labour power creates value.

(vii) If labour power came to be a commodity, the apparent contradiction would dissolve.

(viii) The conditions for labour power to be exchanged on the market are those 'for exchange relations in general.

This "implies no other relations of dependence than those which result from its own nature"(p.168). The labourer "must constantly look upon his labour-power as his own property" (id.) (slavery is excluded). A second condition required is that "the labourer, instead of being in the position to sell commodities in which his labour is incorporated, must be obliged to offer for sale as a commodity that very labour-power" (pp.168-169). The deprivation of means of production is responsible for that position.

(ix) Capitalist mode of production fulfills these two conditions. (Q.E.D.)

Putting aside any critical comments, it is worth noticing what Marx's surplus value theory does not intend to be. It is not a theory of the production of value. This question is assumed to have been already solved at this stage by exchange and value theory. Neither is it a general theory of exploitation. Marx warns the reader that exploitation is inherent in all class societies and that in most of them it is easy to perceive it: "The tith of the priest is clearer than his benediction..."

Surplus value theory is indeed more narrow in scope. It only concerns exploitation specific to capitalism. The question to be solved is: <u>how is it possible for non-labourers to appropriate the value produced by other people through an exchange between equivalents</u>? Marx thought he had answered the question. He was proud of his "<u>tour de force</u>" because exploitation in capitalism is hidden. The principle of equivalence which rules in the market conceals it. Exploitation has then to be unveiled.

However, Marx's theory is open to two main criticisms. The first one is internal criticism <u>stricto sensu</u>: it concerns the logical contradiction between the conditions required for goods to be produced as commodities on the one hand and the conditions for labour power to be a commodity on the other.

The second is internal criticism *lato sensu*, which raises doubts concerning the fitness of Marx's question, given the purpose he had in mind. From these criticisms stems a different way of interpreting Marx's ideas which leads to a restatement in terms of monetary analysis.

<2> We must indicate first that Marx's surplus value theory does not explain M' > M but only that the commodities sold, C', have a greater value than the commodities bought by capitalists., C-. According to the principles of value theory (*Capital* section 1), the difference between C' and C has to be traced to the labour expended to produce them. For Marx, at this stage at least, the capitalist character of the production process does not change the law of value. The point deserves, however, a special explanation because the cost of production C now encompasses an element absent from the theory of value (the payment of wages) and because the difference C'-C is appropriated by non-labourers. Moreover, this point presents a problem only because the appropriation of surplus value is realized on the market (and not in a despotic way).

Let us consider the payment of wages. If it were not assumed that wages payment depends on a market relation, the enigma of surplus value would disappear. For Classical economists for instance, the cost represented by the wages takes the form of additional inputs (matrix B of goods consumed by workers to be added to matrix A of means of production). Real wages are not determined on a market. Smith introduces the natural wage as an outside physiological barrier limiting the pretension of the masters to the reduction of wages. Natural wage is not the result of a bargaining on a market. Real wage is a vector and not a value and, accordingly, the profit is not a mystery'.

The surplus value enigma stems then entirely from the idea that wage is determined as a value in the same way as the price of any commodity. Even if this point is the source of further intricacies and contradictions, we have to give Marx credit for it. On this issue, he is far more lucid than the Classics: in capitalism the relation between workers and masters differs from slavery or peonage. The wages enable workers to choose freely on the market what they want and make them, to a certain extent, like other exchangers (masters included). This important point will be taken up again below.

Now, the relation between workers and capitalists being considered as part of the broader market economy, surplus value requires that some individuals accept in exchange for their labour power less value than they can obtain from using it directly. If the owner of a truck can accept lending the truck for an amount less than that which he could obtain by using it himself, it is obviously due to the labour time spent (in not driving the truck). For the owner of the labour force, the value ought to be exactly the same in both cases since he cannot be separated from himself! In that case, the additional cost of wages would exactly represent the value added by the labour expended so that there would be no room for any surplus value. The mystery of surplus value is not yet brought to an end.

But the story Marx tells does not go that way. Workers do not have the choice. They cannot arbitrate between selling their labour force or using it on their own account. <u>By assumntion,</u> the latter is excluded. Deprived of any means of production, workers have no solution but to hire themselves for wages.

<u>Hic jacet lupus</u>! It is this very assumption which violates the general conditions of the existence of commodities. Marx reminds us, in <u>Capital</u>'s section 1, that commodity production is not a matter of technical but of social division of labour. The labour processes producing

commodities are private ones, that is oriented according to the labourers' own views. Essentially, individuals have the choice and this generates the market as the adequate form for the confrontation of the products of labour. Labour processes have to be private and independently expended in order to be considered part of the commodity division of labour (see quotation above p.2). To assume that some people are deprived of any means of production amounts to saying they are excluded from commodity production. Labour.performed by waged workers is neither private nor independent. The choice of commodities produced and the way of producing them are determined by the capitalists.

To put it briefly, there appears to be a loaical contradiction between making the labour force a commodity (and its owner a member of the commoditv society) on the one hand and the aeneral conditions of the commoditv division of labour on the other. It is the idea of the wage as a value which confers its mystery on surplus value and, at the same time, the thesis of the labour force as a commodity which contradicts this starting point. Propositions (vii), (viii) et (ix) thus do not appear to be mutually compatible[3].

Therefore, proposition (iv) does not hold. Capitalism is not in its totality a commodity society, even if the mode of coordination between capitalists has something to do with the commodity division of labour. The generalized production for markets clearly is to be traced to it and capitalists determine their activities on a private and independent basis. However, a fundamental relation of the capitalist society cannot be accounted for by the theory of commodity production. Capitalists and workers have exchange relations only when wage-earners spend their income, not when the wage is paid. But, after all, it is not so surprising that the specific feature of capitalist society, as compared with simple commodity economy, cannot be dealt with by using the same tools of analysis'. Let us try to go further and to investigate an alternative principle.

<3> Even if the arguments above are right, Marx's surplus value theory, although inconsistent, does not cease to be important. In contrast with most economists, Marx points out a strategic question: we have to understand how the wage as a non-market relationship can take the appearance of an exchange. The thesis suggested here is that <u>the monetary character of the economy may account for the uniform superficial aspect of all economic relations</u>.

According to this view, M-C-M could be an excellent starting point. Unfortunately, M-C-M' appears both misleading and unrelated to Marx's theory. Let us restate the argument in a different way.

First of all, M-C-M' appears to be loosely related to the heart of Marx's surplus value theory. Even if this theory were to be taken for granted, it would give no indication of the difference between M and M'. Marx tackles this problem again in Book 2 of <u>Capital</u> but without a better score. The suggestion would be here that there is no problem at all (as we shall see).

Second, it appears meaningless to maintain that M-C-M has no relevance except for M > M'. One would be tempted for the sake of polemics to put forth the opposite: M ≡ M'. However, we will refrain from doing so since Marx himself convincingly demonstrates this global identity in chapter 5! M ≡ M' does not preclude the existence of profits. We should not forget that profits are spent as well as wages and constant capital. Money thrown in circulation by capitalists includes the purchase of the means of production but also that of new investment and luxury goods. In that sense, profits cannot be grasped but as being simultaneously an income and an expenditure'.

At the level of individual capitalists, the difference between M and M' is conceivable but raises the problem of bankruptcy. To avoid it, the capitalist has to borrow an amount equal to his deficit (or to deplete his balances if any). If we consider capitalists as a whole, a deficit may be the consequence of the saving of workers (as in Kalecki's model) but, in turn, this saving has to take a determinate form. Once again, if bankruptcy is to be avoided, money drawn from circulation is identical.to money put in it.

That $M \equiv C \equiv M'$ is the normal formula of capitalist circulation ought not to worry us. Remember that M is not a commodity (see above) but the precondition for the existence of commodity circulation. $M \equiv C \equiv M'$ conveys no idea of equivalence between money and commodity: purchase and sale are, taken separately, different from exchange. Taken together, purchase and sale, as the general form of exchange, indicates that commodities produced circulate. Nothing can be inferred at this stage about profits.

Proposition (i) is thus particularly misleading: the point addressed is not the conciliation between exchange theory (equivalence) and exploitation (existence of a surplus value) but rather the conditions for the existence of profit in a monetary economy.

Taking into account the fact that labour-power is not a commodity since the labour's owner is excluded from the commodity division of labour, the problem of surplus-value is: how is it possible for individuals being rejected from the division of labour (by deprivation of means of production) to exist since the universal form of wealth is commodity?

But, in turn, this way of raising the question is not sufficient: commodity division of labour cannot be conceived but as closely related to money. This indicates a new direction of research.

<4> A new starting point may be defined if we consider that M-C-M is both the form of circulation of commodity and capitalist economy. This may be derived from what has been said above.

To paraphrase Marx, "Im Anfang war das Geld". Producers of commodities have to buy their means of production (which are the products for other individuals) and to spend the value they expect to be created. In traditional terms, they have to spend $v'A$ (where v' is the row vector of values and A the matrix of means of production) as well as $1'$ (the value added by expended labour). It is with this concept, called "ideal price", that Marx deals in Grundrisse. To make known to everybody the value he thinks he has produced, each labourer expresses it in the common unit of account (the universal equivalent). In order to make this evaluation effective and objective, he transfers by his expenditures the corresponding amount of money. "Money only circulates commodities which have already been ideally transformed into money, not only in the head of the individual but in the conception held by society (directly, the conception held by the participants in the process of buying and selling" ([2] p.187).

Purchases for an agent are sales for another. It would be misleading to think of the process of circulation as a succession in time of expenditures and receipts. The flows of money forming a determinate process (say, for a unit period) are simultaneous. Each individual process may be described by M-C-M or, to be more precise, by M-C-(...)-C'-M where (...) denotes the production process.

Traditional Marxist theory of value is often expressed by $v'A+1'=v'$. In the monetary framework, this corresponds to M=C=C'=M (not forgetting that C includes the commodities purchased on the basis of expected value created!). As in the Tableau économique of Quesnay, the use of all commodities is explicitly stated. The following table exhibits the payment matrix and the way net value is spent ($m_{ij}l_j$ is the fraction of net value created by process j spent in commodity i):

	process 1	process 2	process i	process n	Total
process 1	$a_{11}v_1+$ $m_{11}l_1$	$a_{21}v_2+$ $m_{21}l_1$	....	$a_{n1}v_n+$ $m_{n1}l_1$	Purchases of pr 1
process 2	$a_{12}v_1+$ $m_{12}l_2$	$a_{22}v_2+$ $m_{22}l_2$	....	$a_{n2}v_n+$ $m_{n2}v_n$	Purchases of pr 2
process i	....	....	....	....	....
process n	$a_{1n}v_1+$ $m_{1n}l_n$	$a_{n2}v_2+$ $m_{2n}l_n$	....	$a_{nn}v_n+$ $m_{nn}l_n$	Purchases of pr n
Total	Sales of 1	Sales of 2	....	Sales of n	Amount of circulation

The private character of individual labour processes is expressed by the capacity of everybody to decide how and where the labour force has to be expended. In the monetary framework presented here, the private status of individuals manifests itself through the capacity to order expenditures. This implies, in turn, that everybody has access to the means of payment. Private ownership of means of production and the ability to raise money for financing economic actions are two alternative descriptions of commodity division of labour because both indicate private agents.

Now the problem of surplus value may be put in a more precise way than above: <u>how is it possible for individuals being rejected from the division of labour (by deprivation of means of payment) to exist since the wealth is nothing but the outcome of circulation?</u>

Keeping this question in mind in reading Chapter 6 of <u>Capital</u> may lead one to recognize that the capitalist is less an owner of means of production than an owner of money. Marx calls him "Moneybags". In contrast, people who are going to be wage-earners are without any money. "Nature does not produce on the one side owners of money or commodities, and on the other men possessing nothing but their own labour-power" ([1] p.169).

Even if considering money or means of production amounts to the same thing in a commodity society, it is worth noticing that the latter is less specific and less accurate. The deprivation of means of production for a fraction of the people is a feature common to a great variety of societies. It generates different forms of domination according to the specific aspects of societies considered. The surplus value problem is not that of domination or exploitation *sans phrase* but that of featuring wage relationship.

The very specific aspect of wage, as Marx so rightly points out, is the combination of freedom and subordination. "His [Moneybags] development into a full-grown capitalist must take place, both within the sphere of circulation and without it. These are the conditions of the problem. *Hic Rhodus, hic salta*!" ([1] p.165). Transposed to the present framework, the issue turns out to be: wage-earners ought to get money somehow if they are to take part in the circulation and, at the same time, they ought not to be private agents. The solution is straightforward: clearly two modes of monetary existence are allowed in the circulation:

- the first is private and independent: individuals have the ability, according to the rules of the monetary and credit system, to behave in an autonomous way and to undergo the consequences of their actions (which may go as far as bankruptcy)

- the second is passive and deoendent: people do not have the ability to act on their own account; they get the money not from the banks but from private and independent individuals: they cannot experience bankruptcy but their existence is tied to the willingness of the latter to give them money; once in possession of money, they behave freely on the market.

The two modes of circulation are figured on schema 2.

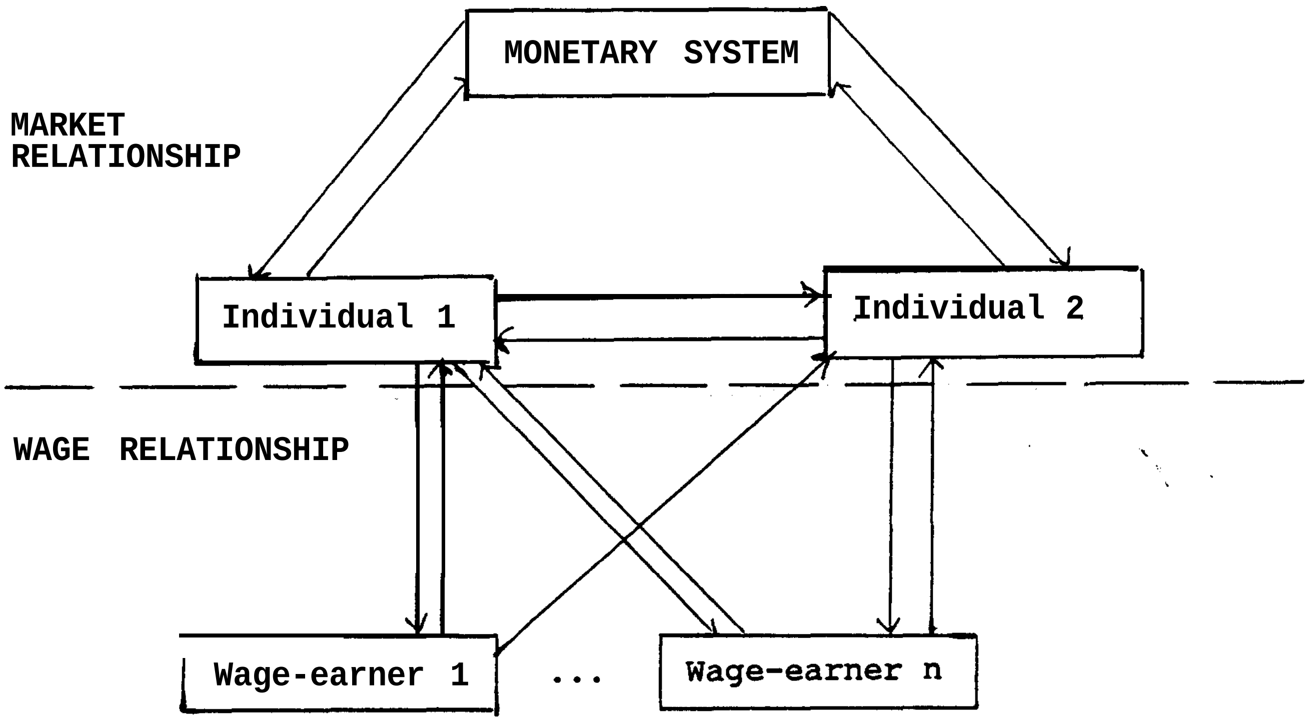
Formally, the circulation attached to the wage relationship is distinct from the commodity circulation. Instead of M-C-M it takes the form of G-M-G (where G denotes goods) if one can admit that the labour force may be thought of as a good[6]. To characterize this particular circulation we can think of the wage relationship as being a monetary relation of subordination[7].

<5> Now, to come back to the question of surplus value in its traditional sense, it is worth stating briefly how surplus product and wage relationship are connected.

Marxist algebraists and Neo-Ricardians take surplus product as given. This usual practice does not help very much in addressing the preceding question. On the other side, some Marxists inquire into the "origin" of surplus product, but the absence of answer is as frustrating as the absence of question! Our concern will be very different. We shall not try to "explain" surplus product but will simply make clear the conditions which must be fulfilled in order to give a clear account of its existence.

The surplus product is the difference between the vector of total product and the vector of the means of production - that is to say, of the quantities of commodities necessary to the production. Let us assume for the sake of simplicity that it is possible to assess without ambiguity what the purely technical inputs are. The only question to deal with then is the social conditions of production or, to be more precise, the goods producers consume.

Let us assume a commodity society where everybody takes part in the social division of labour and decides freely whether (or not) to produce determinate quantities of commodities. How should the goods individuals purchase for their own consumption be considered? Are they part of the


MONETARY SYSTEM
MARKET
RELATIONSHIP
Individual 1
Individual 2
WAGE RELATIONSHIP
Wage-earner 1
...
Wage-earner n

Schema 2

necessities of production? Is it possible to draw a line between those which are necessary (bread, for example) and those which are not (poetry, for example)?

If one thinks that the criterion must be objective, i.e. determined and observable socially, the conclusion obviously is **that** there are no non-necessary goods since the distinction between necessary and luxury, here, is a purely subjective matter. If the goods produced are sold on the market, **all the** goods purchased as a counterpart of this value must be considered as necessary (see table p.16). In a simple commodity economy, the equality between sales and purchases once realized for each producer, there is no objective distinction between necessary and luxury goods. As a consequence, there is no room left for a surplus product'.

Wage relationship introduces something radically different. The goods consumed by the producers have now an objective and socially determinate value: the amount of wages. It is therefore perfectly clear that the goods purchased from the wages, whatever they may be, are necessary to the production. These goods being known (at the end of the market) there is no problem in calculating the surplus product. The existence of a surplus product is not a technical but a social matter in the very precise sense that only certain social conditions of production allow us to define it. The wase **relationship** is a **necessary**[9] condition for the existence of a **surplus product** in a monetary **economy**.

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The monetary interpretation suggested in this paper" is not usual among Marx readers and may sound rather heretical. It would probably not be difficult to show that it is outside Marxism, properly speaking.

The ideas put forth in this paper are, in fact, part of a broader examination of some unsettled problems of political economy especially that of formation of prices and quantities". The striking point is that a critical examination of Marx's thought leads to a restatement of his theory which is in perfect accordance with some critical interrogation on the failure of fundamental economic theory to represent adequately the working of the market. The question of money is **crucial to** this issue. Marx's writings, although old-fashioned today, still deserve a careful and renewed study!

FOOTNOTES

1. Note that Katsuhito Iwai rigorously demonstates an equivalent (and far more precise) proposition in a completely different framework. See "The Evolution of Money - A Search-Theoretic Foundation of Monetary Economics" June 1988 mime0

2. Smith is very clear when he defines profit by means of the quantitative principle. determining its quantity, the proportionality to capital.

3. Marxist tradition has accredited the idea that the labour force was a "particular" commodity. The problem is to determine the so-called "particularity". For instance, considering that obtaining goods (real wage) in exchange for the labour force is a sufficient condition for making the labour force a commodity is obviously to deprive the existence of surplus-value of its mystery. This amounts, in fact, to the Classical point of view.

4. Note that economic theory generally acknowledges this point in treating the determination of wage in a specific way. This is the case for the classical tradition which considers the wage as determined by forces outside the market. It is equally true in Keynes' theory where the real wage is the unvoluntary outcome of the level of activity, given the marginal productivity function. General equilibrium theory deliberately follows another path in extending the principle of exchange to production relations.

5. Whereas Ricardo and the prices of production tradition insist on the independence between the determination of prices and profit on the one hand and the way surplus product is used (see Sraffa for instance), Marx follows the path initiated by Quesnay in the <u>Tableau économique</u> treating the whole set of economic flows and their mutual relations (Cf the reproduction schemes of Book 2).

6. This point is highly controversial. Modern (orthodox and heterodox) economists rightly insist on the specificity of the wage contract which cannot specify the true amount of effort the wage-earner will deliver.

7. See C. Benetti and J. Cartelier <u>Marchands, salariat et capitalistes</u> Maspéro Paris 1980

8. Such a conclusion is by no means trivial. In 'common Marxist theory matrix A is the same in the value system and in the prices of production system. Accordingly, vector of surplus value m' is given by the difference between the vector l'and the vector v'B representing the vector of value of labour-force. Vector l' is then to be understood as that of value of the surplus product of a simple commodity economy. In that case, the surplus product is: $s=(I-A)e$, where e is the vector unity.

9. It is obviously not a sufficient condition.

10. This point of view. had been expressed in a more systematic and abstract way in Marchands, salariat et canitalistes op.cit.

11. c. Benetti and J. Cartelier "Monnaie et formation des grandeurs économiques" in La formation des srandeurs économiques Paris PUF Nouvelle Encyclopédie Diderot forthcoming

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