

## Logic and Dialectics in Social Science – Part I: Dialectics, Social Phenomena and Non-Equilibrium

Guglielmo Carchedi  
*University of Amsterdam, The Netherlands*

### Abstract

This paper develops a new dialectical method of social research. Contrary to the Hegelian tradition, it extracts this method from Marx's own work by taking a class determined perspective of social phenomena. Contrary to formal logic it stresses social reality's dynamism by focusing on social phenomena's contradictory nature. It starts by setting out the three principles upon which dialectical logic rests namely: social phenomena are always both realized and potential, social phenomena are always both determinant and determined, and social phenomena are always subject to constant movement and change. It then examines individual phenomena as potential social phenomena. On this basis, it identifies the building block of society, the relation that ensures the reproduction of society while accounting for the recurrent attempts to its supersession. Both reproduction and supersession require both an objective and a subjective element. The paper examines them in the light of this new approach and argues that society's movement towards its own supersession is the tendential one. Finally, in order to emphasize this new approach, the difference between dialectical rationality and the rationality of homo economicus is stressed.

### Keywords:

dialectics, individual phenomena, social phenomena, non-equilibrium, subjectivity, objectivity, homo economicus

### Dialectical Logic and Social Phenomena

As well known, Marx did not explicitly write a work on dialectics. Nevertheless, he thought it would be possible to "make accessible to the ordinary human intelligence, in two or three printer's sheets, what is *rational* in the method which Hegel discovered and at the same time mystified" (quoted in Bhaskar, 1983). There are different ways to carry out Marx's suggestion. Traditionally, commentators have tried to force Marx into

conformity with Hegel.<sup>1</sup> Marx was certainly influenced by Hegel. The point here is not the perennial question of the relationship between the two thinkers. Rather, the Hegelian tradition seems to be the very opposite of what Marx had in mind, as indicated by his well-known remark that “My dialectical method is not only different from the Hegelian, but is its direct opposite” (Marx, 1967a: 19).<sup>2</sup> This paper takes that remark seriously and thus departs from that tradition. Its emphasis is on the clarification of the originality of Marx’s contribution. Also, this paper will not follow the tradition established by Engels who grounded dialectics in the law of development immanent in nature, for reasons to be set out in Part II. Rather, this paper will submit a notion of dialectics as a method of social research, focused exclusively on social reality.<sup>3</sup> Nor will this paper claim that this approach to dialectics is a method of social research applicable to all modes of production. It is sufficient that it can be applied to the capitalist mode of production. Finally, no attempt will be made to retrace Marx’s own conception of dialectics.<sup>4</sup> Even though evidence will be submitted that the present approach is supported by Marx’s quotations, the question is not whether this could have been his own notion or not. The aim is to find a method of social research *internally consistent* with Marx’s theory (and thus contributing to show that theory’s internal consistency) and *capable of further developing* that theory to account for capitalism’s new features. Earlier versions of the method to be submitted below have proven their fruitfulness in dealing with the transformation of values into prices (Carchedi, 1984; Freeman and Carchedi, 1996), with the law of the tendential fall of the profit rate (Carchedi, unpublished paper b), with a theory of knowledge (Carchedi, 2005), with a class analysis of the European Union (Carchedi, 2001) and with a theory of social classes (Carchedi, 1977; 1983; 1987; 1991). This paper sets out that method in more details thus providing a full picture of dialectical logic as a method of social research and submits a general theory of the social foundations of capitalism as a non-equilibrium socio-economic system.

The starting point is the empirical observation that all elements of social reality are interconnected (people can live and reproduce themselves only through reciprocal interaction) into a whole (society), that this whole changes continuously (even though some changes might be minimal), that this change can be continuous or discontinuous, and that the whole’s interconnected parts can be contradictory (e.g. people can have contradictory interests). The present approach starts from these factual data and incorporates them within a specific theoretical frame. Its specificity is two-fold. First, it starts from the basic unit of social reality, *social phenomena* considered as the *unity in contradiction of social relations and processes*. This is a unity in contradiction because social phenomena and thus social life are seen from *a class determined perspective*.<sup>5</sup> The analogy with Marx’s method in *Capital* is clear. Marx starts the inquiry into economic life with a class determined analysis of commodities conceived as the unity in contradiction of use value and exchange value. The present work starts the inquiry into social life with a class determined analysis of social phenomena as the unity in contradiction of social relations and process. Section 2 will introduce the notion of individual phenomena and clarify their difference and interplay with social phenomena. But for reasons both of analysis and of exposition this work will start from an investigation of social phenomena. Second, this

work *extracts from Marx's work a dialectical method of social research* both consistent with that work and suitable to further develop it. It is based upon the following three principles. No *a priori* justification of these principles can be provided. Only the explanatory power of the theory based upon them, a judgment that can be given only after the whole article has been read, can justify their choice.

### First Principle: Social Phenomena are always both Realized and Potential

Reality has a double dimension, what has become realized and what is only potentially existent. The notion of potential existence is intuitively evident. Everybody has a perception of what he or she is (has become) and of what he or she is potentially, of what he or she can potentially (be)come. In Marx the existence of, and the relation between, the realized and the potential is fundamental even if wholly disregarded by Marxist commentators. Take the notion of value. Upon its completion, a commodity contains value, crystallized human labor in the abstract. This is its individual value, a realized substance. But this is not the value that commodity realizes upon its sale, its social value.<sup>6</sup> The commodity can realize more or less than its value contained or even nothing at all, if it is not sold. The *individual* value is then a *potential social* value. The same holds for the use value of the commodity. It is present in the commodity right after production as the specific features that configure its future use. But it is a *potential* use value, an object whose use must be socially validated through sale (if it is considered useless, it will not be sold) and consumption (Marx, 1967c, ch. 16).<sup>7</sup> In short, the “properties of a thing do not arise from its relation to other things, they are, on the contrary, merely activated by such relations” (Marx, Capital I, quoted in Zelený, : 22). Then, what is activated can only be what is potentially present. Then, it is consonant both with common sense and with Marx to submit that each realized phenomenon contains within itself a realm of potentialities and to extend this notion from the economy to society. In symbols, given two phenomena A and B,  $(\alpha) A = \{A^r, A^p\}$  and  $B = \{B^r, B^p\}$  where the superscripts refer to the realized and the potential state.

Three points follow. First, since a phenomenon is potentially different from what it is as a realized phenomenon,  $\{A^r, A^p\}$  indicates the *unity of identity and difference*.  $A^r$  is identical to itself but also different from itself, as  $A^p$ .  $\{A^r, A^p\}$  is the synthetic rendition of the “affirmative recognition of the existing state of things [and] at the same time, also the recognition of the negation of that state” (Capital I, quoted in Zelený, 1980: 87). It is only by considering the realm of potentialities that the otherwise mysterious unity of identity and difference makes sense. Second,  $\{A^r, A^p\}$  indicates also the *unity of opposites*, inasmuch as the potential features of a phenomenon are opposite (contradictory) to its realized aspects.<sup>8</sup> Finally,  $\{A^r, A^p\}$  indicates the *unity of essence and appearance* (form of manifestation of the essence):  $A^p$  is the essence of A, that which can manifest itself in a number of different realizations, while  $A^r$  is its appearance, the form taken by one of the possibilities inherent in A's potential nature. If  $A^p$  can generate different  $A^r$ , the latter cannot be the essence of the former because it would exclude from A's essence those potentialities that have not become realized as  $A^r$ .

The notions of realizations and potentials should now be clarified. Potentials are not, as in physics, elements of realized reality (particles) waiting to be discovered. Potentials are not, as in the Hegelian tradition, empty forms waiting to receive a content the moment they realize themselves. Potentials are not, as in formal logic and inasmuch as they play any role in formal logic, attributes of realized reality (Bradley and Swartz, 1979).<sup>9</sup> Potentials are not anything the human mind can conceive. Their number is neither “infinite” (op.cit.: 5) nor finite because it is impossible to quantify something that has not realized itself, something formless. Rather, potentials are *real* possibilities because contained in realized phenomena and *formless* possibilities because they take a definite form only at the moment of their realization. Realized phenomena contain potential phenomena within themselves but not the other way around. A shapeless whole cannot by definition contain within itself a definite form. It follows that potentials, being formless, cannot be observed. For example, the knowledge needed by an author to write an article exists in that author as a formless possibility. It takes a definite form only when that article is written or the author has clearly conceived that article in her head. Realization is thus the transformation of what is potentially present into a realized form. It is formation of something formless into something with a definite form. It is transformation.

While potential phenomena, being formless, are always unobservable, some realized phenomena, as for example social relations, are unobservable as well. The criterion to discern unobservable realized from unobservable potential phenomena is whether an unobservable phenomenon can determine realized phenomena or not.<sup>10</sup> If it does, it is a realized phenomenon itself. In fact, potential phenomena cannot determine realized phenomena because in order to determine realized phenomena they have to emerge from their potential, formless condition. Thus, social relations even though unobservable can determine social processes (see section 2 below). They are realized.

The notion of potential reality is absolutely fundamental in this work. It will allow us to explain social phenomena’s movement and change, the difference between formal and dialectical logic, and the temporal and non-equilibrium nature of the capitalist economy.

### **Second Principle: Social Phenomena are always both Determinant and Determined**

Here too the starting point is empirical observation. We can see that people engaging in certain relations and carrying out certain processes can cause the aggregation of other people engaging in different relations and process (e.g. production generates distribution); that people engaging in some relations can decide to carry out different processes; that people carrying out some processes can decide to engage in different relations; or that people engaging in certain relations and processes can decide to engage in different relations and processes. This chaotic movement is given a conceptual structure by the notion of dialectical determination. Let us distinguish between determinant and determined phenomena. As determinant, phenomena call into realized existence the determined ones which are already present in the determinant phenomena as their potential

development. It is in this sense that the determinant phenomena are the condition of existence of the determined ones. As determined, they are the conditions of reproduction or supersession of the determinant ones. Thus, a relation of *mutual determination*, or *dialectical relation*, is one in which *the determinant phenomenon calls into realized existence the determined one from within its own potentialities and from the potentialities contained in other realized phenomena. The determined phenomenon, in its turn, becomes the realized condition of the determinant phenomenon's reproduction or supersession.* In short, the determinant phenomenon calls into existence its own conditions of reproduction or supersession. For example, in Capital I Marx considers the relation between capital accumulation and capitalism: "With the accumulation of capital ... the specifically capitalist mode of production develops, and with the capitalist mode of production the accumulation of capital" (quoted in Zelený, 1980: 73-4). The capitalist mode of production calls into realized existence one of its potentialities, the accumulation of capital, and the latter becomes the realized condition of capitalism's (extended) reproduction.

This notion of dialectical determination must be theoretically grounded. According to Marx our species has potentialities that set it apart from other living creatures, as for example the capacity to create our own means of production (Marx and Engels, 1970: 42) or of creating and communicating through languages (Geras, 1983: 48). But they are not unchangeable. Society molds them; it not only gives them a historically specific form but penetrates them and adapts them to itself. It is within these socially given boundaries that humans try to develop those potentialities to the utmost.<sup>11</sup>

Under capitalism, the development of the capitalists' potentialities is informed by their need to deal with the laborers as the source of the maximum feasible quantity of unpaid labor. On the other hand, the development of the laborer's potentialities is informed by their need to resist and abolish their alienation not only from their own products (which they must alienate to the owners of the means of production) but also from themselves (because they are not free to fully develop their potentialities). It is both a class's objective need to exploit another class and the objective need the latter class has to resist and abolish that exploitation, both the need to thwart human development and the need to expand it to the maximum. The former class needs an egoistic and exploitative behavior, the latter an altruistic and solidaristic behavior. For the former, one's well-being must be based upon the others' misery, for the latter one's well-being must be both the condition for, and the result of, the others' well-being.<sup>12</sup> The satisfaction of the former need is functional for the reproduction of the capitalist system; the satisfaction of the latter need is functional for the supersession of that system.<sup>13</sup> Given that the reproduction of the system implies exploitation, inequality and egoism, the supersession of the system implies cooperation, solidarity and equality. This *double rationality* is the *contradictory social content of the capitalist production relation*. It is this content (its being based on exploitation, inequality and egoism *as well as* on the resistance against them, which implies solidarity, equality and cooperation) that the capitalist production relation transfers to all other relations and processes in an endless variety of individual and social phenomena. It is in *this* sense that this relation is *ultimately determinant*.<sup>14</sup>

But the other phenomena are far from being simple copies, reflections, of the production relation. Given that each phenomenon is an element of society and is thus connected directly or indirectly to all other phenomena, each phenomenon is the condition of existence and of reproduction and of supersession of all other phenomena.<sup>15</sup> Society is thus *causa sui*, i.e. it both determines itself and is determined by itself. But this does not hold for the individual phenomena. Each phenomenon is a (either necessary or contingent) condition of existence or of reproduction or of supersession of society, even though possibly in a very indirect and perhaps imperceptible way.<sup>16</sup> This is the *contradictory social content* of realized phenomena, their being conditions of existence, reproduction or supersession of society. Reproduction refers to a phenomenon changing its form but not its social content. Supersession refers to its having changed its social content. A determined phenomenon is a condition of reproduction of the determinant one if it is a condition for the latter's unchanged social content. It is a condition of supersession if it is a condition for the change in the determinant phenomenon's social content.<sup>17</sup> Also, through their reciprocal interaction phenomena modify reciprocally their social content. Each phenomenon's social content is specific to it because it is the result both of its determination in the last instance by the production relation and of its being both determinant of and determined by all other phenomena. This holds for all phenomena, including knowledge (theories). It is in this sense that each social phenomenon is *relatively autonomous* from the production relation.

We can now justify theoretically the notion of dialectical determination submitted above, i.e. answer the question as to how a phenomenon can determine its own reproduction or supersession. Given that the determined phenomenon is potentially present in the determinant one and given that the determinant (realized) phenomenon has a specific social content, if the determinant phenomenon calls into existence the determined one it *transfers* to it its own contradictory social content. Due to its contradictory nature, the determined phenomenon's social content *reacts upon* and possibly changes the determinant phenomenon's social content so that the determined phenomenon becomes the realized condition of reproduction or of supersession of the determinant phenomenon.

Let us now consider the mutual determination of social phenomena in some detail. Let  $\Rightarrow$  symbolize determination and let the direction of the arrow indicate which is the active and which the passive element in that relation. Then, given two phenomena, A and B,  $A \Rightarrow B$  indicates that A is the determinant and B is the determined phenomenon, i.e. that A calls into realized existence B and transfers its contradictory social content to B. Let  $A \Leftarrow B$  symbolize the determination of A by B, i.e. B is the realized condition of reproduction or supersession of A because its social content, which it got from A, reacts upon A's social content thus reproducing A or superseding it. Thus, the relation of mutual determination is indicated by  $A \Leftrightarrow B$ . Given that there is a temporal difference between  $A \Rightarrow B$  and  $A \Leftarrow B$ , the relation of mutual determination becomes  $(\beta) A^{t1} \Leftrightarrow B^{t2}$  where the superscripts  $t1$  and  $t2$  indicate two points in time. If we substitute  $(\alpha)$  into  $(\beta)$  we get  $(\gamma) \{A^r, A^p\}^{t1} \Leftrightarrow \{B^r, B^p\}^{t2}$

Let us provide an example of determination within a temporal setting. Take a realized production system,  $P^r$ . It contains potentially within itself a distribution system,  $D^p$ . This

is a formless potential.  $P^r$  is thus the condition of existence of  $D^p$  (without  $P^r$ ,  $D^p$  could not exist because  $D^p$  is contained into  $P^r$ ). Planners get together to think about the possible specific features of the distribution system by taking into account both the realized and the potential features of the production system ( $P^r$  and  $D^p$ ). The result is a blueprint of a distribution system, a realized element of knowledge,  $K^r$ .  $K^r$  contains in itself  $K^p$  (formless potential uses, developments, etc. contained in  $K^r$ ). In symbols,  $\{P^r, D^p\} \Leftrightarrow \{K^r, K^p\}$ . In its turn,  $\{K^r, K^p\}$ , besides reacting upon and possibly modifying  $\{P^r, D^p\}$ , determines (generates) the actual distribution system and its potential aspects,  $\{D^r, D^p\}$ . A realized distribution system has emerged, i.e.  $\{P^r, D^p\}$  has determined  $\{D^r, D^p\}$  through  $\{K^r, K^p\}$ . Notice that the  $D^p$  of  $\{P^r, D^p\}$  is *not the same* as the  $D^p$  of  $\{D^r, D^p\}$ . The former is a potential inherent in  $P^r$ , the latter is a potential inherent in  $D^r$ . The realized distribution system has become the actual condition of reproduction or supersession of the production system. In short,  $P^r$  has called  $D^r$  into existence by drawing  $D^r$  from its own reservoir of potentialities ( $D^p$ ) through its dialectical determination with all other phenomena. If  $\{D^r, D^p\}$  is a condition of reproduction of  $\{P^r, D^p\}$ , the latter has gone through the process of determination thus reproducing itself. Its form of manifestation might have changed but its social content has not. If  $\{D^r, D^p\}$  changes  $\{P^r, D^p\}$  radically,  $\{P^r, D^p\}$  is superseded, i.e. its social content has become the opposite of what it was. This completes the first cycle. The second one begins with the new  $\{P^r, D^p\}$  as a new starting point.

This example illustrates some general principles. First, the temporal dimension is fundamental. If  $t_0$ ,  $t_1$  and  $t_2$  indicate moments in time, the first  $\{P^r, D^p\} \Leftrightarrow \{D^r, D^p\}$  starts at  $t_0$  and ends at  $t_1$  while the second  $\{P^r, D^p\} \Leftrightarrow \{D^r, D^p\}$  starts at  $t_1$  and ends at  $t_2$ . The two  $\{P^r, D^p\} \Leftrightarrow \{D^r, D^p\}$  are thus not the same. Second, it is not only the realized aspect of the determinant phenomenon but also its potential content, e.g.  $\{P^r, D^p\}$ , that calls into realized existence the determined phenomenon, e.g.  $\{D^r, D^p\}$ . Third, determination can take place through intermediate phenomena that are both determinant and determined. This is the case of  $\{K^r, K^p\}$  that is determined by  $\{P^r, D^p\}$  but is determinant of  $\{D^r, D^p\}$ .

The relation of determination is usually confused with that of mutual interaction. But determination is a very specific form of interaction, it is an interaction with a very specific internal structure, that between determinant and determined phenomena. Also, the relation of determination is usually confused with the relation of cause and effect as in formal logic. The relation between formal and dialectical logic will be dealt with in detail in part II of this article. Here suffice it to mention that in formal logic, A and B are *either cause or effect* of each other. In dialectical logic, within the context of the whole, they are *both determinant and determined*. However, social analysis can consider only one sector of reality, no matter how large. In this case, it is possible for phenomena to be either determinant or determined, according to the section of reality and thus to the *level of abstraction* considered. For example, at a certain level of abstraction, if only distribution and consumption are considered, distribution determines consumption. But at another level of abstraction, if also production is considered, distribution it is itself determined by production. But even if we consider a certain level of abstraction at which A is only determinant and B only determined, both A and B are *both 'cause' and 'effect'*

of each other. A 'causes' B by being B's condition of existence and is the 'effect' of B because B is the condition of A's reproduction or supersession. Vice versa for B which is the 'cause' of A, by being A's condition of reproduction or supersession, and 'effect' of A because A is the condition of B's existence. For formal logic, A can be the cause of B within a certain context and B can be the cause of A within a different context. But once the context has been delimited, A can be only cause and B only effect. On the contrary, for dialectical logic A and B are always both 'cause' and 'effect' of each other.

### Third Principle: Social Phenomena are Subject to Constant Movement and Change

This principle follows from the first two. A realized phenomenon can change only because this is potentially possible, because of its potential nature. Without this potential reality, realized phenomena are static, they are what they are and not what they could be. Their potential nature makes possible not only their change but also delimits the quantitative and qualitative boundaries of that change. Phenomena are always both what they are (as realized phenomena) and potentially something else *because in the process* of becoming something else. But phenomena do not change in isolation, just because of their own potential nature. It is the relation between realized phenomena that affects reciprocally their potential nature and thus changes the form of manifestation of that altered potential nature, i.e. the empirical realization of that phenomenon. Thus, *movement* is the change undergone by phenomena from being realized to being potential and vice versa; and from being a condition of existence to being a condition of reproduction or of supersession and vice versa.

Movement has five specific features. First, it is *temporal*, i.e. it implies necessarily time because phenomena are first realized and then potential (or vice versa) and first reproduce and then supersede themselves. Second, it is *contradictory* because phenomena, due to their internal contradictory social content reproduce or supersede themselves and become realized or potential in a contradictory way. Third, movement is not chaotic but has its own specific features, namely it takes place within the confines posed by specific social and historical *laws of movement*. Marx refers to these laws as those that are "the same under all modes of production" (Marx, 1967c: 790) and thus as those that "cannot be abolished" (Marx, 1969: 419). This is an a-historical definition, no doubt true, but of little help for an understanding of capitalism's laws of movement. It is precisely their historical and social specificity as social forms of a-historical elements common to all modes of production that makes of these phenomena essential elements for the social system's reproduction so that their supersession is a necessary condition for the supersession of the system.<sup>18</sup> It is in this sense that these specific social forms of natural laws acquire the force of social laws, of laws of movement of socio-economic systems. For example, the wealth produced in any society must be distributed for that society to reproduce itself. Under capitalism wealth is produced as value and thus surplus value in the form of money. The distribution of wealth is thus the distribution of Labor's product between Labor and



Capital, as wages and profits. Due to their importance, the laws of movement set the framework within which other (non essential) phenomena are subject to change. Other phenomena are non-essential in the sense that their own reproduction or supersession, while contributing to the reproduction or supersession of the whole, is not essential for the reproduction or supersession of the system.

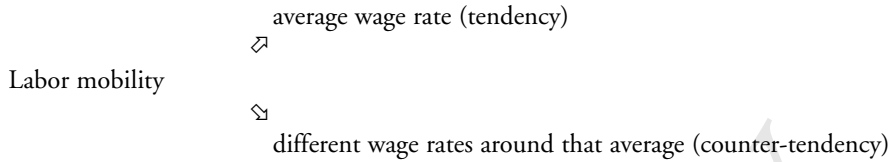
Fourth the laws of movement are *tendential*. Therefore, the whole moves and changes in a tendential way. Let us see why. We have seen that a determinant phenomenon (A) determines a determined phenomenon, B. But A can and does determine not only one but several phenomena (B and C). Given A's contradictory nature, some phenomena (B) are conditions of reproduction of A (in their dominant features) and some other (C) are conditions of supersession of A (also in their dominant features). Then, at any given moment, if B is dominant, A reproduces itself in spite of C, the superseding force, i.e. *it reproduces itself in a contradictory way*. If C is dominant, A supersedes itself in spite of B, the reproductive force. *It supersedes itself in a contradictory way*. However, the contradictory reproduction of A, through the dominant force of B over C, is only temporary because C, the superseding force gains eventually the upper hand. The same for A's supersession. Thus, A's contradictory movement towards reproduction or supersession is the result of contradictory forces which make A's movement oscillate between its contradictory reproduction and its contradictory supersession. In short, and this is the fifth feature, A's movement is *cyclical* and the cyclical movement is made up of a contradictory reproductive phase (movement) and of a contradictory superseding phase (movement).<sup>19</sup>

The question then is: why is a certain movement the tendency and another, contrary, movement the counter-tendency? Anticipating a result to be reached in section 5 below, for Marx the capitalist system tends not towards equilibrium but towards its supersession. Then, in its laws of movement the tendency must be the determined phenomenon that hinders the reproduction of the determinant phenomenon. The counter-tendency is then the determined phenomenon that favors the reproduction of the determinant phenomenon. Let us apply this principle to the three types of cyclical movements that can be discerned from a close reading of Marx's work.

### *Cyclical movement of the first type*

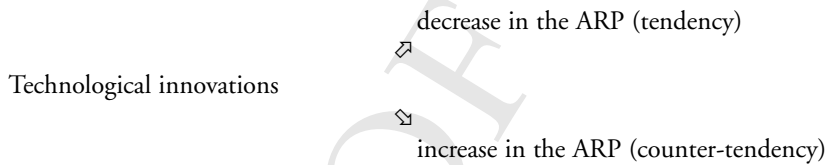
Consider labor mobility. This is the determinant factor. It determines both an average wage rate (because laborers move to where - geographical areas, institutions like trade unions, etc. - they are guaranteed the same rights and thus the same wage rates) and wage rates different from the average, because laborers move from (lower than) average wage rates to higher ones. The movement towards the average wage rate hinders the reproduction of labor mobility while the movement towards wage differentials favors the reproduction of labor mobility. Thus, the former is the tendency and the latter the counter-tendency. This is an example of a cyclical movement of the first type, because empirical observation shows the realization of both the tendency and the counter-tendency at the same time.

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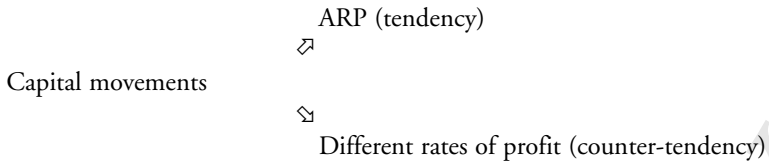
### *Cyclical movement of the second type*

Consider technological competition among capitals. This is the determinant factor which determines both a decrease and an increase of the average rate of profit (ARP). On the one hand technological innovations replace people with machines thus decreasing the (surplus) value produced per unit of capital invested. On the other, they increase the surplus value produced (e.g. if technological innovations reduce the value of the means production thus reducing costs and thus the organic composition of capital) (Carchedi, 1991, ch.5). The fall in the ARP is the tendency because it hinders the reproduction of technological innovations. In fact, the less the total surplus value produced, the less the total surplus value available for society as a whole for new investments (technological innovations). An increase in the ARP is the counter-tendency. This is an example of a cyclical movement of the second type because empirical observation shows the realization of either the tendency or the counter-tendency, because it shows the alternation of the tendency and of the counter-tendency.



### *Cyclical movement of the third type*

Consider *capital mobility across branches*. By constantly trying to overtake each other in terms of profitability, individual capitals scatter around an average profitability level. No ARP is empirically observable under conditions of capital mobility because the moment a capital moves to a different sector its capital invested and profit rate change too thus changing the average. The average rate of profit can be computed only if we assume that capital movement stops. Nevertheless, as mentioned in section 1 above, the average rate of profit is a realized social phenomenon even if not observable in its movement. In fact, it determines other realized phenomena. For example, its increase determines a greater purchasing power for capital and all the concomitant social phenomena. Here too, the ARP is the tendency because it hinders the reproduction of the determinant phenomenon (capital mobility) and the counter-tendencies are the different profit rates because it favors that capital movement. This is an example of a tendency *of the third type* because empirical observation shows the realization of *only the counter-tendency*.<sup>20</sup>



### The dialectics of Individual and Social Phenomena

The last question concerning determination is: if phenomena are relations and processes among real people and if phenomena can exist also potentially, *how can real, and thus by definition realized, people engage in potential (formless) relations and processes?*

The answer hinges upon a new distinction, between *concrete and abstract individuals*. This distinction is implicit in Marx: "...here individuals are dealt with only insofar as they are the personifications of economic categories, embodiments of particular class relations and class interest... the individual [cannot be made, G.C.] responsible for relations whose creature he socially remains, however much he may subjectively raise himself above them" (Marx, 1967a: 10). It is similar to the distinction Marx makes between concrete and abstract labor and plays the same fundamental role here as Marx's distinction does in his value theory.

Individuals can be considered in their uniqueness, as unique individuals. As such, they are referred to as *concrete* individuals. But they can also be considered as possessing some common features (for example, they are all catholic), irrespective of the specific, individual, forms taken by those common features (e.g. somebody's specific way to be a catholic). It is because of these common features that individuals are considered to be members of a certain group. From this angle, they are considered not in their individuality and specificity but as members of a group who share certain characteristics. As members of social groups, individuals are *abstract* individuals, since abstraction is made of their specific features, of their concrete forms of existence. The basic difference between abstract and concrete individuals is that the former are replaceable (on account of their common features), while concrete individuals, being unique, are not. In reality individuals are *always both* concrete *and* abstract. However, analytically, individuals are *either* concrete *or* abstract. If we consider their unique features we disregard their common features, and vice versa. While concrete features differentiate, general features unify.

Let us next define relations and processes. *Relations* are interactions between people. Every time a relation arises, or changes into a different type, or ends, there is a change in the social fabric (whether it is perceptible or not). For example, if two people engage in a relation of friendship, the rise of such a relation changes (even though minimally) social reality. The same holds in case an enterprise is started (or goes bankrupt), a family is formed (or breaks up), a political party is founded (or is dissolved), etc. *Processes* are transformations people carry out in the context of those relations. If we call *phenomena* the unity of relations and processes, society is a kaleidoscope of continuously changing phenomena, i.e. of people engaging in relations and processes. As concrete

individuals, people engage in individual relations and processes, i.e. in *individual phenomena*. Individual phenomena depend for their inception, continuation, transformation, or termination only on the uniqueness of those individuals and on their capacity and will to engage (either freely or not) in that relation. This should not be interpreted as if other, 'external', factors did not play a role. They do, but only inasmuch as they change the specific and unique features of those individuals and thus of their individual relation. As abstract individuals, people engage in social relations and processes, i.e. in *social phenomena*. Social phenomena are relations and processes among abstract individuals, i.e. individuals seen from the point of view of some common features and as such replaceable in those phenomena.<sup>21</sup> Thus, concrete individuals determine individual phenomena because the former are the conditions of existence of the latter and the latter are the condition of reproduction or supersession of the former. Similarly for abstract individuals and social phenomena. In short, if  $\Leftrightarrow$  indicates reciprocal determination as in relation ( $\gamma$ ) in section 1 above,

Concrete individuals  $\Leftrightarrow$  individual phenomena  
Abstract individuals  $\Leftrightarrow$  social phenomena

In individual phenomena concrete individuals, being unique, are not replaceable. For example, two friends engage in an individual relation because they are unique, and thus irreplaceable. If a friend would be replaced by another one, a relation would be replaced by another one, rather than an individual being replaced by another one within the same relation. One can speak of friendship in general, but this is a merely verbal category that disregards the specific, irreplaceable, characteristics of each relation of friendship. It does not indicate a social relation in which friends are replaceable. In social phenomena, on the other hand, individuals are replaceable. Therefore, social phenomena can *continue* to exist and reproduce themselves *irrespective* of the concrete individuals who, as abstract individuals, carry those specific social relations and engage in those processes.

Similarly to social phenomena, individual phenomena are both potential and realized. Their potential aspect is given by the specific, unique features each one of us has, i.e. by the fact that each individual is a concrete individual. Realized individual phenomena are those in which concrete individuals actually engage on the basis of those unique features. Thus realized individual phenomena imply the non-substitutability of individuals. But realized individual phenomena can become realized social phenomena if those individuals engaging in them become substitutable. This would be the case of two friends setting up an enterprise in which they, as economic agents, become substitutable. Vice versa, social phenomena can go back to a potential state if those agents become irreplaceable. It follows that *individual phenomena* (both realized and potential) *are potential social phenomena* (just as for Marx individual values are potential social values, see above, section 1). This is possible because concrete individuals internalize social phenomena (see point 15 below). Thus, concrete individuals are potentials social individuals. Then, the answer to the question posed at the beginning of this section is that real people can engage in potential social phenomena because they as *concrete individuals engage in individual phenomena* (both realized and potential) *which are formless potential social*

*phenomena* (a relation of friendship can originate any form of a social relation and process). It follows that social phenomena determine individual phenomena as potential social phenomena and not in their individual specificity.

Some points implicitly present in the above can now be explicitly stated.

1. We can distinguish four types of relations: (a) relational transformations, the transformation of the relation itself; (b) material transformations, the transformations of material reality; (c) personal transformations, the transformations of the persons engaging in that relation; and (d) mental transformations, the transformations (production) of knowledge. Each of these relations determines its own type of processes. The criterion for attributing the status of determinant to the relation is that only what has realized itself can be the condition of existence of a potential reality. If relations are temporally prior to processes, they are determinant and processes must be determined. In fact, the transformation of a relation presupposes that relation (i.e. a relation must pre-exist its transformation); equally, a personal transformation presupposes the relation transforming those people; and the relation between people carrying out both material and mental transformations pre-exists those transformations. For example, under capitalism, the owners of the means of production must hire (engage in a relation with) the laborer before the production process can begin.
2. Given that in reality individuals are always abstract and concrete, when they engage in social phenomena they inevitably give a personal, concrete form to those phenomena. I.e. concrete individuals are the *personification* of abstract individuals. For example, the capitalist is but “personified capital endowed with a consciousness of its own and a will” (Marx, 1967a: 289-290). From this angle, *the personal is the form of appearance of the social*. Social relations are non-observable social phenomena.
3. Given that we can observe a relation only by observing what people do when they engage in a process, a *process is also the specific, empirically observable form taken by that relation*.
4. Given that relations determine processes and given that processes are transformations, i.e. movement, *relations determine their own movement by determining their own processes*. Thus, the relation of dialectical determination developed in section 1 above applies not only to different phenomena but also within phenomena, between relations and processes.
5. A process, being determined, might change either only the form or also the social content of its determining relation. In the former case that relation undergoes a *formal* transformation, in the latter case a *radical transformation* (e.g. it changes from being a condition of reproduction to being a condition of supersession or vice versa).
6. We have seen that abstract individuals are replaceable. However, substitutability implies only the *possibility* to be replaced in an actually existing relation and process. An actual substitution does not have to take place.
7. Both abstract and concrete individuals possess *a social nature*: the former because they are the actual carriers of social relations and agents of social processes; the latter because they, due to the internalization of social phenomena, are potential carriers of

social relations and agents of social processes (their potential social nature). Thus, individuals are always and at the same time both actual carriers of social relations and agents of social processes, as abstract individuals, and potential carriers of social relations and agents of social processes, as concrete individuals.

8. Given that individuals are always both concrete and abstract, individuals as abstract individuals are the agents through whom those phenomena manifest their social content while attaching to them, as concrete individuals, their own personal meaning and purposefulness. However, this personal meaning is not the social content of those phenomena. Rather, it is the individual content of individual phenomena.
9. Not all realized individual phenomena become social phenomena. Only some of them become actualized social phenomena..
10. An *individual relation*, while presupposing the unique features of the concrete individuals engaging in it, also presupposes something those individuals have in *common*. If this were not the case, there could be no relation at all. A relation of friendship, for example, implies that both individuals share a need for, say, companionship. But the fact that this feature (need) is common to two or more people (or possibly to everybody) is not sufficient reason for that feature to be the basis of a social relation. That relation is individual because, for the people involved, the relation presupposes only those specific individuals in their unique features, i.e. because in that relation those individuals are not replaceable. The same applies to processes.
11. The existence of certain common characteristics shared by people creates only the possibility for those individuals to become abstract individuals on the basis of those characteristics. Those features must have acquired a *social significance*, i.e. they must be used (for whatever purpose) to define social groups. For example, in a sexist society women are abstract individuals not because of their biological specificity but because their biological features are used in a process of discrimination of women by men, i.e. because the object of discrimination are women as women and not women with their specific and unique features. But each woman, as a concrete individual, experiences sexism in her own specific way and is a specific concretization of a sexist social relation.
12. It would be a mistake to assume that relations can exist without people. For example, for Durkheim "When the individual has been eliminated, society alone remains" (Durkheim, 1966: 102). This mistake is based on the failure to distinguish between individual and social relations. While individual relations cannot pre-exist the concrete individuals engaging in them, social relations usually do pre-exist the abstract individuals who become their carriers. Social relations and processes must abstract from concrete individuals but obviously imply abstract individuals, i.e. individuals seen not in their uniqueness but inasmuch as they share some characteristics which form the basis for their being categorized into a group and thus replaceable. The fact that individuals are substitutable does not mean that relations can exist without individuals. It is *social relations* which, aside from their concrete form of manifestation, can exist without individuals *as concrete individuals*.

13. A relation can be *spurious*. This is the case of one agent having a social relation with another who has an individual relation with the former. For example, in a relation between a charismatic leader and her followers, inasmuch as the followers are substitutable (so that that movement can continue irrespective of the specific personal features of the followers), the relation is a social one. But inasmuch as the leader is concerned, she is not substitutable (that movement would collapse without her) so that the relation is an individual one.
14. Relations and processes can be in a *transitional* state, i.e. from an individual state to a social one and vice versa or from a spurious state to either a social or an individual state and vice versa. In the example above, a spurious relation could be in a transitional state to a social one if that social group expresses a number of leaders whose substitutability might ensure continuity to that group.
15. Individuals engaging in a relation do not necessarily, and usually do not, continuously interact with each other. Friends alternate periods of contact with periods of separation, laborers work only part of the day, etc. In a relation the actual interaction can be *suspended* without breaking that relation. The interacting persons agree, either formally (e.g. legally) or informally, either freely or under coercion, either explicitly or implicitly, either by personal or by common consent, to resume their interaction. Their specific processes are suspended too.
16. For individual phenomena to become social phenomena it is necessary that social phenomena be part of concrete individuals' consciousness (or concrete individuals would never be able to transform themselves into abstract individuals). This is possible because concrete individuals undergo from the first moment of, and throughout, their life a process of socialization. This is a personal transformation, i.e. the internalization for the whole span of a person's life and for each individual in his or her own specific way, of (a) social phenomena (for example, a person's position in the social structure), (b) individual phenomena (e.g. friendship relations) and (c) chance occurrences. Given that concrete individuals are by definition different, and given that they internalize individual phenomena and chance events which are also by definition unique occurrences, the process of internalization, as far as this aspect is concerned, is also unique for each concrete individual. As far as this is concerned, the filter through which we internalize the outer world is exclusively our own. Facts, empirical observations, are always perceived through a personal filter and within a personal interpretative scheme. But we internalize also social phenomena. This too happens differently for each concrete individual. In this way, social phenomena become elements of the concrete individuals' consciousness and individuality and they are reduced to a *potential state* in that consciousness and individuality. Thus, concrete individuals' possibility to be(come) agents of reproduction or of supersession of society is only potentially present in them through the internalization of social phenomena. This potentiality can become realized just because the same person is both a concrete and an abstract individual. Also, it is for the same reason that the possibility arises for concrete individuals to be aware of the social phenomena of which they are the personification and to transform this perception into specific conceptions of reality with a specific social content.

### The Social Foundations of Non-Equilibrium

The previous sections have highlighted the emergence of social phenomena from other social phenomena and from individual phenomena. These two aspects can be now brought together. In symbols, given two social phenomena A and B,  $(\gamma) \{A^r, A^p\} \Leftrightarrow \{B^r, B^p\}$  indicates (as in section 1) the determination of social phenomena (B) by social phenomena (A). However, section 2 has argued the individual phenomena are at the same time potential social phenomena. In symbols,  $(\delta) \{C^r, C^p\} \Leftrightarrow \{I^r, I^p\} = B^{pi}$  where  $C^r$  and  $C^p$  indicate concrete individuals as realized and as potential individuals,  $I^r$  and  $I^p$  indicate individual phenomena as realized and as potential and  $B^{pi}$  indicates the individual phenomenon as a potential social phenomenon. Relation  $(\delta)$  symbolizes that concrete individuals, both as realized and as potential, determine individual phenomena, again both realized and potential *in their specificity* that are also potential social phenomena. Thus,  $\{I^r, I^p\}$  and  $B^{pi}$  refer to the same phenomenon, the former as an individual phenomenon in its specificity, the latter as a formless potential social phenomenon. For example, two concrete individuals engage in a specific relation of friendship that is a potential formless social phenomenon because that relation of friendship can realize itself as different social phenomena (The two friends can start an enterprise in which they are replaceable). Since  $B^{pi}$  interacts with realized social phenomena, it becomes a realized social phenomenon through this interaction. The realization of  $B^{pi}$  as a social phenomenon is symbolized as  $B^{ri}$ . In its turn  $B^{ri}$  contains its own  $B^p$ . Thus  $(\epsilon) \{A^r, A^p\} \Leftrightarrow \{B^{ri}, B^p\}$

and, by combining  $(\delta)$  and  $(\epsilon)$  we obtain  $(\zeta) \{A^r, A^p\} \Leftrightarrow \{B^r, B^p, B^{ri}\}$  where  $B^p$  indicates the potentials inherent both in  $B^r$  and in  $B^{ri}$ . Relation  $(\zeta)$  combines the two processes of determination, the emergence of social phenomena from other social phenomena as well as from individual phenomena. Since social phenomena are both determinant of and determined by each other (A can be determinant of B but determined by C) and since all social phenomena are determined in the last instance by the capitalist production relation, relation  $(\zeta)$  shows how social phenomena are connected by a process of mutual determination because of their determination in the last instance. It represents the *building block of society*, the cells of which the social structure is made up. *It is this relation rather than the market or equilibrium that keeps society together in a contradictory way.* Relation  $(\zeta)$  explains why society reproduces itself but it also accounts for the possibility of society's supersession. Any contraposition between structure and movement is thus artificial.

### The Method of Inquiry

The relation of *mutual determination*, or *dialectical relation*, as defined in section 1 above can now further specified thanks to relation  $(\zeta)$ . This relation expresses the relation between social phenomena both as determinant and determined, both as realized and as potential, both as emerging from social phenomena and from individual phenomena. More specifically, the determinant phenomenon calls into realized existence the determined one from



within its own potentialities (the result of its determination in the last instance and of its dialectical determination with all other social phenomena) and from individual phenomena as potentials social phenomena. The determined phenomenon, in its turn, becomes the realized condition of the determinant phenomenon's reproduction or supersession. It follows that, first, social reality *seen from a dialectical perspective* is a temporal flow of determining and determined contradictory phenomena continuously emerging from a potential state to become realized and going back to a potential state. Second, the *dialectical research method* inquires into a social phenomenon's origin, present state and further development, i. e. into (a) the past dialectical relation with other phenomena through which it has emerged from a previous potential state to become a realized phenomenon with its own potential contradictory content, thus possibly superseding its previous realized form; (b) its present dialectical relation with other contradictory social phenomena, some of which are determined by it and some other are its determinants, some potential and some realized; and (c) its further development (change) due to the present realization of its potentials as realized conditions of its reproduction or supersession. An example of (a) is the development in Capital I of the expanded value form from the simple value form and of the money value form from the expanded value form. The expanded and money value forms were potentially present in the simple value form and this is why they could be developed from the latter. Their realization was the realization of the latter's supersession. Section 2, point 14, above provides an example of (b) and (c).

### Between Subjectivity and Objectivity

One of the conclusions reached above is that there are under capitalism *two* types of rationality, opposite and irreconcilable. Both are socially determined. One is the rationality of Capital based on exploitation, inequality and egoism; the other that of Labor based on cooperation, solidarity and equality. A behavior according to Capital's rationality facilitates and is a condition for the reproduction of the system; a behavior according to Labor's rationality hinders that reproduction and is a condition for its supersession.

The contradictory social content of social phenomena in their dialectical relation implies that the struggle between the two fundamental classes *takes the form* of the struggle among the myriad of phenomena, both individual and social, for the *transformation* in each of those phenomena of one type of rationality functional for the reproduction of capitalism into the other, functional for its supersession, and vice versa. While the two fundamental classes can be theorized in static terms, in terms of the capitalist production (ownership) relation, their *form of manifestation* is highly fluid and dynamic, it is given by *all the individual and social phenomena* that are functional for the reproduction of capitalism (in the case of the capitalist class) and for its supersession (in the case of the laboring class). The form of manifestation of social classes is thus much more than political parties or voting behavior. It permeates all phenomena, including those in the private sphere. Given that individuals participate in a variety of social phenomena, they can, and usually do, behave in a contradictory way, now according to one type of rationality and

then according to the other. This is how abstract individuals reproduce the system (in a contradictory way) and how at the same time they attempt to supersede it. Only the historically specific and socially determined moment decides which form of social struggle is sufficiently strong both qualitatively and quantitatively either to modify the reproduction of the system, while not challenging its very nature, or to start and bring to an end its eradication. However, the transition to a radically different society will begin only when the production relation and the concomitant production process are transformed on the basis of solidarity, equality and cooperation.

This does not imply that other classes besides Capital and Labor, groups within classes (foreign workers), or groups cutting across classes (homosexuals, ethnic and racial minorities, regional, religious, nationalist, ecological, etc. groups) are just epiphenomena of little significance for the reproduction of society or for its supersession. What it does mean is that their specific type of oppression, their resistance against it, and the consciousness which emerges from these processes are ultimately determined by the capitalist production relation because they have gotten their social content from it in a mediated way and transmuted form. This holds also for those social relations which pre-existed the capitalist system, like racism and gender relations. Having been immersed in a different (i.e. capitalist) social context, they acquire a social content functional for the reproduction of the capitalist production relation (e.g. lower wages for women) or for its supersession: they become determined in their specific form by that relation. As such, they react upon and modify that relation and become historically specific forms of capitalism's reproduction or radical change.

Three objections can be moved against this approach. First, it could be held that it is consumption relations which are ultimately determinant of production relations because people realize their potentialities through consumption rather than through production (Holton, 1992: 174). But the point is not whether people realize their potentiality through production or through consumption (both production and consumption are needed to realize those potentialities). The point is that a phenomenon can transfer its social content only to another phenomenon only if the former pre-exists the latter (see above). *Given a certain time period*, production is prior to distribution and consumption (only what has been produced can be consumed). Therefore, only the former can be determinant of (transfers its social content to) the latter. Distribution and consumption can precede temporally production but this is the production of the *following* period rather than of their own period.

Second, it could be held that other exploitative relations, like racism or gender relations, have the same contradictory social content as the capitalist production relation. Thus it is they that could be determinant. The answer is that the capitalist production relation is the only constant feature of capitalism while other exploitative relations are not and could disappear without imperiling capitalism's survival. It could be replied that other exploitative relations, e.g. racism, can be observed under different exploitative systems and that therefore it is racism which could be regarded as determining all these systems, including capitalism. But the point is that if it is capitalism that is analyzed, the focus must be on what is constant and therefore specific to that system, thus determi-

nant, i.e. the capitalist production relation. If it is racism that is analyzed, it must be analyzed under different social systems.

Third, it is pointed out that some laborers behave always according to their class collocation, that some other do so only at particular historical conjunctures, and that some other never do so. This would show that there is no class determination of consciousness, that the choice by laborers of Labor's rationality is a matter of chance, of non structural factors, etc. The argument is invalid because it rests on methodological individualism. The system expresses both a movement towards self-destruction (as the threat of nuclear wars, the destruction of our ecological system, etc. bear witness) and a movement towards its own supersession. This latter movement is shown by the daily (re)production of ideas, theories, political and otherwise practices and other social and individual phenomena consciously as well as unconsciously aiming at this supersession as well as by the explosion at critical historical junctures of conscious collective attempts to supersede the system. But the system expresses also a movement towards its own reproduction when it manages to transform these superseding tendencies into conditions of its own reproduction.

Just as the system oscillates between the tendency towards self-destruction, supersession and reproduction, so does society's consciousness oscillate between the dominance of Capital's rationality (expressing the self-destructing and reproducing tendencies) and that of Labor's rationality (expressing the superseding tendency). Thus there are always carriers of one or of the other type of rationality (in their many manifestations) *irrespective of which abstract individuals* (laborers and capitalists) *behave according to their class collocation*. At the individual level, individuals undergo constantly opposite processes of socialization that can be traced back to the two opposite types of rationality, one functional for the reproduction of capitalism, the other functional for its supersession. While there are always very personal and unique causes accounting for each concrete individual's concrete manifestation of (a mix) of one of the two rationalities, at the level of society there are *always* carriers of the two opposite types of rationality because of the two opposite tendencies (the self-destructing/reproducing tendency versus the superseding tendency) inherent in the capitalist system. What methodological individualism cannot see is that social determination in one realm of reality, the necessary and constant aggregation of abstract individuals in two fundamental classes expressing opposite types of rationality, manifests itself as a number of chance events in another realm of reality, that of concrete individuals.<sup>22</sup>

The thesis that the system expresses both types of rationality as the conscious moments of its movement towards reproduction or supersession, throws up a new question, namely whether the system tends objectively towards its own supersession or not. As hinted at above, this is of the greatest importance. If the economy tends towards a crisis point, the system tends objectively towards its supersession, to the point where it cannot function any longer. Then, Labor's rationality is the subjective expression of this inner law of movement, of capital's attempt to supersede itself. Capitalist rationality can only cyclically and temporarily hold back the emergence of, and the dominance by, Labor's rationality. Radical change is inherent in, is a constant potentiality of, capitalism. If, on the other hand, the system tends towards equilibrium, the tendency is towards economic growth and reproduc-

tion and it is Capital's rationality that expresses the inner essence of capitalism. Labor's rationality can only hold back the dominance of Capital's rationality without having an objective basis upon which to build its attempt to supersede the system. It becomes mere rebellion. In other words, in one case the capitalist system tends towards equilibrium, in the other case the system tends towards crises and is in a permanent state of non-equilibrium. The purpose of what follows, then, is to argue for the thesis that the capitalist economy is a non-equilibrium economy tending objectively towards crises. Given the complexity of the topic, only the basic notions will be discussed. The argument revolves around the necessary, tendential, and cyclical fall in the average rate of profit (ARP).

After the unnecessary intricacies and mathematical formulae frequently used by commentators have been removed, Marx's reasoning is remarkably simple but powerful. In synthesis, technological innovations make possible the introduction of more efficient means of production. Physical productivity increases, i.e. a greater output (of use values) is produced per unit of capital invested. At the same time, technological innovations usually replace people with means of production, for example machines. In this case, the share of constant capital per unit of capital rises relative to that of variable capital. On the one hand, the quantity of use values produced with a unit of capital rises but, on the other, the living labor employed for this production decreases. The total labor incorporated in a unit of product declines because the output per unit of capital increases as a consequence of the introduction of more efficient means of production coupled with the expulsion of labor power from the production process. As Marx says, "The value of a commodity is determined by the total labor-time of past and living labor incorporated in it. The increase in labour productivity consists precisely in that the share of living labor is reduced while that of past labor is increased, but in such a way that the total quantity of labor incorporated in that commodity declines" (1967a: 260-261). Given that Marx's work is premised on the assumption that only living labor produces value, this greater physical output and thus the value incorporated in a unit of output embody a smaller value and surplus value. The average rate of profit falls, *ceteris paribus*. As Marx holds, "The rate of profit does not fall because labour becomes less productive, but because it becomes more productive" (1967c: 240).

It is this contradictory outcome, an increase in the quantity of use values incorporating a decreasing quantity of (surplus) value, that is the ultimate cause of crises: "periodical crises ... arise from the circumstance that now this and now that portion of the labouring population becomes redundant under its old mode of employment" (Marx, 1967c: 264). In other words, ultimately crises are the consequence of *labor saving but productivity increasing* technological innovations (TI). Therefore, "the ultimate reason for all real crises [as opposed to financial and speculative crises, G.C.] always remains the poverty and restricted consumption of the masses [due to the expulsion of labor as a consequence of TI, G.C.] as opposed to the drive of capitalist production to develop the productive forces [the productivity of labor through TI, G.C.] as though the absolute consuming power of society [rather than the poverty and restricted consumption of the masses, G.C.] constituted their limit" (Marx, 1967c: 484). Marx qualifies the law by considering factors (the counter-tendencies) that temporarily hamper the fall in the ARP, i.e. by ascribing to it a tendential nature.

There is no room here to discuss the counter-tendencies. What is important here is to stress that the same system that generates the fall in the ARP (due to the negative effect of TI) generates also its rise (due to the positive effect of the counter-tendencies). However, the more the counter-tendencies try to hold back the effect of TI, the weaker becomes their effect. At a certain point they reach a limit and the fall in the ARP sets in. The counter-tendencies can only check and retard the fall in the ARP caused by TI.<sup>23</sup> Then, the tendency is the fall in the ARP until the tendential point (the trough) is reached. The counter-tendency is the rise in the ARP until the counter-tendential point (the peak) is reached. The tendency is the expression of the *specificity* of the system (a fall in the ARP to a trough due to an increase in productivity and concomitant decrease in employment) while the counter-tendency (a rise in the ARP to a peak) is the expression of all the factors that can only check, partly paralyze, retard, and impair the realization of the tendency. For example, one of these counter-tendential factors is the increase in the rate of surplus value. But Marx (1967c: 247) stresses that, as laborers are replaced by means of production, the rate of surplus value must rise (the length of the working day must rise) in order to compensate the decrease in (surplus) labor due to fall in employment. But this compensation has “certain insurmountable limits” given that laborers, “even if they could live on air” cannot work longer than 24 hours a day.

The question posed by the critics in this connection concerns the reason why the fall in the ARP should be the tendency and the rise the counter-tendency. The opposite thesis, that the upwards trend in the ARP is the tendential movement and the opposite trend is the counter-tendential movement, i.e. that the tendency is towards equilibrium, clashes against the decreasing effectiveness of the counter-tendencies and thus against the observation that crises are recurrent, endemic, and cyclical features of the economy that are impervious to whatever type of counter-cyclical measures.<sup>24</sup> But, aside from this, *only a non-equilibrium view stressing the capitalist economy's tendency towards its own supersession can provide an adequate basis for Labor's struggle for emancipation*. There is no eschatology here. The capitalists system tends towards its own supersession. This could be a society based on Labor's rationality even if Labor as we know it now would disappear together with Capital. But this is not an inevitable event. It is up to Labor to realize this potentiality to its own advantage. This is indeed a class determined stance but the opposite stance based on a view of a society being in or tending towards equilibrium is equally class determined.

## Notes

- 1 One of the last attempts is Chris Arthur, 2004. For a critique, see G. Carchedi, unpublished paper (a).
- 2 Marx also said: “Here and there, in the chapter on the theory of value, [I] coquetted with the mode of expression peculiar to him [Hegel]” (afterward to the second German edition, January 24, 1873, Capital I, 20).
- 3 For a similar opinion, see Paolucci, (2006b: 119).

- 4 For such an attempt see Paolucci, 2006a. This author submits that “Marx rejected certain aspects of positivism while accepting others”(76).
- 5 For a theory of class determined knowledge, see Carchedi, 1983, 1987, 2005.
- 6 “The real value of a commodity, however, is not its individual, but its social value; that is to say, its value is not measured by the labour-time that the article costs the producer in each individual case, but by the labour-time socially required for its production” (Marx, 1976: 434).
- 7 Other examples are: gold as a measure of value, being a product of labor, is potentially variable in value (Marx, 1967a, chapter 3); money is potentially capital (op.cit, ch.4; 1967c, ch. 21); the laborer is only potentially so, s/he becomes actually a laborer only when s/he sells his/her labor power (1967a. ch.7); unemployment increases with capital’s potential capacity to develop itself (op.cit. ch.25); the bodily form of the inputs contain potentially the result of the production process (Marx, 1967b, ch.1); in a state of separation from each other, laborers and means of production are only potentially factors of production (ibid); a commodity is only potentially such as long as it is not offered for sale (op. cit. ch.6); the part of capital that is not turned over every year is only potentially capital (op. cit. ch. 13); money earmarked for the purchase of labor power is a constant magnitude, potential variable capital; it becomes variable magnitude only when labor power is purchased with it (op. cit. ch. 20); commodities are only potentially money, they become such only upon sale (ibid.); surplus value is potential capital (op. cit. ch.21); hoarded money is only potentially money-capital (Marx, 1967c, ch.19); labor power, as long as it is not employed in the production process, is only potentially able to create surplus value (op. cit. ch. 23); a commodity is only potentially money-capital (op. cit. ch. 30); the money spent in purchasing land is potential capital because it can be converted into capital (op.cit. ch. 47); etc.
- 8 Disregard of the potential leads to absurd conclusions. For example, Lefebvre asserts that life and death are “identical” because the process of aging starts when a living organism is born (1982: 164). Life and death are opposites and not identical. Life is a realized phenomenon and death is a potential within life itself. Contrary to Lefebvre (op.cit. p. 172) the unity of contradictions is not identity.
- 9 Bradley and Swartz (1979) submit that a man is a runner not because he actually runs but because he has the capacity, potentiality, to run. But this potentiality is simply an attribute, that man is already a realized runner, whether at any given moment he runs or not.
- 10 The notion of determination is defined in the next section. Here an intuitive understanding is sufficient.
- 11 There is no room here to deal with the possibility that biotechnology can create human life forms functional for profit making and thus to radically alter human nature. The speed of this development is terrifying. In 1997 the cloning of the sheep Dolly at the Roslin Institute opened the way to the cloning of human beings (McKie, 1997). In 2000 the English Parliament approved the creation of, and experimentation on, human embryos for profit purposes (Corriere della Sera,

- Milan, 2000). Finally, in the same year patent EP 380646 has been given by the EU Patent Office to the Australian enterprise Amstrad for the creation of so-called 'mischwesens', i.e. beings made up of human and animal cells, to be precise cells of mice, birds, sheep, pigs, goats, and fish (Guidi, 2000).
- 12 Of course, there are more than the two fundamental classes, there are also the old and the new middle class (Carchedi, 1977) but the focus on these two classes is sufficient for the present purposes.
  - 13 That individual laborers do not behave as above is no objection to this thesis. See section 5 below..
  - 14 For the purposes of this work the capitalist production relation is the same as the capitalist ownership relation (the relation between the owners and the non-owners of the means of production). This is sufficient to define the two fundamental classes. But an identification of the classes in terms of the production relation requires the development of aspects inherent in the ownership relation. See Carchedi, 1977. Section 5 below will submit an argument for ascribing the ultimately determining role to the production relation.
  - 15 A phenomenon is a condition of existence or of reproduction or of supersession of some other phenomena only if a section of reality is considered. See the last paragraph of this sub-section.
  - 16 As pointed out above, there is an exception: the production relation is only determinant, i.e. determinant in the last instance.
  - 17 The capitalist society can continue to reproduce itself while maintaining its exploitative nature. It can also self-destroy, as the prospect of nuclear wars, the destruction of our natural habitat, etc show. It can change into a different type of exploitative society. And it can develop into a society which is the very opposite of capitalism, one based on cooperation, solidarity and equality as opposed to exploitation, inequality and egoism (see section 5 below). These themes cannot be dealt with here. The focus here is on how certain phenomena can be conditions of reproduction or of supersession of other phenomena and thus of society as a whole, irrespective of what the outcome of societal change (supersession) will be.
  - 18 This is consonant with Antonova's opinion that Marx denied the possibility to ground social phenomena in natural phenomena (2006: 172).
  - 19 The alternative position that there are no objective laws of motion will be criticized and rejected in section 5 below.
  - 20 In case of capital immobility (e.g. due to obstacles to capital movement), the ARP becomes a static quantity setting the limits to static profit rates. The scatter is frozen. Without movement, there is neither a tendency nor a counter-tendency. Yet there is an ARP. Capital mobility is necessary to explain the movement of the ARP but is not necessary to explain its static existence. The ARP exists independently of capital movement. But of course in the real world capital is mobile even though there are obstacles to capital mobility of various nature.
  - 21 Social phenomena as conceived here differ from both Durkheim's social facts and Weber's social-economic phenomena. For Durkheim a social fact "is independent of

the individual forms it assumes in its diffusion" (1966: 10). Thus society is given some sort of unexplained super-individual existence so that it can be thought of as being somehow independent of individuals. For Weber the "fundamental social economic phenomenon [is] the scarcity of means" and social-economic phenomena are those whose basic element is this fundamental one, the scarcity of means (1949: 63–64). As in orthodox economics, a social-economic phenomenon is not defined by Weber in terms of relations and processes among people. Rather, it is a relation between people and objects (commodities).

- 22 The view that class consciousness is determined by class collocation (a constant modified by other factors not determined by it (a variable) is a variant of the copy or reflection theory. This is the hidden theoretical agenda of certain 'radical' sociology searching for a greater or smaller degree of correspondence between objective class collocation and class consciousness (both variously defined) or between objective features (such as status, education, income, etc.) and consciousness (ideology, voting behavior, etc). Class consciousness arises in the process of dialectical determination with other phenomena including class collocation. Consciousness is not determined by class collocation in spite of all other social phenomena but because of all phenomena including class consciousness.
- 23 For a discussion of this topic see Carchedi, unpublished manuscript (b).
- 24 This is different from Schumpeter's creative destruction (1962: 81–96). Both in Marx and in Schumpeter (who on this point was greatly influenced by Marx) technological competition revolutionizes productive techniques. But for Marx, technological competition leads to periodic crises, whose negative consequences are borne mainly by Labor. For Schumpeter, it leads to price reductions and thus to a long-run improvement in the working and living conditions of Labor.

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For correspondence: Guglielmo Carchedi, Faculteit Economie en Bedrijfskunde, University of Amsterdam, Roeterstraat 11, 1018 WB, Kamer 7.14, Amsterdam, The Netherlands. E-mail: g.carchedi@uva.nl.

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