BUSINESS CYCLE AND CAPITALISM
SCHUMPETER VS MARX[1]

By SHIGETO TSURU

Professor, The Institute of Economic Research

It has been generally recongnized, overtly or implicitly, that business cycles punctuated by crises are phenomena related somehow to the economic system which we call capitalism.[2] We are brought to an awareness of this connection especially when we are faced with the problem of effective measures of control over undesired fluctuations. Theorists who have tackled the problem of business cycles, however, have not only laid different emphases on this general point, but also have differed rather widely in what they meant by the same phrase. In fact, it may not be unfair to say that only a few of them have explored the point in a systematic fashion with explicit awareness. The purpose of this paper is to recount and appraise two outstanding attempts in this direction: Professor Schumpeter's and Karl Marx's.

I

[1] This was originally written in 1941 while the author was at Harvard University. Although Dr. W. J. Baumol has recently dealt with this problem (*Economic Dynamics*, Macmillan, 1951, Chapter Three The Dynamics of Marx and Schumpeter), I find that he did not delve far enough into the logical connection between the business cycle phenomena and the capitalist system of production as developed by the two authors. Therefore, I venture to publish this somewhat outdated article exactly in the form I wrote it more than ten years ago. At the time, I was indebted especially to Drs. P. M. Sweezy and Oscar Lange for helpful suggestions.

[2] It suffices here to quote only two prominent scholars in this field, Wesley Mitchell and Gottfried Haberler. The former wrote in *Business Cycles, The Problem and Its Setting:*

"Business cycles do not become a prominent feature of economic experience in any community until a large proportion of its members have begun to live by making and spending money incomes. On the other hand, such cycles seem to appear in all countries when economic activity becomes organized predominantly in this fashion. These observations suggest that there is an organic connection between that elaborate form of economic organization which we may call 'business economy,' and recurrent cycles of prosperity and depression." (p. 182)

Haberler wrote in *Prosperity and Depression*:

"We believe that a very general theory of the most important aspects of the cycles can be evolved, which will not on the one hand be so formal as to be useless for practical purposes, while, on the other hand, it will have a very wide field of application. The precise conditions of its applicability. . . relates to monetary and banking arrangements, the wage-price system and some elementary technological facts . . . all deeply rooted in our present individualistic money-price economy." (The 1937 edition, p. 178)

It is not too much to say that in Professor Schumpeter we find an awareness of the inseparable connection of business cycles and the capitalist process carried to a most systematic and elaborate form. The subtitle to his work; *Business Cycles*,[3] placed in apposition, reads: "A theoretical, historical, and statistical analysis of the capitalist process"; and the very first sentence which ushers us into the volume is again his major theme in succinct formulation, to wit: "Analyzing business cycles means neither more nor less than analyzing the economic process of the capitalist era." Let us, then, distil his imposing structure and try to grasp the crucial link by which capitalism and business cycles are inseparably connected in his theory.

There seems to be little question that the concept of *innovation* holds the key to the theoretical edifice of Professor Schumpeter. He himself proposes as his "analytic intention . . . to make the facts of innovation the basis of our model of the process of economic change."[4] When thus informed, we are less concerned, for our purpose, with the precise content of the term innovation than with its relation to capitalism. We ask: Is innovation, as such, the facts of occurrence characteristic *only* of capitalism? Although he harps on the fact that innovation is what dominates the picture of capitalistic life,[5] and although he stresses the point that it is a factor of change *internal* to the economic system, his answer is unequivocal: *innovation is no more confined to capitalist society than changes in tastes are.*[6] If, therefore, business cycles are uniquely associated with capitalism in Professor Schumpeter's scheme of explanation, we must look elsewhere for the crucial connecting link.

This we seem to find in what he calls "the monetary complement of innovation"; i.e., credit creation. On the one hand, we note that he qualifies his definition of capitalism[7] by stressing in particular the element of credit creation.[8] Neither the system of private property nor the element of entrepreneurship constitutes the distinguishing mark of

---

[3] *Business Cycles*, McGraw-Hill, 1939.

[4] *Ibid.*, pp. 86-7. Also *cf.* "Surely nothing can be more plain or even more trite common sense than the proposition that innovation, as conceived by us, is at the center of practically all the phenomena, difficulties, and problems of economic life in capitalist society and that they, as well as the extreme sensitiveness of capitalism to disturbance, would be absent if productive resources flowed ··· either in unvarying or continuously increasing quantities ··· every year through substantially the same channels toward substantially the same goals, or were prevented from doing so only by external influences." (*Ibid.*, p. 87)

[5] See *ibid.*, p. 91.

[6] *Cf.* "The entrepreneurial function itself is not confined to capitalist society." (*Ibid.*, p. 223)

[7] He defines that "capitalism is that form of private property economy in which innovations are carried out by means of borrowed money, which in general, though not by logical necessity, implies credit creation." (*Ibid.*, p. 223)

[8] *Cf.* "In the institutional pattern of capitalism there is machinery, *the presence of which forms an essential characteristic of it*, which makes it possible for people to function as entre-

capitalism. On the other hand, he is quite articulate in stating that credit creation renders an innovation productive of those changes in economic quantities associated with the prosperity phase; e.g. the rise in prices of factors of production, the rise of money incomes and of the rate of interest, and so on. Significantly enough, he goes on to show that these changes will be absent if an innovation is carried out by means of savings or, under socialism, by an administrative order. This leaves no doubt as to the pivotal significance of *credit creation* in connecting business cycles with capitalism. *But is it the only link?*

It is doubtful that Professor Schumpeter would give an unequivocal affirmative to this question. The stature of his analytical scheme implied in the subtitle of his books we already quoted leads us to suspect that the element of credit creation is too meager a creature to stand alone as the crucial connecting link. Perhaps we are not asking a right question. It may be that in Professor Schumpeter's scheme of explanation capitalism and business cycles are related in such a way as not to permit the singling out of distinct connecting links. In order to pursue him, therefore, we had better reorient ourselves in the light of his methodological dictum. The starting point of his explanation (of business cycle phenomena) is succinctly formulated by him as follows: If we observe that the event Y (business cycles) occurs in a set of "real" phenomena X (capitalist society), "it will not necessarily have meaning to search X for a single cause of Y."[9] It is desirable rather to develop a conceptual schema X', by which to handle X, and then ask the question whether or not X' implies the occurrence of Y, and which of the properties of X' are responsible for it. "There is always meaning to ... (such a) question."[10] How then is his X' developed?

His conceptual schema X' is, in the first instance, embodied in the theory of equilibrium. This "gives us, as it were, the bare bones of economic logic which, however abstract or remote from real life it may be, yet renders indispensable services in clearing the ground for rigorous analysis."[11] Or it "supplies us with the simplest code of rules according

preneurs without having previously acquired the necessary means." (*Ibid.*, p. 103. Italics added.)

Also *cf.* "We shall date capitalism as far back as the element of credit creation." (*Ibid.*, p. 224)

What then is credit creation? It is the *ad hoc* creation of the means of payment for the purpose of enabling the entrepreneur to bid away from the use otherwise destined those factors of production which he requires for carrying out his innovation. "The shifting of the factors is effected not by the withdrawal of funds ... 'cancelling the old order' ... from the old firms, but by the reduction of the purchasing power of existing funds which are left with the old firms while newly created funds are put at the disposal of entrepreneurs." (*Ibid.*, pp. 111-2)

[9] *Ibid.*, p. 34.

[10] *Ibid.*, p. 34.

[11] *Ibid.*, p. 68.

to which the system will respond."[12] We are familiar with the concept of general equilibrium, to which Professor Schumpeter proposes no fundamental amendment. In fact, as if to accomodate the traditional equilibrium analysis, he confines, as a matter of hypothesis, the "innovating" activities to *new* men, *new* plants, and *new* firms and allows the traditional analysis to have maximum applicability in describing the responses to innovation by *old* firms which by definition do not resort to *creative* responses.

The theory of equilibrium, then, constitutes the basic mode of X', and now he is able to speak of the "*necessity* of starting our analysis in perfect equilibrium"[13] and to maintain that the test of a theory (of business cycles) *as a fundamental explanation satisfactory in logic* is that it be able to show at least the possibility of a cyclical movement "*starting from a strictly stationary* process in which all the steadying forces and mechanisms of the system are perfectly intact."[14] He rejects, therefore, the hypothesis that an economic system could, without any particular "force" impinging upon it, work in a wavelike fashion merely by virtue of its structure.[15] It is clearly conceived by Professor Schumpeter that equilibrium mechanism as an apparatus of response does not by itself generate cycles, but the "force" of innovation acts intermittently upon it and, by bringing into play the action of the equilibrium "force," causes the characteristic features of the business cycle.

In search for crucial connecting links between business cycles and capitalism other than credit creation, we pose here our old question: Does the theory of equilibrium represent the *differentia specifica* of capitalism? If the apparatus of response as developed by the theory of equilibrium is germane to any type of economic system, be it capitalistic or socialistic, it cannot serve as a *crucial* connecting link between capitalism and business cycles, even if it is a necessary condition for the occurrence of the latter.

Professor Schumpeter himself is consistent in refusing to use the term capitalism throughout his discussion of equilibrium. He speaks of "economic sysetm," "economic logic," "economic process," and "economic organism," and strongly suggests the possibility of using the purest form of equilibrium analysis as a starting point of economic analysis for any type of society or even of individual household. To the extent he actually does this he is divesting his X' of the peculiar marks of X and forcing himself more and

[12] *Ibid.*, p. 68. Also *cf.* "Our understanding of the way in which the economic organism reacts to any given new event is unavoidably based upon our understanding of those equilibrium relations." (*Ibid.*, p. 68)

[13] *Ibid.*, p. 83, italics added.

[14] *Ibid.*, p. 182, italics added.

[15] See *ibid.*, p. 180, the first paragraph. Also *cf.* "The business cycles with which we are concerned . . . are not analogous to the oscillation of an elastic string or membrane ...which, once set into motion, would, but for friction, go on indefinitely ... because they are due to the intermittent action of the 'force' of innovation, by which the action of the equilibrium 'force' is each time brought into play." (*Ibid.*, p. 175)

more to rely, for establishing the connection between X and Y, upon either the segregated factors of innovation and credit creation or the unformulated interstitial conditions of X. That he dates the phenomenon of business cycles as far back as credit creation ... that he conceives of it in terms of multiple cycles ... that for him there does not exist periodicity in the usual sense of the term ... all these flow out of his segregation of particular factors which are theoretically made responsible for the occurrence of Y. It appears, then, that on his own admission his X' transcends the institutional limitations of X and furthermore is not directly responsible for the phenomenon of Y. Thus, in the final analysis, we seem to be left with only one crucial connecting link ; i.e., credit creation.

Such logical distillation of Professor Schumpeter's theory as presented above commits, of course, many oversimplifications in the process. Readers who take trouble in studying his volumes will find appeals made in numerous places to specific conditions of capitalism for the explanation of various aspects of the business cycle phenomena.[16] But his is not meant to be an eclectic theory which allows piecemeal explanation for individual aspects of the problem. We are led by his own methodological prescription to expect from him a simple and elegant skeleton-structure of a theory of business cycles. That he succeeds in constructing it through the formulation of a conceptual schema (X') may well be conceded. However, the crucial question, the answer to which remains in doubt, is *whether he abstracts succesfully such X' out of X as is at once differentia specifica of X and the explanatory tool of* Y. Doubt is cast, in other words, as to whether he succeeded in following his own methodological prescription. It may be questioned, however, if the theory of equilibrium is as neutral to institutional specifications as he seemingly implies. One may argue

[16] For example, as regards the clustering of innovation, which aggravates the initial disturbance and "*enforces a distinct process of adaptation*" (*ibid.*, p. 101), we find him saying :

"If action in order to carry them (major innovations) out were equally open to all as soon as they became technically and commercially possible (which will be the case under socialism), those disequilibria would not be different from, and not more serious than, those which arise currently from changes in data and are currently absorbed without very great difficulties and without 'revolutions' or upheavals." (*Ibid.* p. 97. Insertions mine.)

It may also be pointed out that the proposition that the igniting innovation strikes the system around the neighborhood of equilibrium and also the proposition that entrepreneurial activities slacken because of the impossibility of calculating costs and receipts in a satisfactory way are, aside from the question of their validity, founded on the implied horizon and economic rationality of *bourgeoisie*.

Also *cf.* "Our argument rests on (abstractions from) historical facts which may turn out to belong to an epoch that is rapidly passing . . . We assume not only private property and private initiative but a definite type of both ; not only money, banks, and banking credit but also a certain attitude, moral code, business tradition, and 'usage' of the banking community ; above all, a spirit of the industrial *bourgeoisie* and a schema of motivation which within the world of giant concerns . . . and within modern attitudes of the public mind is rapidly losing both its scope and its meaning." (*Ibid.*, pp. 144-5) that the theory is nothing but an abstraction of the *capitalistic* apparatus of response *par excellence*, and that being a refined abstraction of a one-sided phase, it possesses an appearance of generality and may actually permit a limited application beyond the confines of capitalism. One may go on along this line of interpretation, and say that the methodical avoidance by Professor Schumpeter of associating the equilibrium analysis with capitalism is dictated more by his theoretical zeal as such than by any positive endorsement on his part of the institutional neutrality of the equilibrium analysis. We may recall his apt simile that "cycles are not, like tonsils, separable things that might be treated by themselves, but are, like the beat of the heart, of the essence of the organism that displays them."[17] If by "the organism" he means, as he must, a capitalist society, it is difficult, indeed, not to associate his basic theoretical apparatus of response with the specificity of that organism. If we are correct in thus reading between his lines, it must still be emphasized that Professor Schumpeter fails to demonstrate with sufficient explicitness how his explanatory tools of *Y* flow necessarily from the *differentia specifica* of *X*.

When the fall of an apple was explained not simply in terms of its ripeness or the blowing wind but also in terms of gravitation, it marked an important step in the progress of physical science. The *terra firma* in the realm of social science is a prevailing and relatively intransmutable setup of society. Apparent permanence of any social setup leads one often to take for granted the specificity of the conditions which prevail under it. Science, which takes nothing for granted, is called upon to reveal, if true, the infirmity of the *terra firma* or, again if true, the transient specificity of capitalist society. The degree to which critical search in this respect is needed differs according to the types of problem we investigate. The recognition that the problem of business cycles is one of those problems which require the revelation of its connection to the specificity of capitalist society is the reputed strength of Professor Schumpeter's theory. If his theory is found to leave still much to be desired, the explanation may be that his approach is *from business cycles to capitalism* and that due to the complexity of the intermediate links the consummate synthesis is too much to hope for. In contrast to his theory, we shall now examine that of Karl Marx, whose approach may be said to be the opposite of Professor Schumpeter's, namely, *from capitalism to business cycles*.

II

Marx concerned himself principally with the basic analysis of the

[17] *Ibid.*, Preface, p. v.

dynamics of capitalist society — a subject matter which is much wider in scope than the majority of modern economists would care to deal with. The fact that his theory of crises evolved itself on this wide base as pertaining, not to accidental abnormalities, but to normal course of economic development is the reason for our special interest in the contribution of Marx.

Although Marx placed a great deal of emphasis on the phenomenon of crisis, or the periodical breakdown, he was hardly less articulate in speaking of recurrent "industrial cycles," by which, there seems to be no question, he meant what we have since become accustomed to call "the business cycle." But if we figuratively represent the unfolding of a theory as consisting of a hierarchy of levels of abstraction ascending from the most abstract base of essentials to the height of manifoldly concrete phenomena, Marx would place the phenomenon of business cycles nearer the top. Between this latter and the basic characteristics of capitalism he would make intervene numerous steps of approximation only a few of which he attempted to elucidate. If at all, his contribution lay nearer as regards the base than as regards the top. In other words, the direction of his approach is *from capitalism to business cycles.* It is his methodological prescription that the general conditions of cyclical phenomena be demonstrated as developing out of the general conditions of the capitalist mode of production. How then does Marx formulate the defining characteristics of capitalist society ?

Toward the end of the third volume of *Capital* we find him summarizing such characteristics into two foci : [18]

(1) The prevailing and determining character of its products is that of being *commodities.*

(2) The production of *surplus value* is the direct aim and determining incentive of production.

These we may take as our starting point and try to pursue their necessary implication in the direction of further concretization. By way of caution, it may be remarked that the two italicized expressions above must be registered in our mind in their specific Marxian context. Marx would maintain that under all stages of society's development human labor confronts itself with nature and man-made means of production to produce the means of consumption, but that the institutional form which this confrontation takes differs according to different stages of history, and that *commodity* is a product of human labor taking one particular institutional form. Likewise with the concept of *surplus value.* Marx would say that beyond a certain stage in the development of productivity human labor is capable of producing surplus above the goods necessary for his subsistence,

[18] Karl Marx, *Capital,* Vol. III, Kerr edition, pp. 1025-7.

but that the form which the surplus assumes and the way in which it is distributed differs according to different stages of history, and that *surplus value* is one particular institutional form of such a surplus occurring in one stage of society's development.

Of the two characteristics mentioned above, the first provides background for what Marx calls "the possibility of crisis." The commodity production as such pertains not solely to a capitalist society; but by acquiring a *prevailing* and *determining* character, it forms a general background for the basic elements of capitalistic economic transactions. The implications of the commodity production may best be elucidated in its contrast to the barter economy.

Barter economy can schematically be decomposed into a unit process of P_1–P_2; that is to say, the Product 1 is *directly* exchanged with the Product 2. The latter is the aim achieved by parting with the Product 1. Further, the connotation is reversible; for the person who parts with the Product 2, the Product 1 is the end. The commodity economy, on the other hand, calling forth by its very nature the prevalent use of the general value form (money), splits this simple process of P_1–P_2 into two, i.e. C_1–M and M–C_2 (in which C denotes a commodity and M money). M appears to be only an intermediary. But let us scrutinize what this implies. The producer of C_1 now produces it for the market where he expects to exchange it for money. He has no idea who wants it and how much of it is wanted. Communal decision or social consideration no longer shapes or supercedes his individual policy. The external world outside him presents itself only in the shape of a demand curve, as it were. Still it remains that his aim is definitely to acquire C_2. The movement which was started by the entrance of C_1 into the market cannot come to rest until it ends in the acquisition of C_2 by the producer of C_1. But once he sells his C_1 for M, he is under no compulsion to buy C_2 immediately, nor from the person to whom he sold C_1. He can bring M home, wait for a few months, go to a neighboring town, and buy C_2 with M. In other words, M "splits"[19] the process of C_1–C_2 both *temporally* and *spatially*.

[19] In using the transitive verb for M, we commit an oversimplification. C_1 appears from the backstage of workshop into the stage of the market, where plenipotentiary M directs it hither and thither. After it undergoes a metamorphosis into M, it makes an exit again into the backstage never to come back. But M constantly reappears on the stage, and seems to string a series of commodities into a chain *ad infinitum*. Thus the "continuity of the movement is sustained by the money alone . . . the result of the circulation of commodities assumes the *appearance* of having been effected, not by means of a change in the form of commodities, but thanks to the function of money as medium of circulation ... money seeming to set passive commodities in motion, transfering them from the hands in which they are not use-values into the hands in which they are use-values. Although, therefore, the movement of the money is merely an expression of the circulation of commodities, it seems as if, conversely, the circulation of commodities were only the outcome of the movement of the money." (*Capital*, Vol. I. Pauls' ed. pp. 94-5) This point is especially important, because the fetish illusion of

And if the interval of time between the two complementary phases of the process, C_1-M-C_2, becomes too great, if the cleavage between the sale and the purchase becomes too pronounced, the essential unity of the process asserts itself convulsively by producing a crisis. Thus arises the first possibility of crises.[20] Further elaborations on the first possibility are added as Marx makes more concrete his discussion of money; for example, the function of money as "a means of payment," i.e. the function of acting as the measure of value and the realization of value at *two different* moments, strengthens and concretizes the possibility. However, we shall not here pursue the chain of complications which follow this starting point; instead, we turn now to the second basic characteristic of capitalism and its relation to the phenomenon of crisis.

The second characteristic, the production of surplus value as the direct aim and determining incentive of production, can be telescoped into the unit movement of capitalist production schematized by Marx as:

$$M\text{-}C\text{-}C'\text{-}M' \qquad (M'=M+\Delta M)$$

A capitalist starts with money capital, M, buys means of production, C, (including labor power), manufactures his product, C', and sells the same in exchange for M'. Unless M' is larger than M, the movement loses its basic *raison d'être*; in fact, the maximization of ΔM in relation to M is its direct aim. The movement starts with M and ends with M', quantitatively different but qualitatively identical. This permits the goal M' of the process (M-C-C'-M') to become immediately a new starting point, making it possible structurally to satisfy the self-perpetuating tendency for aggrandizement through the successive repetition of the process. Then there arises the possibility of treating such successive series of unit processes over time, each of which is conditioned by the specific time of turnover, as being composed of two unbroken series of M and M' which connect each point of time with a specific value of ΔM. The unity of the process C_1-M-C_2, achieved through having as an objective a consumers' good which by its very nature drops out of economic circulation, is now shattered. The apparent unity in the process of M-C-C'-M' is an abstraction, having no longer a restraining force as a unit process, because it is in the very nature of M, which is the goal of this process, to remain in circulation to fulfil its function of increasing its own value.

It is an essential aspect of capitalistic specificity, according to Marx, that the determining consideration which governs its (capitalism's) unit

M being the culprit for all the evils of the exchange economy and the consequent advocacy of monetary measures as necessary and sufficient stems out of the failure to realize the importance of the context within which alone M can operate. The root, Marx would say, lies in the commodity economy itself.

[20] Marx stresses the point that it is as yet only a possibility and warns against J. S. Mill's attempt to explain crisis by its possibility.

process is the uninterrupted expansion of ΔM, and *not* the satisfaction of social needs.[21] Therefore, the conditions which promote or hinder the success of such expansion constitute the subject matter of essential significance. This may be divided into two aspects which are "separable logically as well as by time and space";[22] namely, (1) the conditions of the *production* of surplus value and (2) those of its *realization*. The first is concerned with the process of production itself while the second is the problem of sale.

(1) The conditions of the production of surplus value are in the main technological and permit the direct improvement at the hand of individual capitalist. The determining motive of capitalist production finds its expression in the constant effort on the part of individual capitalists to improve the technique of production. From the standpoint of society as a whole, the limitation to the production of surplus value lies in the number of working population and the level of technological knowledge. But the objective consequence of this "capitalistic" (in Böhm-Bawerkian sense) development, abstracting for the moment from the problem of effective demand, is the falling tendency of the rate of profit. This is visualized by Marx as an immanent *tendency* rooted in the capitalist mode of production itself. If the pursuit of the aim of profit maximization leads necessarily to the greater and greater use of machinery, if this in turn finds its expression inevitably in the falling tendency in the ratio of ΔM to the employed capital, a vicious circle is already evident. The falling tendency naturally evokes reactions to counteract it —— reactions which are not necessarily free of boomrang effect. But once the tendency becomes actuality, and the rate of profit does fall, the motive power of the system receives a setback and the process of accumulation suffers. It is evident, if such is the case, that expansion can neither be smooth nor go on indefinitely.

(2) The conditions of the *production* of surplus value, however, are only one side of the shield. The conditions of its *realization* must now be examined. It is characteristic under capitalism that claims on goods are derived not as a function of status as in a feudal society, nor as a function of actual needs as in the economy of an individual family, but as a function of factor payments which are contracted or expanded in accordance with the ebb and flow of profit-seeking activities of capitalists. It is a corollary of this capitalistic specificity that the aggregate size of such claims emerges as a result of atomistic decision on the part of in-

---

[21] *Cf.* "The expansion or contraction of production . . . is determined by profit and by the proportion of this profit to the employed capital . . . instead of being determined by the relation of production to social wants. The capitalist mode of production comes to a standstill at a point determined by the production and realization of profit, not by the satisfaction of social needs." (*Capital*, III, p. 303)

[22] *Ibid.*, p. 286.

dividual capitalists and thus cannot be controlled directly as an aggregate. In the eyes of individual capitalists in whose hands lies the all-important decision as to the expansion or contraction of economic activities the conditions governing the realization of their surplus value appear in the guise of a natural law standing outside their control.

Thus the inherent tendency in capitalism to expand production and to improve productivity both in the interests of profit maximization, while incidentally exerting a relatively downward pressure on cost-factor payments, is confronted with a basis of realization which is no single capitalist's business to expand except incidentally to his action in pursuance of profit maximization. Therefore, this inherent tendency leads inevitably to frantic competition among capitalists for markets who expend a huge sum as selling cost and burst out of the bounds of a national economy, seeking forever the expanding market abroad.

Such a reasoning forms a background for Marx's famed dictum : [23]

> "The last cause of all real crises always remains the poverty and restricted consumption of the masses as compared to the tendency of capitalist production to develop the productive forces in such a way that only the absolute power of consumption of the entire society would be their limit."

In short, we have, on the one hand, the tendency, partaken by each capitalist independently, to enlarge the production of C' regardless of the fall in the value of the product and of the size of ΔM contained in C' ; while, on the other hand, each capitalist seeks not only to preserve the value of the existing capital but also to expand it by realizing all the ΔM he produces. Herein Marx finds the basic contradiction of the capitalist mode of production which tends constantly to upset the harmonious development of production. Capitalist production is continually engaged in the attempt to overcome this barrier of harmony, but it is inherent in it that it overcomes it only by means which again place the same barrier in its way in a more formidable size. The solution, therefore, has to be forcibly brought about by a breakdown which through the destruction of values and the disemployment of resources works toward the restoration of the objectively balanced relations. The *inevitability* of crisis is thus unfolded out of the second of the basic characteristics of capitalism.

There still remain many a link before we come even to the point of concretion where Marx left off.[24] But we have traced far enough Marx's

[23] *Ibid.*, III, p. 568.

[24] For instance, with the appearance of interest-bearing capital, the above movement sublimates itself into the simple process of M-M'. Then the movement of M as money capital develops its own autonomous laws and does not remain entirely passive to the movement of an individual capital each individually determined through the maximization principle and the given material conditions. Further on, the developement of credit mechanism increases the degree of freedom with which component units of social reproduction can move about. It lends wings to them, partly aggravating and partly rectifying the disequilibrating tendency.

method of developing the concrete from the abstract, so that we may now appraise the contrasting aspects of the two theories under discussion.

III

It may be said, as was suggested earlier, that Professor Schumpeter's approach was from business cycles to capitalism whereas Marx's was the reverse, from capitalism to business cycles; and it may be maintained on that ground that their theories are largely complementary and that whatever differences there may be between them have to be discounted in view of the historically different intellectual milieus and the different apparatuses of analysis. However, the point of contrast thus far indicated are sufficiently far-reaching not to preclude the possibility of conflict between the two theories. As a preliminary to the formulation of a basic distinguishing feature, if any, between the two, we may enumerate first a number of specific contrasting points on the commensurate plane which flow rather obviously out of our exposition above.

(1) Professor Schumpeter works on the hypothesis of an intermittent "force" impinging on the otherwise stationary process, whereas Marx leaned more on the hypothesis picturing cycles as akin to self-perpetuating waves of adaptation.[25]

(2) Related to the above is Professor Schumpeter's tendency to regard the business cycle as a primary and logically pure phenomenon which manifests itself on the surface of complex reality only as *a tendency*. Marx, in contrast, regarded it as a projection, on a restricted plane, of varied complex phenomena, basically conditioned by, but so remotely separated from, the essential characteristics of capitalism that intermediate links of explanation were not amenable to nice theoretical formulation.

(3) Another contrasting point may be cited as regards the dating of the historical beginning of the cycle. Professor Schumpeter goes as far back as the occurrence of credit creation. Marx's criterion is much more structural. He writes:

"This peculiar course of modern industry (a decennial cycle interrupted by

[25] *Cf.* "As the heavenly bodies, once thrown into a certain definite motion, always repeat this, so is it with social production as soon as it is once thrown into this movement of alternate expansion and contraction. Effects, in their turn, become causes, and the varying accidents of the whole process, which always reproduces its own conditions, take on the form of periodicity." (*Capital*, I, Torr ed., p. 647)

As Engels phrased it: "Every element which works against a repetition of the old crises, carries the germ of a far more tremendous future crisis in itself." (*Capital*, III, p. 575, fn)

Also *cf.* "A crisis is always the starting point of a large amount of new investment. Therefore it also constitutes, from the point of view of society, more or less of a new material basis for the next cycle of turnover." (*Capital*, II, p. 211) smaller oscillations), which occurs in no earlier period of human history, was also impossible in the childhood of capitalist production. . . We begin to witness that ever-recurring cycle only when mechanized industries thrust their roots deeply in the national economy and began to have overwhelming influence upon it, and through such development foreign trade acquired more prominence over internal commerce, leading to the extension of world market over wide areas of America, Asia, and Australia, and also when the number of mutually competing industrial nations grew fairly large." [26]

He considers these conditions to have been more or less satisfied around 1820.[27]

In the final analysis, however, these points of contrast, though significant in themselves, are corollaries of the difference which is more fundamental. This difference, in short, lies in the extent to which the distinctive implications of capitalist society are explicitly brought out and the manner in which they are made responsible for the phenomenon of business cycles. To elaborate on this point, it will be convenient to avail ourselves of the language used by Dr. Lange in comparing Marxian economics with modern economic theory.[28] He formulated the problem in terms of data and variables in economic theory, contending that Marx's success in long-run prognostications was due to his particular attention to the treatment of his data. Or, phrased otherwise, Marx regarded as variables of his system that which is generally considered as "given" data by modern economists. To a degree, such a contrast holds true between Marx and Professor Schumpeter. However, it is quite possible that two theories with differing horizons come to the same thing when logical distillation is carried through. Conflict in theory exists if one contends a certain system of variables, *A*, *B*, and *C*, to be *sufficient* for the explanation of a certain phenomenon, while the other insists that another variable *D* is *necessary* for the explanation of the same phenomenon. Marx's explanation of business cycles *depended on the inclusion* of certain institutional factors into the category of variables —— the inclusion which is not essential for Professor Schumpeter's explanation. Not to make explicit the specific institutional characteristics of capitalism was, for Marx, to give up the very task of explaining the phenomenon of

[26] *Capital*, I, Torr ed., p. 647. The second sentence in this quotation does not seem to appear except in the 1873 French (Marx editing) and the 1935 Russian editions of *Capital*, but is reproduced in *Das Kapital*, III, The Marx-Engels-Lenin Institute edition, Nachträge zum I. Band. "America" is omitted from this last source, but is apparently to be found in the Russian edition according to Varga's *World Economic Crises*, I, 1937 (in Russian), p. 4. The French edition (Paris, 1873) was not available for consultation.

[27] In speaking of the decade of the 1820's in his preface to the second edition of *Capital* (Vol. I), Marx wrote: "Modern industry itself was only just emerging from the age of childhood, as is shown by the fact that with the crisis of 1825 it for the first time opens the periodic cycle of its modern life." (*Capital*, I, Torr ed., xxiii)

[28] *Review of Economic Studies*, June 1935.

business cycles. Professor Schumpeter, on the other hand, carries out first the process of abstraction on capitalist process —— the abstration which would, according to Marx, necessarily involve the throwing away of those elements which are responsible for crises —— and then loads the responsibility for cyclical phenomena, not on the institutional characteristics, but on the act of innovation which in itself transcends the institutional specificity.

In conclusion, it must be stated that the Professor Schumpeter's edifice, though supported and embellished by countless references to concrete details of capitalist society, reduces itself logically to a theory which falls short of establishing a necessary connection between capitalism and business cycles, whereas the spadework which Marx carried out a century ago remains unchallenged and little improved. On the occasion of discussing the significance of Marxian economics for present-day economic theory, a modern economist said not so long ago:

> "In so far as the general methodological principle is concerned any effective extension of a theoretical system beyond its old frontier represents a real scientific progress." [29]

It is in this light that we have re-examined the two authors who are coincidentally joined in 1883 by one's death and another's birth.

[29] W. Leontief, *American Economic Review*, March 1938, Supplement, p. 8.