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A CRITIQUE OF BENETTI AND CARTELIER'S CRITICAL
EXAMINATION
OF MARX'S THEORY OF MONEY

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In part three of *Merchants, salariat et capitalistes* (1980), Benetti and Cartelier develop a critical examination of the logical consistency of some of the theoretical propositions inherent to Marx's theory of capital in *Capital*. Some of the problems treated there are then separately developed in chapter V of Benetti's *Moneda y teoría del valor* (1990) and Cartelier's "Marx's theory of value, exchange and surplus-value: a suggested reformulation" (1991). Marx's presentation of the forms of value is one of the problems critically analyzed by them; particularly, they intend to show that Marx did not succeed in the derivation of the concept of money from that of commodity and therefore from commodity exchange relationship. An important critique to Benetti and Cartelier's critical arguments developed in *Merchants, salariat et capitalistes* is found in Fausto (1983); Williams (1992) responds to Cartelier's article; and, in his response to Benetti, Robles (1992 and 1997) develops further some of Fausto's arguments related to the genesis of the money-form of value.

This paper is intended to be a further elaboration of Robles' interpretation of Marx's presentation of the genesis of the money-form of value. Its purpose is twofold: on the one hand, to answer Benetti and Cartelier's argument that money must be postulated by commodity production and, therefore, cannot be deduced, as they claim Marx does it, from the exchange relationship; and, on the other hand, to complement Robles' exposition of the passages from the simple to the expanded form of value and from the latter to the general form by introducing the dialectical relationship between the one and the many, and between repulsion and attraction. The central proposition developed here is, that and on the grounds of Marx's own analytical objectives and on the basis of the dialectical method, and contrary to what Benetti and Cartelier sustain, the reversal of the expanded form can only result in the upsurge of the general form.

After discussing the site of the genesis of the money-form in the logical structure of *Capital* (Part 1), as well as the basic dialectical postulates of the moments of the money-form (Part 2), the exposition is aimed to account for the multiplication of the simple forms of expression of the value of one commodity, which gives way to the upsurge of its expanded form; then, to elucidate the multiplication of the series of expanded forms, corresponding to each one of the 'many' commodities; finally, to incorporate all of the series implied in the expanded form in the dialectical reversal process of the expanded form and, thus, in the derivation of the general form of value. This analysis is done, firstly, emphasizing the relation between Hegel's *Logic* and Marx's dialectic exposition (Part 3); secondly, comparing the forms of construction of the general by Marx, on the one hand, and by Benetti and Cartelier, on the other (Parts 4 and 5).

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1. The Site of the Genesis of the Money-Form of Value in the Logical Structure of Marx's *Capital*

The main objective of Marx's theoretical project in *Capital* is to develop the concept of capital as the Subject of capitalist society.² This development is done through a systematic ordering of its essential determinations according to dialectics. The dialectical path of the self-unfolding process of capital supposes that the concept of capital-as-a-totality is presupposed throughout of the development of its moments, and that the development of such moments and therefore of the categories which correspond to them move from those that are the simplest and most abstract and deriving those that are progressively more complex and concrete.³ In such movement the simplest categories are negated (dialectically; therefore not eliminated) by those that are most complex, and, at the same time, the most complex ones are presupposed (in dialectical terms) in the simplest ones. Accordingly, the development of the concept of capital, which is introduced by Marx in Part Two, volume 1 of *Capital* (The Transformation of Money into Capital), must be preceded by the analysis of its simplest and more abstract determinations, which is done in Part One (Commodities and Money). Marx assigns the analysis of commodities and money as the first moment of the analysis of capital in *Capital*, and within this moment, the commodity as the simplest category.⁴

However, the understanding of the subject-matter of the first parts of *Capital I* has been one of the greatest difficulties for Marxists and non-Marxists;⁵ therefore several interpretations have emerged in the ample existing literature. Benetti and Cartelier's critical arguments to Marx's deduction of money are based upon a particular interpretation of the subject-matter of part I of *Capital I* and of the form through which the categories treated there are logically ordered and interconnected. For them, the argumentation on this matter has to be a concern of formal logic, and not of dialectics. With a reading of Marx in such terms, they claim that the subject-matter of part I of *Capital I* is the analysis of commodity society as the outcome of an specific division of labour, and that, following Marx's chain of reasoning, the category of money cannot be derived from that of commodity and, therefore, from the generalization of the commodity market relationship.⁶ This interpretation considers that, for Marx, capitalist society is a species of the genus commodity society. Instead of that, they argue that both societies are monetary. Therefore, to restate Marx's analysis in a coherent way, Benetti and Cartelier argue that money must be considered as one of the basic postulates of the analysis of commodity society, on the same footing as the commodity division of labour (Benetti, 1990: 167; Cartelier, 1991: 260). Now, they clearly perceive that the derivation of money from commodity, through the increasingly complex forms of the self-expression of value, is crucial for the demonstration of the validity of the theory of labor-value as the foundation for the explanation of capitalist society. So, as Cartelier himself says, to restate Marx's analysis the way they do amounts to discard Marx's "value theory (along with its pretension to deducing money and monetary magnitudes from an alleged deeper level)" (ibid.).

2 "The exact development of the concept of capital [is] necessary since it [is] the fundamental concept of modern economics, just as capital itself, whose abstract, reflected image [is] its concept [...], [is] the foundation of bourgeois society. The sharp formulation of the basic presuppositions of the relation must bring out all the contradictions of bourgeois production, as well as the boundary where it drives beyond itself" (Marx, 1973: 331).

3 "Capital is the all-dominating economic power of bourgeois society. It must form the starting point as well as the finishing point..." (Marx, 1973: 107). As such starting point capital presupposes the dissociation of property and labor, social foundation of the exchange between capital and waged-labor and of generalized commodity production, as well as the general concept of value, specific of capitalist mercantile production (Dussel, 1992: 38-39).

4 Dussel (1992) develops logical and hermeneutical arguments to sustain that Part One should be considered as a mere Introduction to the theme of capital, which is the specific object of analysis of *Capital*.

5 Marx himself admits that the point of departure of any scientific analysis is the most difficult one: "Every beginning is difficult, holds in all sciences. To understand the first chapter, especially the section that contains the analysis of commodities, will, therefore, present the greatest difficult" (Marx, 1977: 18).

6 In his response to Cartelier, Williams also misreads Marx: "Marx's apparent errors in formal logic arise from a dialectical failing: starting the theorization of capitalism with the commodity rather than with the value-form" (Williams, 1992: 440). See Marx's "Notes (1879-80) on Adolph Wagner" in Carver, 1975.

Our interpretation of both the subject-matter of part I of *Capital I* and the logical order of the categories treated there is opposed to that of Benetti and Cartelier. Let us present it from the perspective of the dialectic of capital. As mentioned above, capital is the Subject who journeys Marx's dialectical path. In Part Two, Marx defines capital-in-general as value that self-valorizes, that is, value as a process through which it maintains and increases itself by constantly assuming, in turn, the forms of money and commodities. From this definition, we are able to point out, at least, the following propositions:

- (i) Value as value is not the form of the bourgeois mode of association, but the capital-form of value;
- (ii) Value appears, from a Hegelian perspective, to be the 'being' of capital and capital-in-general the 'essence' of capital;
- (iii) Value as capital "presents itself as a self-moving substance" (Marx: 1977: 152) for which money and commodities are both its forms of existence; therefore they are its determinations: money representing its general and independent form of existence by means of which its identity with itself may at any time be asserted, and commodity its particular form;
- (iv) The circulation of capital takes the form of M-C-M'.

Moreover, from a methodological point of view, this definition implies certain logical presuppositions: commodity and money appear there, not only as categories which are logically presupposed to the concept of capital-in-general, but also as forms of value. In Part Two of *Capital I*, value already possesses an independent form of existence -as money- which provides the material possibility for the continuous realization of its process of increase. The acquisition of such autonomous money-form by the value objectified in commodities, that is, the derivation of money from commodities, is a necessary prerequisite for the conformation of capital as the Subject of capitalist society.⁷ Therefore, capital cannot be properly understood without these more abstract-simple categories as its logical presuppositions. Marx's analytical task is thus to analyze these categories and their logical relations as the logical starting-point of the dialectic of capital, and therefore as a moment of the concept of capital. This is done in the first part of *Capital I*. A most difficult thing to understand is the precise subject-matter Marx assigns to this moment.

Based on a Hegelian reading of Marx's *Capital*,⁸ we would argue that part I of *Capital I* is not devoted to the analysis of commodity society, neither in a historical nor in a logical sense, but to the dialectical analysis of simple commodity circulation (along with its foundations) as the immediate appearance of capitalist mode production; analysis which begins with the simplest category through which its wealth presents itself: the commodity. According to Marx's dialectics, this implies two things: on the one hand, as such appearance, simple commodity circulation, in which interior Marx's analyses the genesis of money, is not only an objective moment of the capitalist mode of production, but a negated moment of it, which, however, is posited in a positive form in part I of *Capital I*. To consider simple commodity circulation, C-M-C, as such negated moment implies that its essential determinations and its aim appear opposed to those of capital:

⁷ "As the dominant subject [...] of this process [of valorization] value requires above all an independent form by means of which its identity with itself may be asserted. Only in the shape of money does it possess this form." (Marx: 1873: 255)

⁸ The dialectic of part I of *Capital I* parallels to a certain extent that of the doctrine of Being of Hegel's *Logic*. Mentioning only three related points: One, both follow the same logic path from the most abstract-simple form of Being to a more concrete-complex one, and 'deducing' the latter from the contradictions of the internal determinations of the former. Two, for both the beginning must be an immediacy: the pure Being, for Hegel; the immediate appearance of capitalist mode of production as a negated moment of it, for Marx. And, three, while the doctrine of Being appears as the presupposition of the doctrine of essence in Hegel's *Logic*, the treaty of commodity and money appears as the presupposition of the treaty of the essence of capital, that is, of capital-in-general in Marx's *Capital*.

- (i) Value does not appear there as a self-moving substance, but as an inert one, embodied in commodities and money. Its only determination at this moment, that of being objectivation of social abstract labor, is external to capital.⁹
- (ii) Commodity and money do not appear as forms of capital, but, on the contrary, value appears as a determinant of commodity and money.
- (iii) The aim of the process of simple commodity circulation, in which commodity is the Subject, appears to be the satisfaction of needs, not the valorization of value; therefore this process contradicts that of the circulation of capital, in which self-valorizing value is the Subject.¹⁰

On the other hand, money can be considered neither a simpler category than commodity, because it is not only a commodity, but the universality of commodities; nor a mere postulate, as Benetti and Cartelier claim, because its constitution cannot be done but from the commodity, particularly from the contradiction of its two essential determinants: value-form and use-value-form. But this latter points do not imply either, as will be shown below, that, for Marx, money must be derived from 'the commodity *exchange* relationship', as Benetti and Cartelier try to argue.¹¹ For Marx money is a particular commodity excluded socially, by the rest of commodities, to incarnate value as such; exclusion necessary for the objective unification of the products of labor as values from their separateness as use-values. (Arthur, 1979) It is not a *numeraire*, resulting from a practical or "scientific" convention which permits the general exchange of commodities, but an immanent determination of the specific characteristics of capitalist production. Money does not express the exchangeability of commodities, but its qualitative equivalence as values. It is money's own direct and general exchangeability, *deriving* from its quality as the general equivalent, which permits the general exchangeability of commodities.

2. The Basic Dialectical Postulates of the Moments of the Money-Form of Value

Considering that, for Marx, money is the universal form of appearance of the being of commodities as values, and that it is a more complex category than that of commodity, it appears that money must be deduced only from the value-form of commodities.¹² However, given that, for Marx, a commodity cannot express its value in itself,¹³ but that the being of commodities as values can only manifest itself through the relation of commodity to commodity, the constitution of money must emerge from this relation. The tracing of the genesis of the money-form of value from this relation is precisely the subject-matter of section 3 of chapter I of *Capital I*:

Here, ..., a task is set us, the performance of which has never yet even been attempted by *bourgeois* economy, the task of tracing the genesis of [the]money-form, of developing the expressions of value implied in the value-relation of commodities, from its simplest, almost imperceptible outline, to the

⁹ Marx reverses Hegel in the sense that the absolute starting point of his critical discourse, prior to the pure Being of capital, is the Not-being of capital, that is, live labor as the creating source of value, of surplus-value, and, hence, of capital from the nothingness of capital. "Once subsumed, live labor becomes a determination of capital (...) Now Hegelian 'logic' works perfectly..." Dussel (1992: 50) For a comparison Between Hegel and Marx, see Dussel, Enrique (1990, Part Three).

¹⁰ For a further discussion on this point, see Fausto (1983) and Robles (1997).

¹¹ In his response to Cartelier, Williams claims that Marx derives commodity money from commodity exchange relationship: "Whilst Marx appears to equate the 'form of value' and 'exchange value' (e.g. in Marx, 1886: the heading to chapter 1, section 3), he is, in that chapter, unsuccessful only in trying to derive the necessity of *commodity* money from universal exchange" (Williams, 1992: 439)

¹² Following his misreading of Marx, Williams argues that money should be not derived from commodity, but from the value-form: "money can and should be derived from the value-form ..., not as a 'surface' epiphenomenon, but as a necessary grounding of the abstract value-form." (Williams, 1992: 439).

¹³ "Turn and examine a single commodity, by itself, as we will, yet in so far as it remains an object of value, it seems impossible to grasp it" (Marx, 1977: 54).

dazzling money-form. By doing this we shall, at the same time, solve the riddle presented by money (Marx, 1977: 54)

As was mentioned above, one of the problems Benetti and Cartelier are concerned about is the character of Marx's analysis of the genesis of money. They argue that the analysis must be a logical one, rather than an historical one. Indeed, Marx's analysis does not correspond to a historical development, but to a logical one, or more precisely, to a dialectical one. However, to say that it is a dialectical one does not mean that it be a conceptual discourse in a subjective sense. Rather it is a dialectical discourse of the concept, which, as Fausto argues, designates a determination which is presented so much as a determination of the subject as a determination of the object (Fausto, 1988: 124). This dialectical character of Marx's analysis of the genesis of money means thus that it must be understood as the conceptual development of the expressions of value as objective moments or determinations of money. Each form of value, as a moment of money, is posited as a distinct, affirmative determination, and yet they are no less inseparable. Moments which, however, "do not exist but under a negative form, as negated moments at the interior of money" (Fausto: 1988: 125, our translation). This means that all the moment or forms of value implied in the money-form, as negated moments, are posited in a positive form through Marx's analysis of its genesis. In this sense, it is possible to say, as Fausto does, "that at the level of the object, the moments of money the theory distinguishes, are and are not. They are in the sense that they exist to a certain extent in the object; they are not in the sense that they only exist as negated determinations" (Fausto, *ibid.*, our translation). Marx's analysis presents thus the moments of money which, in reality, are not but negated, and, however, they are present as such in the real.

In this sense, the development of the forms of value, or moments implied in Marx's analysis of the genesis of the money-form of value, does not correspond to the development of the commodity exchange relationship; nor the universal equivalent is a consequence of the generalization of the market relationship, as Cartelier¹⁴ and then Williams¹⁵ believe it. Rather it corresponds to, as Marx says, the dialectical development of "the expressions of value implied in the value-relation of commodities, from its simplest, almost imperceptible outline, to the dazzling money-form".

According to Marx's statement above, the forms of value are arranged in a logical chain from the simplest one to the money-form: the simple form, the expanded form and the general form. This sequence of the moments of money responds to a dialectical order in which the starting point corresponds to the moment of unity, i.e., the simplest and most abstract value-relation of commodities, in which the moment of plurality is presupposed, and therefore negated; then the moment of unity is posited as its other, that is as the moment of plurality, after which it culminates with the moment of unity-in-plurality as a negation of the latter, each moment being more complex and concrete than that went before. We would argue that Marx's dialectical order of the moments of money is grounded in Hegel's notions of 'the One and the Many' and 'Repulsion and Attraction', located in the chapter on Being-for-self of his *Logic*. Hegel introduces these categories in order to deduce pure *quantity*, as opposed to quality. In a similar way, Marx introduces them in order to deduce money as the independent form acquired by value, which can adequately express the merely quantitative character of the being of value when it relates to itself in the process of circulation of capital.¹⁶

¹⁴ "Far from being a consequence of the generalization of the *market relationship*, as Marx seems to believe, the universal equivalent is a prerequisite (in a logical and non-historical sense) for such relation to exist" (Cartelier, 1992: 260, our emphasis).

¹⁵ "All that is necessary for the present argument is an acceptance that commodity money is at least a more concrete concept than money in general; that is the basis of Marx's failure to derive (in fact money commodity) from the *exchange relationship*" (Williams, 1992: 440, our emphasis).

¹⁶ Moreover, once money is fixed as the specific equivalent commodity, it performs its first function: that of acting as "universal measure of value". (Marx, 1873: 188)

3. The Development of the Forms of Value

Each commodity contains the immediate negative relation between value and its contrary, that is, use-value. Because of its contradictory nature, this non-mediated unity of value and use-value is unstable. Moreover, because of value's social character, and from its urge to express itself to effectively become the Subject of capitalism, the immanent contradiction of commodities externalizes through the relation established among commodities, giving rise to the form of value.

3.1. The simple form

Following Hegel's dialectical process, Marx configures, firstly, the simplest expression of value as a relation between two commodities; relation which is considered, to certain extent, as the cellular form, or, in Hegelian words, the in-self of money:

The economist have hitherto overlooked the extremely simple point that the form: *20 yards of linen = 1 coat* is only the underdeveloped basis of *20 yards of linen = \$ 2*, and that therefore the *simplest commodity form*, in which its value is not yet expressed as a relation to all other commodities but only as something *differentiated* from the natural form of the commodity itself contains the *whole secret of the money form* and with it, in embryo, of *all the bourgeois forms of the product of labour* (Letter to Engels, June 22, 1867 in Marx-Engels, 1975: 177; original emphasis).

This relation is understood as a self-reflective relation of the value of a commodity: the value of 'one' commodity is expressed in its 'other' determination, i.e., use-value; but since a commodity cannot express its value in itself, it is expressed in the use-value of an independent 'other' commodity; an 'other' commodity which is the same as the 'one' commodity. Through the simple form, the value of 'one' commodity affirms itself externally when it is determined as something different from the use-value of that same commodity, and as a quality that, being of a social kind, actualizes only through the relation between two commodities. This expression of value assigns to both commodities different value-forms according to the role played by their common determinations: the commodity expressing its value in the 'other' commodity is situated in the relative value-form, while the 'other' commodity, which serves as the material for the value-expression, is situated in the equivalent value-form. It is thus a relation to itself as an 'other', and therefore as a unity. As a simple unity, both forms are not only, Marx says, "two intimately connected, mutually dependent and inseparable elements of the expression of value", but also, "at the same time, are mutually *exclusive*, antagonistic extremes -i.e., poles of the same expression (Marx, 1977: 55, our emphasis). So, the contradiction between value and use value immanent in each commodity, becomes the polarity between the relative and the equivalent forms. In this sense, the relation of the commodity that expresses its value relatively and the one that serves as equivalent is that of repulsion.

For Benetti and Cartelier, one of the problems of Marx's reasoning arises from his presentation of the opposite expression of value implied in the expression of value of 'one' commodity in the 'other', that is, the expression of value of the latter in the former.¹⁷ According to Benetti, Marx's problem is that "the simple form of value contains an ambiguity because he attributes to it the property of *symmetry*, according to which one or the other commodity can alternatively perform the role of equivalent" (Benetti, 1990: 164; our emphasis and translation). As it is argued in Robles (1997), this is a misunderstanding of Marx's logic: for Marx, the opposite relations implied in the simple form of value do not correspond, in terms of formal logic, to a relation of symmetry, but, in dialectical terms, to a relation of *exclusion*, one excluding the other. This means that they are not only considered as *different* relations of value, but also that 'one' is presupposed, and therefore negated, in

¹⁷ "No doubt, the expression *20 yards of linen = 1 coat*, or *20 yards of linen are worth 1 coat*, implies the *opposite* relation, *1 coat = 20 yards of linen*, or *1 coat is worth 20 yards of linen* (Marx, 1977: 55; our emphasis).

the 'other' one. The consideration that the opposite relations implied in the simple form of value are two different relation implies already the moment of plurality, or in Hegelian categories, of the 'many'.

3.2. The expanded form

Secondly, Hegel's 'One and Many' and 'Repulsion' reveal the dialectical character of the transition from the simple value-form to the expanded one:

The relation of the negative to itself is a negative relation, and so a distinguishing of the One from itself, the *repulsion* of the One; that is, it makes *Many Ones*. So far as regards the immediacy of the self-existents, these Many *are*: and the repulsion of every One and them becomes to that extent their repulsion against each other as existing units -in other words, their *reciprocal exclusion* (Hegel, 1991: 142, our emphasis).

The impulse of value to self-express as a social abstract quality, different and autonomous from the private concrete character of use-values, is not fulfilled with the simple form: although value expresses as something different from the use-value of the commodity which carries it, it still expresses in a specific use-value, that of the equivalent. But, inasmuch as it is completely indifferent which commodity is excluded as simple equivalent, the 'one' commodity ends up excluding all the world of commodities as alternative equivalents.

In this first moment, the repulsion is referred to the positing of the 'many' ones through the 'one' itself. The value of 'one' commodity is expressed, through the multiplication of its simple forms, in terms of the 'many' other' commodities; each one being a simple relation. This moment is called by Marx as the expanded form of value of a commodity; a form in which the 'one' commodity expresses its identity as value in the use-value of the 'many' 'other' commodities, each of them figuring as a particular equivalent of the value of the 'one' commodity. The expanded form of value implies that each one of the 'many' expression of value of a commodity is considered not only as a simple relation, but also as being *excluded* from the 'many' 'others'. Also, that the 'one' commodity that expresses its value relatively opposes all the other 'many' commodities which serve as particular equivalents, excluding them from expressing their own value in the same value expression. Since each commodity *excludes* the others, the relation of the 'many' expressions which are implied in the expanded form of a commodity represent a relation of *reciprocal exclusion*.

Thus, in a second moment the repulsion presents itself not as the generation of ones, but as their mutual repelling. That is, given that each of the 'many' other commodities is 'one' commodity, each of them turns into 'one', as Uchida says, "with the same warrant to express its own value" (Uchida, 1988: 55) in the 'many' other commodities.¹⁸ But since each one of the expressions of value implied in the expanded form of the 'many' commodities is 'one' single relation between two commodities, each one of the relative and equivalent value-forms implied in the expanded form of a commodity are contained as opposed forms in the expanded form of the 'other' commodity. (For example, in the relation of commodities A and B implied in the expanded form of commodity A, commodity A is situated in the relative form and commodity B functions as its particular equivalent form; while in the expanded form of commodity B, commodity B is situated in relative form and commodity A functions as its particular equivalent form.) This implies that as a result of the process through which each one of commodities expresses its value in the 'many' 'other' ones, that is, as a result of the multiplication of the expanded forms of value, one for each kind of commodity, we have, on the whole, on the one hand, nothing but, as Marx says, "an interminable series of expression of

¹⁸ Or, in other words, if the expanded form of the value of each one of the 'many' commodities is considered as an unity, there are so 'many' expanded forms of value as 'many' 'one' commodities exist. As Marx says, eventually, "...the relative value of each commodity is expressed in this expanded form..." (Marx, 1873: 156)

value," each *excluding* the others, and, on the other hand, "nothing but fragmentary equivalent forms, each *excluding* the others" (Marx: 1977: 70; our emphasis) and, therefore, all of them excluding themselves from taking the universal equivalent form of value. Their positing of themselves as 'ones' is thus the reciprocal negating of themselves. The logical principle of the reciprocal relation through which each 'one' of the 'many' is posited by excluding the others responds to that of exclusion implied in the opposite relations of the simple form of value. Thus, because Marx maintains this principle, the reciprocal relations between the 'many' expressions of value do not constitute, as Benetti and Cartelier argues in terms of formal logic, a relation of *simultaneity*, or *conjunction*, which supposes the property of *symmetry*, but, according to dialectic, a relation of *reciprocal exclusion*.¹⁹

3.3. The general form

Third, Hegel's relation of 'Repulsion and Attraction' reveals the dialectical character of the transition from the expanded value-form to the general form of value:

But the many are one the same as another: each is One, or even one of the Many; they are consequently one and the same. Or when we study all that *Repulsion* involves, we see that as a negative attitude of many ones to one another, it is just as essentially a connective reference of them to each other; and as those to which the One is related in its act of repulsion are ones, it is in them thrown into relation with itself. The repulsion therefore has equal right to be called *Attraction*; and the exclusive One, or Being-for-self, suppresses itself (Hegel, 1991: 143).

What Hegel is saying here is that repulsion passes over into attraction by the same process: the 'one' repels the 'many', but these 'many' are identical 'ones' to that 'one' which repels; and then, the relation is inverted into its opposite, instead of rejection being only an act of separating, it passes over into an act of approaching, of attraction, of unification. We believe that the same dialectical reasoning is used by Marx in the transition from the expanded form of value to the general one, through the inversion of the former into the latter. Although to understand correctly Marx's dialectical reasoning here has been very difficult to us, we want to present some of our ideas about it. According to the moment of plurality, the reciprocal relation of the 'many' expressions of value shows that each one is determined simply like any 'other' one: each 'one' is 'one' commodity which expresses its value in an expanded form; each is 'one' of the 'many' repelled as particular equivalents by each 'one' commodity; as each one of the commodities is what any other commodity is, they are absolutely the same. But since each one is posited through the reciprocal exclusion of the 'many' others, the 'one' which excludes the 'other' 'ones' relates itself to them as to its own self. This negative relation of the 'many' ones to one another -which Hegel named as "a *going-together-with-self*" (Hegel, 1993:175)- is attraction, that is, the positing of the one as such, of one distinct of the other ones.

It is precisely through the relation of reciprocal exclusion, passed over to attraction, of all expressions of value implied in the expanded forms of the 'many' commodities that these 'many' commodities unify their relative and equivalent forms and, by doing so, exclude 'one' commodity which, therefore, is posited as the universal equivalent by the world of commodities. This process, which ends in the conformation of the general form of value, is not but the result of the force of the being of the 'many' commodities as values, and therefore of value itself, to achieve a general and independent form of existence. Value is thus posited by itself and through itself as a concrete universal.

The commodity-money form of value (i.e., as gold, etc.) which is a concrete manifestation of the universal equivalent is the only moment of the process of development of the value-form that should be considered entirely contingent.

¹⁹ For a further discussion on this point, see Robles, 1977.

Benetti and Cartelier do not conceive Marx's transition from the expanded form to the general form as a dialectical inversion, but as an inversion in terms of formal logic. Only within a conception of the reversal of the expanded form from the perspective of formal logic, Benetti and Cartelier are able to argue that "the reversal of the expanded form does not generate anything but the expanded form itself" (Benetti, 1990: 166; Cartelier, 1992: 259).

4. The Formal and Non-Formal Properties of the Forms of Value

Formalist interpretations assume that Marx's forms of value imply the three properties of relations of equivalence:

- 1) *Reflexivity*: $x_A = x_A$
- 2) *Symmetry*: if $x_A = y_B$, then $y_B = x_A$
- 3) *Transitivity*: if $x_A = y_B$, and $y_B = z_C$, then $x_A = z_C$

As formalist thinkers Benetti and Cartelier take Marx to be employing some of these properties throughout his forms of value:

- 1) In relation of *reflexivity*, both authors accept implicitly that Marx's analysis violates it.

2) In relation of *symmetry*, they take it differently: For Benetti, it is implied in Marx's form of value: "The ambiguity of the analysis of the simple form of value appears when Marx attributes to it the property of *symmetry*, according to which one or the other commodity can alternatively perform the role of equivalent" (Benetti, 1990: 164; our emphasis and translation). For Cartelier, Marx's analysis violates it: "This relationship is clearly not reversible for the agent, as Marx rightly insist [though his use of the equals sign (=) is somewhat misleading from this point of view" (Cartelier, 1991: 259).

3) In relation of *transitivity*, they think about it differently: On the one hand, Benetti claims that it is implied in them: "The total form of value is obtained through the generalization of the simple form when a number of commodities greater than two is considered" (ibid.). On the other hand, Cartelier apparently rejects it. However, it is supposed, as it will be shown below, in his logical construction of the reversal of the expanded form. Even though each one of them takes these properties differently in his own analysis of Marx's forms of value, they arrive to the same conclusion: Marx's reversal of the expanded form does not generate the general form, but the expanded form itself (Benetti, op. cit.: 166; Cartelier, op. cit.: 259).

According to what was said above, Marx's construction of the forms of value violates the three properties:

1) *Non-reflexivity*: $x_A = x_A$ is not an expression of value, it is only a tautology that expresses the self-identity of the use-value of the commodity, but nothing about its value: "It is not possible to express the value of linen in linen. 20 yards of linen = 20 yards of linen is not an expression of value. On the contrary, such an equation merely says that 20 yards of linen are nothing else than 20 yards of linen, a definitive quantity of the use-value linen (Marx, 1977: 55).

2) *Non-symmetry*: $x_A = y_B$ and $y_B = x_A$ are two different expressions of value, one excluding the other. Therefore the relation between these two expressions of value is considered by Marx as one of exclusion: "A single commodity cannot, ..., simultaneously assume, in the same expression of value, both forms. The very polarity of these forms makes them *mutually exclusive*" (Marx, 1977:

55-56; our emphasis).²⁰

3) *Non-transitivity*: $x_A = y_B$, and $y_B = z_C$, and $x_A = z_C$ are three different expressions of value, one excluding the others. Since this is a generalization of the property of non-symmetry to the expanded form of value, the relation between these expressions of value is also considered a relation of exclusion.

5. Marx's and Benetti and Cartelier's Construction of the Forms of Value

To present Marx's and Benetti and Cartelier's forms of value, let us consider the following: be x_A, y_B, z_C, w_D , etc. the respective quantities x, y, z, w , etc. of commodities A, B, C, D, etc. The relation between any two commodities in which the 'one' commodity expressing its value in the 'other' 'one' commodity is situated in relative value-form and the 'other' one commodity whose use-value serves as material of the value-expression functions as equivalent of the 'one' commodity is represented with the symbol 'one commodity' \longleftrightarrow 'other commodity'.

The number of equivalents in any relation can be calculated by the following equation:

$$E = M(N-1)$$

where: M is the number of commodities expressing its value, and
N the number of commodities involved in the relation.

5.1. The simple form of value

Marx's simple expression of value of a commodity (for example, commodity A in relation to commodity B) can be represented as:

$$x_A \text{ ' } \longrightarrow \text{ ' } y_B$$

The opposed expression implied in Marx's simple form of commodity A is considered as a *different* expression in dialectical sense, that is, it is presupposed, and therefore negated, in the simple form. In this sense, 'one' *excludes* the other. The opposed form is thus the simple form of value of the other commodity, of commodity B,

$$y_B \text{ ' } \longrightarrow \text{ ' } x_A$$

Since, for Marx, the relation between both expressions is non-symmetrical, but one excluding the other, he considers it as a relation of *exclusion*. Although, for Cartelier, it is also considered as a different expression because he does not assign to them the property of symmetry, their relation is not considered as a relation of exclusion in dialectical sense. For him, they are two different expressions whose relation is considered as a relation of *inclusion*. Thus Cartelier's relation can be represented as follows:

²⁰ "One essential asymmetry between the commodities in relative form and in equivalent form is that as an equivalent a commodity has the status of *immediate exchangeability* insofar as it represents **the value of that in the relative form*, whereas in the relative form a commodity exchanges with its equivalent only through the mediation constituted through this other commodity expressing *its value relative to the first*." (Arthur: 76)

$$xA \text{ ' } \begin{array}{c} \longleftarrow \\ \longrightarrow \end{array} \text{ ' } yB$$

For Benetti, the relation is understood as a relation of *implication* because, for him, the simple form of value implies the property of symmetry; a relation which supposes the *simultaneity* of the expressions. Benetti's relation can be represented as follows:

$$xA \text{ ' } \longleftrightarrow \text{ ' } yB$$

In any case, the simple form has $E = 1$. Since, for Marx, the simple form and its opposite one are excluded expressions, each one has $E = 1$. Since Cartelier considers their relation as one of inclusion, they are taking separately and together: $E = 1(2-1) + (1(2-1)) = 2$. And, for Benetti, $E = 2(2-1) = 2$.

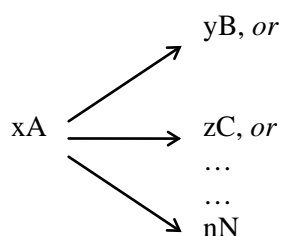
5.2. The expanded form of value of a commodity

In this moment, in which the value of one commodity expresses itself alternatively in the use value of all other commodities, it shows itself as different, not only to the use value of the one commodity, but to the use value of all commodities.

For Marx, the expanded form of 'one' commodity is considered as the multiplication of the simple forms of its value, where one *excludes* the others. It is understood as a result of *repulsion*, that is, the generation of the 'many' other ones, but just as particular equivalents of 'one' commodity. The expanded form of commodity A can thus be represented as follows, where the principle of exclusion is shown by the logical connector, *or*:

$$\begin{array}{l} xA \text{ ' } \longrightarrow \text{ ' } yB, \textit{or} \\ xA \text{ ' } \longrightarrow \text{ ' } zC, \textit{or} \\ \dots \\ xA \text{ ' } \longrightarrow \text{ ' } nN. \end{array}$$

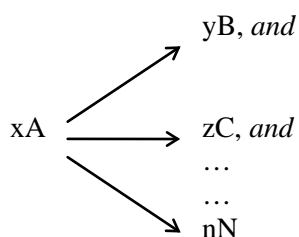
Or, as a graph:



Although, for Benett and Cartelier, the expanded form of a commodity is also understood as the multiplication of its simple forms, they are not considered as excluded forms, but as *included* ones. The expanded form of a commodity generates thus $(N-1)$ included particular equivalents. The principle of inclusion in the representation of the expanded form of commodity A is shown by the connector, *and*:

$$\begin{array}{l} xA \text{ ' } \longrightarrow \text{ ' } yB, \textit{and} \\ xA \text{ ' } \longrightarrow \text{ ' } zC, \textit{and} \\ \dots \\ xA \text{ ' } \longrightarrow \text{ ' } nN. \end{array}$$

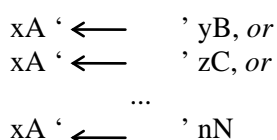
Or, as a graph:



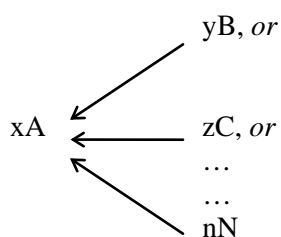
Marx's expanded form has $E = 1(2-1) + 1(2-1) + \dots + 1(2-1) = 1(N-1)$. For Benetti and Cartelier's, $E = 1(N-1)$

5.3. The reversal of the expanded form of a commodity

According to Marx's dialectic, the opposite expressions implied in the expanded form of 'one' commodity are also considered as *presupposed* expressions, and therefore as negated ones in it; one excluding the others. Marx's reversal of the expanded form of commodity A can be shown as follows:



Or, as a graph:



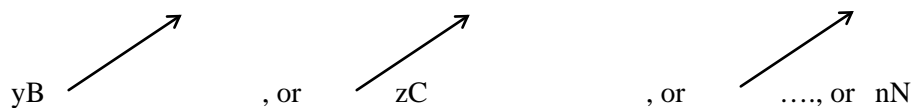
Although it is possible to think that the *general form of value* can be obtained through the reversal of the expanded form of 'one' commodity, as Marx does in *Capital*, this is not the case. Or better it is and it is not in the expanded form of a commodity. It is there but only as a presupposition and therefore as a negated possibility. This negation means that, as Hegel argues, attraction is presupposed in repulsion.²¹ It is not there because the logical connector, *or*, indicates that the other commodities do not express their value in a unitary form, but in an excluded form, and because the process of repulsion has not been accomplished, that is, the multiplication of the expanded form of all commodities has not been finished. But, what does the reversal of the expanded form of 'one' commodity posit? It posits (N-1) excluded simple expressions corresponding to the (N-1) commodities expressing their value in that 'one' commodity, as the graph in figure below shows:

xA

xA

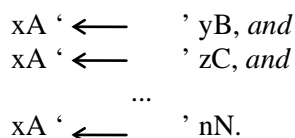
xA

²¹ "The relation of attraction to repulsion is such that the former has the latter for *presupposition*" (Hegel, 1993: 173).

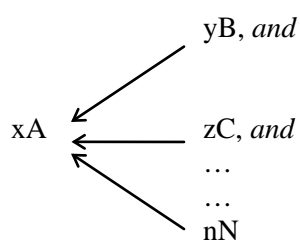


Moreover, the reversal of the expanded form of 'one' commodity represents a moment of the transition to the multiplication of the expanded form of the N commodities.

Following the principle of inclusion, Benetti and Cartelier's reversal of the expanded form of 'one' commodity can be shown as follows:

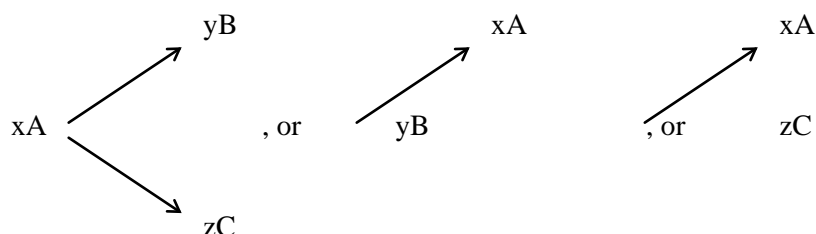


Or, as a graph:

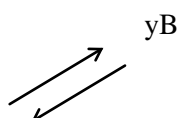


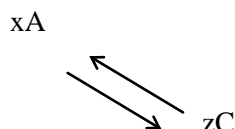
The result is paradoxical: the reversal of the expanded form of 'one' commodity is the general form of value. It is because the (N-1) commodities appear to express their value in 'one' commodity in a unitary form. Although they do not treat this case, it is possible to say that they implicitly reject this result because the multiplication of the expanded forms of the N commodities has not been introduced.

Let us put together the expanded form of a commodity and its reversal for $N = 3$, which is the case through which Benetti and Cartelier present their critique to Marx's forms of value. Given that, for Marx, the expression involved in them are considered as *excluded* expression, they can be presented as follows:

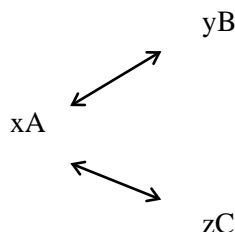


If the opposite expressions of the expanded form of a commodity are considered, as Cartelier does, as *included* expressions, they are represented as:





If, on the other hand, they are considered, as Benetti does, as *symmetrical* relations, it can be represented, as:



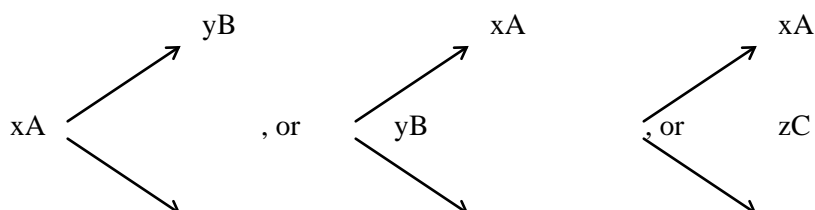
5.4. The multiplication of the expanded forms

In the expanded form presented by Marx one commodity expresses its value in the use-value of all other commodities. Within this expanded form the 'one' that expresses its value relatively opposes all the other 'many' commodities which serve as particular equivalents of the first one, excluding all them from expressing their own value in the same value expression. This *repulsion* of the many by the one, which is irreducible because of the qualitative difference of the two poles of the value form, because of its multiple character renders in the reciprocal repulsion among all the commodities which value also seeks to express itself. This reciprocal repulsion expresses in the multiplication of the expanded forms of value, one for each kind of commodity and all of them excluding one another. As Marx says: eventually, "...the relative value of each commodity is expressed in this expanded form..." (Marx: 1977:156)

For Marx, the multiplication of expanded forms is obtained applying the same principle of *exclusion* to the relation between them. Thus the exclusion is shown in the relation between the 'many' expanded forms, and the relation between the 'many' simple expressions within each of the expanded forms. It is important to emphasize that, for Marx, the principle of exclusion implies the *non-simultaneity* of the expanded forms. For the case $N=3$, it can be represented as follows:

$x_A \longrightarrow y_B, \text{ or}$
 $x_A \longrightarrow z_C$
or,
 $y_B \longrightarrow x_A, \text{ or}$
 $y_B \longrightarrow z_C$
or,
 $z_C \longrightarrow x_A, \text{ or}$
 $z_C \longrightarrow y_B$

Or, as a graph:



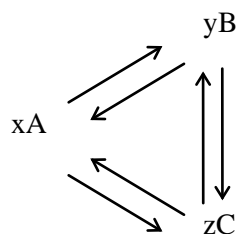
zC zC yB

Notice that the opposite relations of the simple relations of the expanded form of a commodity are posited as simple relations in the expanded form of the other commodities. For example, the two opposite relations of the simple relations of the expanded form of commodity A ($x_A \rightarrow y_B$ and $x_A \rightarrow z_C$) are posited, the first, as a simple relation of the expanded form of commodity B ($y_B \rightarrow x_A$) and, the second, as a simple relation of the expanded form of commodity C ($z_C \rightarrow x_A$).

Since, for Cartelier, the multiplication of the expanded forms is constructed on the basis of the principle of *inclusion*, it can be represented as relation of *simultaneity* between the expanded forms (see fig.1in Cartelier, 1991: 259):

$x_A \rightarrow y_B$, and
 $x_A \rightarrow z_C$
 and,
 $y_B \rightarrow x_A$, and
 $y_B \rightarrow z_C$
 and,
 $z_C \rightarrow x_A$, and
 $z_C \rightarrow y_B$

Or, as a graph,

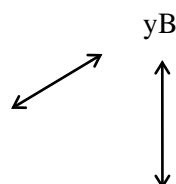


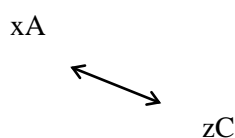
Notice that Cartelier's multiplication of the expanded forms implies the property of transitivity, that is, if $x_A \rightarrow y_B$, and $y_B \rightarrow z_C$, then $x_A \rightarrow z_C$ and if $z_C \rightarrow x_A$, and $y_B \rightarrow z_C$, then $y_B \rightarrow x_A$.

Since Benetti's construction of the multiplication of the expanded forms is based on the principle of *implication* not only between expanded forms but also between simple expressions within each of the expanded forms, which supposes the property of symmetry, it can be represented as relation of *simultaneity* (see fig. V1 in Benetti., 1990: 167):

$x_A \leftrightarrow y_B$
 and,
 $y_B \leftrightarrow z_C$
 and,
 $z_C \leftrightarrow x_A$

Or, as a graph,





Because Benetti generalizes the property of symmetry to the expanded forms, the property of transitivity is implied in the multiplication of them.

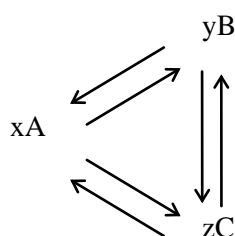
5.5. The reversal of the multiplication of expanded forms of value or the generation of the general form of value

5.5.1. Benetti's and Cartelier's reversal of the multiplication of the expanded forms

If the reversal of the expanded form is done within the scope of formal logic as Benetti and Cartelier do, then it is true that it is impossible to derive the general form out of the expanded form in any of its two versions. Because them, extraneous to Marx's method, imply the principle implication and/or inclusion in the relation of the value-forms, so they are reduced to a mirror-like reflection process.

Cartelier's reversal of the multiplication of the expanded forms is shown as:

$x_A \leftarrow y_B$, and
 $x_A \leftarrow z_C$
 and,
 $y_B \leftarrow x_A$, and
 $y_B \leftarrow z_C$
 and,
 $z_C \leftarrow x_A$, and
 $z_C \leftarrow y_B$
 Or, as a graph,

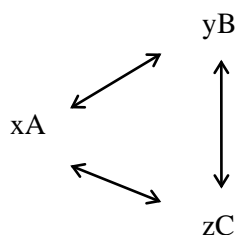


It is because of his particular formal understanding of the construction of Marx's value-forms that he can argue that "the reversal of the expanded form does not generate anything but the expanded form itself !" (Cartelier, 1991: 259).

Benetti's reversal of the multiplication of the expanded forms result in:

$x_A \leftrightarrow y_B$
 and,
 $y_B \leftrightarrow z_C$
 and,
 $z_C \leftrightarrow x_A$

Or, as a graph,



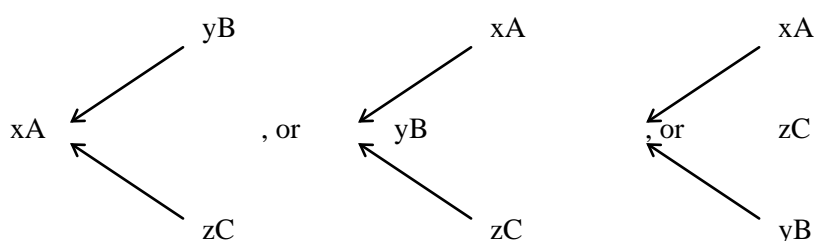
With this result Benetti argues that “Marx analysis is completely erroneous. If n is the number of commodities, the total form of value contains $n(n-1)$ expressions of relative values and, hence, $n(n-1)$ particular equivalents. It is deduced the impossibility to obtain the general form of value by means of the inversion of the total form. In other word, the result of this inversion is the total form itself (Benetti, 1990: 166).

5.5.2. The reversal of the multiplication of the excluded expanded forms

By reverting the case of the multiplication of the expanded forms in which each one is considered as excluding the others ones, the general form of value is not obtained, as shown below:

$x_A \leftarrow y_B, \text{ or}$
 $x_A \leftarrow z_C$
or,
 $y_B \leftarrow x_A, \text{ or}$
 $y_B \leftarrow z_C$
or,
 $z_C \leftarrow x_A, \text{ or}$
 $z_C \leftarrow y_B$

Or, as a graph:



What does the reversion of this case of multiplication of the expanded forms posit? It posits the ‘many’ different and excluding ‘general’ equivalents presupposed in it. Although the reversion of multiplication of the expanded forms in which each excludes the other appears to be nothing but the same multiplication, both forms show Hegels’s argument that attraction is presupposed in repulsion, the multiplication form shows repulsion and its reversal form attraction.

To obtain the general form is necessary to explain the process of attraction though which ‘one’ commodity is excluded by the others as their general equivalent; a process of exclusion in which the others commodities exclude themselves for taking the equivalent form and the ‘one’ commodity is excluded for taking the relative form.

5.5.3. The dialectical process of inversion of the multiplication of the expanded forms

The dialectical inversion of the expanded form is not a formal development, but the logical expression of the real process of social exclusion of one commodity, among the world of commodities, as general equivalent. Therefore, it involves the unification, on the one side, of the 'N' (excluding one another) expanded forms of value existing in the world of commodities into '1' general (and reciprocal) form of value, and, on the other side, of the 'N (N-1)' particular equivalents corresponding to the 'N' expanded forms into '1' general equivalent. This process has as qualitative result the unification of the plurality of commodities as products of abstract social labor, that is, as values.

The theoretical expression of this social process of exclusion can be decomposed (in an analytical-synthetic fashion) in its several 'stages' to demonstrate that, on the basis of the non-symmetry and non-reflexivity attributes of the form of value, *the only possible result of the inversion of the expanded form is the general form of value.*

5.5.3.1. Starting point (expanded form)

The starting point is constituted by N different expanded forms (corresponding one for each commodity) and $N(N-1)$ particular equivalents (corresponding $(N-1)$ for each commodity). The expanded forms exclude one another.

$$\begin{array}{l}
 xA \longrightarrow yB \text{ or} \\
 xA \longrightarrow zC \text{ or} \\
 \dots \\
 xA \longrightarrow nN \\
 \text{or} \\
 yB \longrightarrow xA \text{ or} \\
 yB \longrightarrow zC \text{ or} \\
 \dots \\
 yB \longrightarrow nN \\
 \dots \\
 \text{or} \\
 \dots \\
 nN \longrightarrow xA \text{ or} \\
 nN \longrightarrow yB \text{ or} \\
 \dots \\
 nN \longrightarrow nN-1
 \end{array}$$

-N expanded forms, each with (N-1) particular equivalents:
 -(N-1)N particular equivalents:

In the scope of the complete series of value expressions (one for each commodity), all the commodities which express their value in an expanded form oppose 'one' another inasmuch as the non-symmetrical character of the value-form determines the repulsion among all the series.

With the multiplication of the expanded forms, each commodity is, alternatively, one of the many repelled as particular equivalents by each of the one commodities which express their value relatively (polar repulsion: "one of the many"), and the one commodity which expresses in an expanded form its value ('each one is one'). In this context, each one of the commodities is what any other commodity is. The reciprocal repulsion of the multiple expanded forms, inasmuch as it relates

all commodities alternatively as the "ones" or as the "many", is also a relation of attraction among the totality of commodities. The repulsion pass over attraction among the commodities that express separately their value is expressed in the unification of the relative form and of the equivalent form, that is in the upsurge of the general form of value.

This second type of *repulsion* is of a different nature than the first one in the sense that it confronts commodities that possess, all of them, the *same* relative form of value. Considering, additionally, that through the complete series of value expressions, each commodity passively serves as the means for the expression of the value of all other commodities, the impulse to express the qualitative identity of all commodities as products of social labor, as well as their quantitative equivalence, is strengthened. On the basis of this impulse the second *non-polar* type of repulsion is transformed into an *attraction* force between the different commodities that urges them to express their value simultaneously and in a unified way.²²

5.5.3.2. First stage

The unification process begins with the attraction between two commodities, which only have to slightly "adjust" their expanded forms of expression of value (eliminating one another as particular equivalents) to unify their form of value. In this moment the expanded forms of value of the two commodities (a and b) cease to exclude one another. When the two commodities adopt the same common form of expression of their value, they simultaneously and reciprocally exclude the rest of commodities as their equivalent form. The *fusion* of the expanded forms of value of the two commodities must consider the general attributes of the value-form: non-symmetry and non-reflexivity. Therefore, as both commodities are expressing their value relatively, none can be included as part of their common equivalent form.

$$\begin{array}{l}
 xA \longrightarrow zC \text{ or} \\
 xA \longrightarrow wD \text{ or} \\
 \dots \\
 xA \longrightarrow nN \\
 \text{and} \\
 yB \longrightarrow zC \text{ or} \\
 yB \longrightarrow wD \text{ or} \\
 \dots \\
 yB \longrightarrow nN \\
 \\
 \text{or} \\
 zC \longrightarrow xA \text{ or} \\
 zC \longrightarrow yB \text{ or} \\
 \dots \\
 nN \longrightarrow nN \\
 \\
 \text{or} \\
 \dots \\
 \dots \\
 nN \longrightarrow xA \text{ or} \\
 nN \longrightarrow yB \text{ or} \\
 \dots \\
 nN \longrightarrow nN-1
 \end{array}
 \quad \text{that is:} \quad
 \begin{array}{l}
 (xA \text{ and } yB) \longrightarrow zC \text{ or} \\
 (xA \text{ and } yB) \longrightarrow wD \text{ or} \\
 \dots \\
 (xA \text{ and } yB) \longrightarrow nN
 \end{array}$$

²² Hegel: "...as a negative attitude of many ones to one another, it is just as essentially a connective reference of them to each other...", cited by Robles (16).

- $(N-2)$ expanded forms, each with $(N-1)$ particular equivalents
- 1 common form, with $(N-2)$ particular equivalents
- $(N-2)(N-1)+(N-2)=(N-2)N$ particular equivalents:

5.5.3.3. Subsequent stages

The development of the unification process of the expanded forms, resulting from the attraction force among all commodities, is also the process of the simplification of the form of value inasmuch as it gradually reduces the number, not only of the excluding forms of value, but also of the particular equivalents. So, it proves to be the expression of the social process of exclusion of one commodity as general equivalent.

The decreasing number of exclusive forms of value is expressed through the following progression:

$$\begin{aligned} &(N-3)+1 \\ &(N-4)+1 \\ &\dots \\ &[N-(N-1)]+1=2 \end{aligned}$$

So the moment arrives when only one expanded form remains, that of the commodity (n) which has been excluded by all other commodities as their common equivalent, and which expresses its own value in the use-value of all other commodities, alongside with one common form of value for the rest of commodities.²³

The decreasing number of particular equivalents expresses through the following progression:

$$\begin{aligned} &(N-3)(N-1)+(N-3)=(N-3)N \\ &(N-4)(N-1)+(N-4)=(N-4)N \\ &\dots \\ &[N-(N-1)](N-1)+[N-(N-1)]=[N-(N-1)]N=N \\ \text{or} \quad &[N-(N-1)](N-1)+[N-(N-1)]=(N-1)+1=N \end{aligned}$$

The number of particular equivalents in the system at this stage is $N-1$ common equivalent for all commodities (except one); plus $(N-1)$ particular equivalents for the commodity that has been excluded by the world of commodities as their common equivalent.

5.5.3.4. The general form of value

Because of the attributes of the value-form of non-symmetry (commodity N cannot express its value in any other commodity, inasmuch as all of them are expressing their value in a relative form) and non-reflexivity (commodity N cannot express its value on itself), the integration of the last remaining expanded form into the common form of value adopted by all other commodities, results in the general form of value.

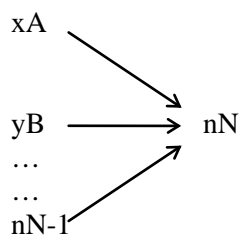
$$\begin{array}{ll} xA & \longrightarrow & nN \\ yB & \longrightarrow & nN \\ zC & \longrightarrow & \\ \dots & & \end{array}$$

*What can be considered as a successive operation is the process through which the 'many' commodities gradually unify their relative form of expression of their value, advancing by such gradual unification in the process of exclusion of the 'one' commodity that thus becomes the general equivalent.

²³ Which, by the way, are the attributes Marx gives to the general equivalent.

$nN-1 \longrightarrow nN$

Or, as a graph,



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