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Introduction to *Capital*

Introduction

When Volume 1 of *Capital* was first published, capitalist industry, though predominant in a few Western European countries, still appeared as an isolated island encircled by a sea of independent farmers and handicraftsmen which covered the whole world, including the greater part even of Europe. What Marx's *Capital* explained, however, was above all the ruthless and irresistible impulse to growth which characterizes production for private profit and the predominant use of profit for capital accumulation. Since Marx wrote, capitalist technology and industry have indeed spread all over the world. As they have done so, moreover, not only have material wealth and the possibilities for freeing mankind definitively from the burden of meaningless, repetitive and mechanical work increased, but so too has the polarization of society between fewer and fewer owners of capital and more and more workers of hand and brain, forced to sell their labour-power to these owners. The concentration of wealth and power in a small number of giant industrial and financial corporations has brought with it an increasingly universal struggle between Capital and Labour.

Periodically the bourgeois class and its ideologues have thought they have found the stone of wisdom; have felt able, accordingly, to announce the end of crises and socio-economic contradictions in the capitalist system. But despite Keynesian techniques, notwithstanding all the various attempts to integrate the working class into late capitalism, for over a decade now the system has appeared if anything more crisis-ridden than when Marx wrote *Capital*. From the Vietnam war to the turmoil of the world monetary system; from the upsurge of radical workers' struggles in Western Europe since 1968 to the rejection of bourgeois values and culture by large numbers of young people throughout the world; from the ecology and energy crises to the recurrent economic recessions: there is no need to look very far for indications that capitalism's heyday is over. *Capital* explains why the sharpening contradictions of the system were as inevitable as its impetuous growth. In that sense, contrary to a generally accepted belief, Marx is much more an economist of the twentieth century than of the nineteenth. Today's Western world is much nearer to the 'pure' model of *Capital* than was the world in which it was composed.

I. THE PURPOSE OF *CAPITAL*

In *Capital* Marx's fundamental aim was to lay bare the laws of motion which govern the origins, the rise, the development, the decline and the disappearance of a given social form of economic organization: the capitalist mode of production. He was not seeking *universal* laws of economic organization. Indeed, one of the essential theses of *Capital* is that no such laws exist. For Marx, there are no economic laws valid for each and every basically different form of society (aside from trivialities like the formula which points out that no society can consume more than it produces without reducing its stock of wealth – whether the natural fertility of the land, the total population, the mass of means of production, or several of these). Each specific social form of economic organization has its own specific economic laws. *Capital* limits itself to examining those which govern the capitalist mode of production.

Capital is therefore not 'pure' economic theory at all. For Marx, 'pure' economic theory, that is economic theory which abstracts from a specific social structure, is impossible. It would be similar to 'pure' anatomy, abstracted from the specific species which is to be examined. We can push the analogy further. Although, of course, *comparative anatomy* is a branch of natural science, useful for increasing our knowledge of human and animal physiology, it can be only a by-product of the development of the anatomical understanding of specific given species. In the same way, Marx's theory of historical materialism does indeed include comparative economic analysis – for example an examination of the evolution of human labour, human labour productivity, social surplus product and economic growth, from slave society through feudalism to capitalism. But such comparison can result only from the analysis of specific modes of production, each with its own economic logic and its own laws of motion. These cannot be superseded by or subsumed under 'eternal' economic laws. We can even push the analogy to its final conclusion. If one tries to find some basic common kernel in 'all' anatomy, one leaves the realm of that specific science and enters another: biology or biochemistry. In the same way, if one tries to discover basic working hypotheses valid for 'all' economic systems, one passes from the realm of economic theory to that of the science of social structures: historical materialism.

In this way, Marx's economic theory and its crowning work *Capital* are based upon an understanding of the *relativity, social determination and historical limitation* of all economic laws. In the socio-economic development of mankind, commodity production, market economy or the distribution of social resources among different branches of production by 'objective economic laws' operating 'behind the back of the producers' do not correspond to 'human nature', have not always existed and will not always exist. *Capital*, explaining the origins of the capitalist mode of production, points towards the inevitable historical decline and fall of this same social system. An economic theory based upon the historical relativity of every economic system, its strict limitation in time, tactlessly reminds Messrs the capitalists, their hangers-on and their apologists that capitalism itself is a product of history. It will perish in due course as it once was born. A new social form of economic organization will then take the place of the capitalist one: it will function according to other laws than those which govern the capitalist economy.

Nevertheless, *Capital* does not deal exclusively with the capitalist mode of production, although the discovery of the laws which govern this mode of production is its fundamental objective. Capitalist production is generalized commodity production. Generalized commodity production fully unfolds trends and contradictions which are latent in every one of its basic 'cells', the commodities. It is no accident that Marx starts *Capital* Volume 1 with an analysis neither of 'the capitalist mode of production', nor of capital, nor of wage-labour, nor even of the relations between wage-labour and capital. For it is impossible to analyse any of these basic concepts or categories – which correspond to the basic structure of capitalist society – scientifically, totally and adequately without a previous analysis of value, exchange-value and surplus-value. But these latter categories in turn hinge upon an analysis of the commodity and of commodity-producing labour.

Just as surplus-value and capital emerge *logically* from an analysis of value and exchange-value, so too does the capitalist mode of production emerge *historically* from the growth of commodity production: without simple commodity production no capitalism can come into existence. *Capital*, the *Grundrisse* and the other basic economic writings of Karl Marx therefore include many analyses of simple commodity production, a form of production which existed in manifold ways for nearly 10,000 years before modern capitalism was born, but which found its fullest flowering only between the thirteenth and sixteenth centuries A.D. in the Low Countries, northern Italy, and later Britain (and to a lesser degree in Japan before the Meiji revolution).

Objections have been advanced – by early Russian Marxist authors like Bogdanov, by later commentators like Rubin and by contemporary Marxists like Lucio Colletti and Louis Althusser[1] – to the view, originating with Engels and held by Rosa Luxemburg, to which I subscribe,[2] that Marx's *Capital* provides not only a basic analysis of the capitalist mode of production, but also significant comments upon the whole historical period which includes essential phenomena of petty commodity production. These objections, however, are based upon a double confusion. It is true that the capitalist mode of production is the only social organization of the economy which implies *generalized* commodity production. It would thus be completely mistaken to consider, for example, Hellenistic slave society or the classical Islamic Empire – two forms of society with strongly developed petty commodity production, money economy and international trade – as being *ruled* by the 'law of value'. Commodity production in these precapitalist modes of production is intertwined with, and in the last analysis subordinated to, organizations of production (in the first

1. I. I. Rubin, *Essays on Marx's Theory of Value*, Detroit, 1972, pp. 254–6; Lucio Colletti, *Marxism and Hegel*, NLB, London, 1973, pp. 131–2; Louis Althusser, 'The Object of *Capital*', in *Reading Capital*, NLB, London, 1970, pp. 113–17, 124–6. There is also a very illuminating remark by Marx himself, from 'Chapter 6' of *Capital*, Vol. 1 (see Appendix to this volume): 'Nevertheless, within certain limits both goods and money were circulated and hence there was a certain evolution of trade: this was the *premiss* and *point of departure for the formation of capital* and the capitalist mode of production' (pp. 1059–60 below).

2. Karl Marx, *Capital*, Moscow, 1962, Vol. 3, pp. 172–4; Friedrich Engels, 'Law of Value and Rate of Profit', ibid. (appendix), pp. 873–6; Rosa Luxemburg, *Einführung in die Nationalökonomie*, Berlin, 1925, pp. 199–232; Ernest Mandel, *Marxist Economic Theory*, London, 1969, Vol. 1, pp. 65–8.

place agricultural production) of a clearly non-capitalist nature, which follow a different economic logic from that which governs exchanges between commodities or the accumulation of capital.

But this in no way implies that in societies in which petty commodity production has already become the *predominant* mode of production (that is where the majority of the producers are free peasants and free handicraftsmen who own and exchange the products of their labour), the laws governing the exchange of commodities and the circulation of money do not strongly influence the economic dynamic. Indeed, it is precisely the *unfolding* of the law of value which leads in such societies to the separation of the direct producers from their means of production, although a whole series of social and political developments influences this birth-process of modern capitalism, hastening it, slowing it down, or combining it with trends going in different directions.

On the other hand, if it is true that fully-fledged 'economic accounting based upon quantities of socially equalized labour' comes into its own only under capitalism, and this only as an objective economic law and not as conscious decisions of owners of commodities, it does not follow at all from this statement that 'labour quantities accounting' cannot *begin* to appear in pre-capitalist societies, in which commodity production becomes a regular institution. Indeed, it is precisely when petty commodity production is already largely developed, but at the same time still intertwined with traditional forms of 'natural' economic organization, which imply conscious allocations of economic resources and social labour between different forms of production (through customs, habits, rites, religion, deliberation of elders, assemblies of participants etc.), that the need for a conscious accounting of 'labour quantities' can and must appear, in order to avoid basic injustices and inequalities in social organizations still based upon a high degree of social equality and coherence. I have tried to prove by empirical data that this has in fact been the case, at different historical periods, in different parts of the world.[3]

This does not mean that the 'law of value' is a 'product of pre-capitalist history'. Nor does it mean that such still relatively primitive societies were burdened with the same manic pursuit of material rewards, and measurement of labour-time expenditure down to fractions of seconds, as our own; for these are, indeed, 'pure' products of bourgeois society. It only means that the em-

3. Mandel, op. cit., pp. 59–65.

bryonic forms of the 'law of value' can be discovered in the embryonic developments of commodity production, just as the 'elementary cell' of capital, the commodity, contains in an embryonic way all the inner qualities and contradictions of that social category. To deny this historical dimension of Marx's analysis is to transform the origins of capitalism into an insoluble mystery.

One could argue that this is rather a moot point for economists, interesting only for anthropologists, ethnologists or historians. But its implications are in fact extremely far-reaching. By stating that the analysis of the laws of motion governing the capitalist mode of production necessarily includes at least some essential elements of an analysis of economic phenomena valid for the whole historical epoch encompassing economic organizations in which commodity production exists, one extends the validity of parts of Marx's *Capital* not only into the past but also into the future. For phenomena of commodity production obviously survive, at least partially, in those societies in which the rule of capital has already been overthrown, but which are not yet fully-fledged classless, that is socialist, societies: the USSR and the People's Republics of Eastern Europe, China, North Vietnam, North Korea and Cuba. *Capital* is no more a guide to understanding the laws of motion of these societies than it is a guide to understanding the laws of motion of developed late medieval society based upon petty commodity production. But it can tell us a lot about the dynamics (and disintegrating logic) of commodity production and money economy in such non-capitalist societies, and the contradictions which these introduce into the specific and 'pure' laws of motion of the latter.

If *Capital* is not a treatise on eternal economic laws, does it at least contain a science of the capitalist economy? Some Marxists, in the first place the German Karl Korsch, have denied this.[4] For them – as for so many bourgeois critics of Marx – *Capital* is essentially an instrument for the revolutionary overthrow of capitalism by the proletariat. According to them, it is impossible to separate the 'scientific' content of *Capital* from its 'revolutionary' intention, as the Austro-German Marxist Rudolf Hilferding tried to do.[5] This contention overlooks a basic distinction which Marx and Engels introduced between utopian and scientific socialism. Marx remained indeed a revolutionary during the whole of his

4. Karl Korsch, *Marxism and Philosophy*, NLB, London, 1970, pp. 54–60.
5. Rudolf Hilferding, *Das Finanzkapital*, Vienna, 1923, p. x.

adult life after 1843. But he considered it essential to base socialism (communism) upon a scientific foundation. The scientific analysis of the capitalist mode of production was to be the cornerstone of that foundation, showing why and how capitalism created, through its own development, the economic, material and social preconditions for a society of associated producers. In that sense, Marx strove, not indeed in contradiction to, but precisely as a function of this intention, to analyse capitalism in an objective and strictly scientific way. In other words, he did not simply give vent to an aggressive hostility towards a particular form of economic organization, for reasons of revolutionary passion and compassion for the downtrodden and oppressed; nor, it hardly needs to be said, was he motivated by personal spite, material failure or psychotic imbalance. Marx sought to discover objective laws of motion. There was nobody – not even the typical bourgeois *Spiesser* – whom he despised more than the man with scientific pretensions who nevertheless deliberately twists empirical data or falsifies research results to suit some subjective purpose. Precisely because Marx was convinced that the cause of the proletariat was of decisive importance for the whole future of mankind, he wanted to create for that cause not a flimsy platform of rhetorical invective or wishful thinking, but the rock-like foundation of scientific truth.

2. THE METHOD OF *CAPITAL*

The purpose of *Capital* is itself a clear reminder of the method of knowledge applied by Marx to his main work: the method of the materialist dialectic. Marx left no doubt that this was indeed how he himself understood his labours. In a letter sent to Maurice Lachâtre, the editor of the first French edition of *Capital* Volume 1, he insisted on the fact that he was the first person to have applied this method to the study of economic problems.[6] Again in his own postface to the second German edition of *Capital* Volume 1, Marx specified this use of the dialectical method as the *differentia specifica* of *Capital*, which distinguished it from all other economic analyses.[7]

6. Marx, letter to Maurice Lachâtre of 18 March 1872; see 'Preface to the French Edition', p. 104 below.
7. See below, pp. 102–3.

When the dialectical method is applied to the study of economic problems, economic phenomena are not viewed separately from each other, by bits and pieces, but in their inner connection as an integrated totality, structured around, and by, a basic predominant mode of production. This totality is analysed in all its aspects and manifestations, as determined by certain given laws of motion, which relate also to its origins and its inevitable disappearance. These laws of motion of the given mode of production are discovered to be nothing but the unfolding of the inner contradictions of that structure, which define its very nature. The given economic structure is seen to be characterized at one and the same time by the unity of these contradictions and by their struggle, both of which determine the constant changes which it undergoes. The (quantitative) changes which constantly occur in the given mode of production, through adaptation, integration of reforms and self-defence (evolution), are distinguished from those (qualitative) changes which, by sudden leaps, produce a different structure, a new mode of production (revolution).

Marx clearly opposes his own dialectical method of investigation and knowledge to that of Hegel, although he never hesitates to recognize his debt of gratitude to the German philosopher who, spurred on by the French Revolution, catapulted dialectical thought back into the modern world. Hegel's dialectics were idealist: the basic motion was that of the Absolute Idea; material reality was only the outward appearance of ideal essence. For Marx, on the contrary, the dialectic is materialist, 'the ideal is nothing but the material world reflected in the mind of man, and translated into forms of thought'.[8] The basic laws of motion of history are those of real men, themselves producing their own material existence in a given social framework. The development of thought corresponds in the final analysis to that basic movement, and reflects it, albeit through many mediations. Thus the scientific thought process through which Marx came to understand the operations of the capitalist mode of production was itself a product of that mode of production, of bourgeois society and its contradictions. Only secondarily can it be seen as a product of the development of many human sciences and ideologies: classical German philosophy; English political economy; French historiography and political science; pre-Marxian socialism. Only the

8. ibid., p. 102.

growth of bourgeois society and its contradictions, above all the struggle between capital and labour, enabled Marx to assimilate, combine and transform these sciences in the specific way and the specific direction he did. Nevertheless, while the materialist dialectic is Hegel's (idealist) dialectic 'turned right side up again', both have basic common traits. Dialectics as the logic of motion presupposes that *all* motion, *all* evolution, whether of nature, society or human thought, adopts certain general forms which are called 'dialectical'.[9] Engels and Lenin both saw, in the very way in which *Capital* Volume 1 was constructed, a striking application of this general dialectical method; thus Lenin wrote that although Marx had never written his projected short treatise on dialectics, he had nevertheless left us *Capital*, which is the application of the materialist dialectic in the field of economic phenomena.[10]

Precisely because Marx's dialectic is a materialist one, however, it does not start from intuition, preconceptions or mystifying schemes, but from a full assimilation of scientific data. The method of investigation must differ from the method of exposition. Empirical facts have to be gathered first, the given state of knowledge has to be fully grasped. Only when this is achieved can a dialectical reorganization of the material be undertaken in order to understand the given totality. If this is successful, the result is a 'reproduction' in man's thought of this material totality: the capitalist mode of production.

The main danger for any scientist involved in the study of social phenomena is that of taking anything for granted, of 'problem-blindness'. The distinction between appearance and essence, which Marx inherited from Hegel[11] and which is part and parcel of the dialectical method of investigation, is nothing but a constant attempt to pierce farther and farther through successive layers of phenomena, towards laws of motion which *explain* why these phenomena evolve in a certain direction and in certain ways. Con-

9. Engels, letter to Conrad Schmidt of 1 November 1891, in Marx/Engels, *Selected Correspondence*, Moscow, 1965, p. 439.

10. Lenin, 'Plan of Hegel's Dialectics (Logic)', *Collected Works*, Vol. 38, p. 319.

11. 'There it will be seen what the philistine's and vulgar economist's *way of looking at things* stems from, namely, from the fact that it is only the direct *form of manifestation* of relations that is reflected in their brains and not their *inner connection*. Incidentally, if the latter were the case what need would there be of *science*?' (letter from Marx to Engels, 27 June 1867, *Selected Correspondence*, p. 191). See also *Capital*, Vol. 3, p. 307.

stantly searching for questions – calling into question! – where others only see ready-made answers and vulgar 'evidence': this is certainly one of Marx's main merits as a revolutionary innovator in economic science.

But for Marx, the materialist dialectician, the distinction between 'essence' and 'appearance' in no sense implies that 'appearance' is less 'real' then 'essence'. Movements of value determine in the last analysis movements of prices; but Marx the materialist would have laughed at any 'Marxist' who suggested that prices were 'unreal', because in the last analysis *determined* by value movements. The distinction between 'essence' and 'appearance' refers to different levels of determination, that is in the last analysis to the process of cognition, not to different degrees of reality. To explain the capitalist mode of production in its totality it is wholly insufficient to understand simply the 'basic essence', the 'law of value'. It is necessary to integrate 'essence' and 'appearance' through all their intermediate mediating links, to explain how and why a given 'essence' appears in given concrete forms and not in others. For these 'appearances' themselves are neither accidental nor self-evident. They pose problems, they have to be explained in their turn, and this very explanation helps to pierce through new layers of mystery and brings us again nearer to a full understanding of the specific form of economic organization which we want to understand. To deny this need to reintegrate 'essence' and 'appearance' is as un-dialectical and as mystifying as to accept 'appearances' as they are, without looking for the basic forces and contradictions which they tend to hide from the superficial and empiricist observer.

The way in which *Capital* starts with an analysis of the basic categories of commodity production, with the 'basic unit' (fundamental cell) of capitalist economic life, the commodity, has often been cited as a model application of this materialist dialectic. Marx himself makes it clear that he does not start from a basic concept – value – but from an elementary material phenomenon – the commodity – which is at the basis of capitalism, as the only economic organization based upon generalized commodity production.[12] It is therefore correct but incomplete, strictly speaking, to say that Marx's method consists of 'rising from the abstract to the con-

12. Karl Marx, 'Randglossen zu A. Wagners "Lehrbuch der politischen Oekonomie"', *MEW* 19, pp. 364, 368–9 (English translation in *Theoretical Practice*, No. 5, London, 1972).

crete'.[13] In fact, he starts from elements of the material concrete to go to the theoretical abstract, which helps him then to reproduce the concrete totality in his theoretical analysis. In its full richness and deployment, the concrete is always a combination of innumerable theoretical 'abstractions'. But the material concrete, that is, real bourgeois society, exists before this whole scientific endeavour, determines it in the last instance, and remains a constant practical point of reference to test the validity of the theory. Only if the reproduction of this concrete totality in man's thought comes nearer to the real material totality is thought really scientific. At first sight, the movement which dominates *Capital* Volume 1 appears as a movement of economic 'categories', from the commodity and its inner contradictions to the accumulation of capital and its breakdown. The question has often been asked: is this movement just an abstract synopsis of the 'essence' of capitalism, or is it a greatly simplified reflection of real economic development, that is, the real history leading from the first appearance of commodity production up to full-scale capitalist production in the West, purified of all secondary and combined forms which would only obscure the basic nature of this movement?

It is impossible to answer this question simply with a 'yes' or a 'no'. Commodities produced accidentally in pre-capitalist societies, at the very margin of the basic processes of production and consumption, obviously cannot trigger off the striking and terrifying logic of the 'law of value' which Marx majestically unfolds in *Capital*. Commodity production as a basic and dominant feature of economic life presupposes capitalism, that is a society in which labour-power and instruments of labour have themselves become commodities. In that sense it is true that the analysis of Volume 1 of *Capital* is logical (based upon dialectical logic) and not historical.

13. Marx, *Grundrisse*, Pelican Marx Library, p. 101. See on the contrary Lenin (op. cit., p. 171): 'Thought proceeding from the concrete to the abstract ... does not get away *from* the truth but comes closer to it.' In his comments on the three volumes of *Capital* written in the early thirties, D. I. Rosenberg makes the interesting point that Marx's abstractions are in their turn concrete, inasmuch as they are related to a concrete economic formation and as they are historically determined. They are neither arbitrary nor *a priori* abstractions. (See the Spanish translation of the original Russian text, published by *Seminario de 'El Capital'*, Escuela Nacional de Economia, UNAM, Mexico, Cuaderno I, p. 46.)

But dialectics imply that every phenomenon has an origin and an end, that nothing is either eternal or finished once and for all. Hence the historical cell of capital is at the same time the key to the logical analysis of capital: phylogenesis and embryology cannot be completely separated. Within capital accumulation in contemporary everyday capitalist life, some aspects of primitive capital accumulation are reproduced: without that primitive capital accumulation, there would be no capitalist mode of production. So the logical analysis does reflect some basic trends of historical development after all. The simplest forms of appearance of the 'economic categories' (which are just forms of material existence, of material reality as perceived and simplified by the human mind) are often also their primitive, that is their original, form. However controversial this interpretation may be, it is difficult to deny that this unity of historical and logical analysis is the way in which Marx and Engels understood their own method.[14]

A whole literature has been produced, from Bernstein to Popper and on to contemporary academic economists, on the subject of the 'useless', 'metaphysical' or even 'mystifying' nature of the dialectical method which Marx borrowed from Hegel.[15] The positivist narrowness of outlook of these critics themselves generally bears eloquent testimony to the contrary, that is to the broad historical vision and the piercing lucidity which the dialectical method helped Marx to achieve. Thanks to that method, Marx's *Capital* appears as a giant compared to any subsequent or contemporary work of economic analysis. It was never intended as a handbook to help governments to solve such problems as balance-of-payments deficits, nor yet as a learned, if somewhat trite, explanation of all the exciting happenings in the market place when

14. See on this and related subjects, among others: Otto Morf, *Geschichte und Dialektik in der politischen Oekonomie*, Frankfurt, 1970; Evald Vasiljevic Iljenkov, *La dialettica dell' astratto e del concreto nel Capitale di Marx*, Milan, 1961; Karel Kosik, *Die Dialektik des Konkreten*, Frankfurt, 1967; Jindřich Zelený, *Die Wissenschaftslogik und 'Das Kapital'*, Frankfurt, 1969; Leó Kofler, *Geschichte und Dialektik*, Hamburg, 1955, etc.

15. For example, Eugen von Böhm-Bawerk, *Karl Marx and the Close of his System*, New York, 1949, p. 117; Eduard Bernstein, *Die Voraussetzungen des Sozialismus und die Aufgaben der Sozialdemokratie*, Stuttgart, 1899, pp. 51–71; Karl Popper, *The Open Society and its Enemies*, London, 1962, Vol. 2, p. 82; Vassily Leontief, 'The Significance of Marxian Economics for Present-Day Economic Theory', *American Economic Review Supplement*, March 1938, reprinted in Horowitz, *Marx and Modern Economics*, London, 1968, p. 95, etc.

Mr Smith finds no buyer for the last of his 1,000 tons of iron. It was intended as an explanation of what would happen to labour, machinery, technology, the size of enterprises, the social structure of the population, the discontinuity of economic growth, and the relations between workers and work, as the capitalist mode of production unfolded all its terrifying potential. From that point of view, the achievement is truly impressive. It is precisely because of Marx's capacity to discover the long-term laws of motion of the capitalist mode of production in its essence, irrespective of thousands of 'impurities' and of secondary aspects, that his long-term predictions – the laws of accumulation of capital, stepped-up technological progress, accelerated increase in the productivity and intensity of labour, growing concentration and centralization of capital, transformation of the great majority of economically active people into sellers of labour-power, declining rate of profit, increased rate of surplus value, periodically recurrent recessions, inevitable class struggle between Capital and Labour, increasing revolutionary attempts to overthrow capitalism – have been so strikingly confirmed by history.[16]

This judgement has generally been challenged on two grounds. The easiest way out for critics of Marx is simply to deny that the laws of motion of the capitalist mode of production which he discovered have been verified at all. This is generally done by reducing them to a couple of misstated and oversimplified formulae (see below): 'progressive immiseration of the working class' and 'ever-worsening economic crisis'.[17] A more sophisticated objec-

16. 'However important these technical contributions to the progress of economic theory in the present-day appraisal of Marxian achievements, they are overshadowed by his brilliant analysis of the long-term tendencies of the capitalist system. The record is indeed impressive: increasing concentration of wealth, rapid elimination of small and medium-sized enterprise, progressive limitation of competition, incessant technological progress accompanied by the ever-growing importance of fixed capital, and, last but not least, the undiminishing amplitude of recurrent business cycles – an unsurpassed series of prognostications fulfilled, against which modern economic theory with all its refinements has little to show indeed.' (Leontief, op. cit., p. 94.)

17. A classical example of such over simplification is given by Paul Samuelson. He reduces the laws of motion of the capitalist mode of production to two (!): 'the i miseration of the working class', and 'the growing monopolization under capitalism', and concludes on the first that 'it simply never took place', while declaring on the second that 'for thirty years Marx seemed to have been right in this prophecy, even though for the next seventy years he does not seem to be borne out by the most careful researches on industrial

tion was advanced by Karl Popper, who denied the very possibility, or rather the scientific nature, of such 'laws', calling them 'unconditional historical prophecies' to be clearly distinguished from 'scientific predictions'. 'Ordinary predictions in science,' says Popper, 'are conditional. They assert that certain changes (say, of the temperature of water in a kettle) will be accompanied by other changes (say the boiling of the water).'[18] Popper denies the scientific nature of *Capital* by asserting that, unlike scientific theories, its hypotheses cannot be scientifically tested.[19]

This is obviously based upon a misunderstanding of the very nature of the materialist dialectic, which, as Lenin pointed out, requires constant verification through praxis to increase its cognition content.[20] In fact, it would be very easy to 'prove' Marx's analysis to have been wrong, if experience had shown, for example, that the more capitalist industry develops, the smaller and smaller the average factory becomes, the less it depends upon new technology, the more its capital is supplied by the workers themselves, the more workers become owners of their factories, the less the part of wages taken by consumer goods becomes (and the greater becomes the part of wages used for buying the workers' own means of production). If, in addition, there had been decades without economic fluctuations and a full-scale disappearance of trade unions and employers' associations (all flowing from the disappearance of contradictions between Capital and Labour, inasmuch as workers increasingly become the controllers of their own means and conditions of production), then one could indeed say that *Capital* was so much rubbish and had dismally failed to predict what would happen in the real capitalist world a century after its publication. It is sufficient to compare the real history of the

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concentration'. Everything is then capped by the final statement that Marx thought there was an 'inevitable law of capitalist development that the business cycle should be getting worse and worse' and that this was not true either (Paul A. Samuelson, 'Marxian Economics as Economics', *American Economic Review*, Vol. 57 (1967), pp. 622–3).

18. Karl K. Popper, 'Predictions and Prophecy in the Social Sciences', in *Conjectures and Refutations – The Growth of Scientific Knowledge*, London, 1963, p. 339.

19. Popper, *The Open Society and its Enemies*, Vol. 2, the whole of Chapter 23, especially p. 210.

20. Lenin, op. cit., p. 319: 'All these moments (steps, stages, processes) of cognition move in the direction from the subject to the object, being tested in practice and arriving through this test at truth . . .'

period since 1867 on the one hand with what Marx predicted it would be, and on the other with any such alternative 'laws of motion', to understand how remarkable indeed was Marx's theoretical achievement and how strongly it stands up against the experimental test of history.[21]

3. THE PLAN OF *CAPITAL*

Capital was not the result of spontaneous generation nor was it the product of a sudden interest of Marx in economic problems. Ever since this doctor in philosophy (Jena, 1841) had become a communist in the course of the eighteen-forties under the pressure of current experience with social problems (the treatment of wood-thieves in the Rhine provinces of Prussia; the uprising of the Silesian textile workers; the strikes in England; the class struggle in France), he had turned towards economic studies. But his first encounter with modern political economy (which left its main results in the *Economic and Philosophical Manuscripts, The Poverty of Philosophy, Wage Labour and Capital* and *The Communist Manifesto*) was roughly interrupted by the pressure of external events. Participating actively in politics, Marx returned from Paris to Germany at the outbreak of the revolutionary movement in 1848. There he founded and directed a daily paper. When counter-revolutionary reaction submerged Europe after the revolutions collapsed, he emigrated to London and had to struggle for his livelihood as a journalist. These current pressures, together with the

21. An amusing aside to this seemingly absurd hypothesis of 'other' imaginable laws of motion is provided by Vilfredo Pareto's 'critique' of Marx's theory of value. In order to prove that Marx had a built-in *petitio principis* in the labour theory of value, Pareto stated that we might as well assume that the seamstress hires her machine, and her own subsistence, which would then lead to the conclusion that the machine has 'produced' the surplus-value ('Introduction à K. Marx *Le Capital*, extraits faits par P. Lafargue', in *Marxisme et économie pure*, Geneva, 1966, pp. 47–8). Leaving aside the fact that his example 'proves' nothing of the kind, it is significant what this counter-model implies: that workers hire their own means of production and, as a result of this, *own the products of their labour*, sell them on the market, and thereby appropriate the profits (surplus-value) produced in the course of the process of production. Now it is evident that this has in no way been the predominant trend of industrial development in the last 150 years. But, even at the end of the nineteenth century, the question seemed so 'open' in Pareto's mind that he could advance such an hypothesis without being struck by its evident absurdity. This all the more underlines the profundity of Marx's insight into the operations of capitalism.

burden of émigré politics in London, delayed the possibility of a systematic presentation of his economic theory for a whole decade.

Only when, through Lassalle, a publisher pressed him to explain his economic ideas in a fully-fledged way did he return to a full-scale encounter with Adam Smith and Malthus, Ricardo and J.-B. Say, Simonde de Sismondi and Tooke, together with the famous British government *Blue Books* which were to become an invaluable source of factual material about the conditions of British industry, trade, finance and working-class life. The systematic study of economic facts and thoughts about capitalism, resumed by Marx around 1857, produced the following works:

(a) a first rough draft of *Capital*, published posthumously under the title *Grundrisse der Kritik der politischen Oekonomie* (Foundations of the Critique of Political Economy), written in 1857–8;
(b) the uncompleted book *Zur Kritik der politischen Oekonomie* (A Contribution to the Critique of Political Economy), published in 1859;
(c) the 1861–3 manuscripts, twenty-three enormous notebooks, from which Kautsky extracted *Theories of Surplus-Value* (also known as Volume 4 of *Capital*). This however encompasses only notebooks VI–XV inclusive. Notebooks I–V deal with matters generally encompassed in *Capital* Volume 1; notebooks XVI, XVII and XVIII deal with matters in *Capital* Volume 3; notebooks XIX–XXIII again deal with matters related to *Capital* Volume 1, and include a lengthy treatment of the history of techniques and the use of machines under capitalism;
(d) a manuscript of 1864–5, mostly dealing with matters taken up in *Capital* Volume 3;
(e) four manuscripts written between 1865 and 1870, from which Engels extracted most of the material for *Capital* Volume 2;
(f) the final version of *Capital* Volume 1, written in 1866–7.

Of the six basic economic writings of the mature Marx, Volume 1 is therefore the only one which the author completed and edited himself, and of which he even made available corrected editions in German and in French.[22] Volumes 2 and 3 of *Capital*, left un-

22. The two most accurate, scientific editions of *Capital* Vol. 1 are that of the Institute for Marxism-Leninism of the Central Committee of the SED (*MEW* 23) and that of H. J. Lieber and Benedikt Kautsky (Stuttgart, 1962), both of which indicate the variations of the text between the various German editions and the French edition edited by Marx and Engels themselves. The

finished, were posthumously and laboriously published by Marx's life-long friend Friedrich Engels. *Theories of Surplus-Value* was rearranged and published by Kautsky. The *Grundrisse* was presented to the public for the first time only in 1939. A considerable part of the 1861–3 manuscripts still remains unpublished.

The initial plan of *Capital* was drawn up in 1857; the final plan dates from 1865–6. Between these two dates there lay nine years of intense study, especially in the British Museum, realized under very difficult circumstances. Marx was burdened by constant financial troubles; by the illness and death of three of his children, among them his beloved son Edgar; and by his growing re-involvement in current political and social studies, especially through his activity in the International Working Men's Association (the so-called First International). The need to answer a sharp and slanderous attack by a German political opponent, a certain Herr Vogt, cost Marx nearly half a year's delay in the production of *Capital* Volume 1. Finally, illness and bad health became increasing obstacles. He himself spoke sarcastically of his 'carbuncles', the effects of which the bourgeoisie would not forget for a long time. But in fact it is his strikingly stoical attitude towards all the miseries surrounding him, rather than any special bitterness born from material hardship, that permeates his mature work.

From the beginning, Marx wanted to present an all-round analysis of capitalism in its totality. The initial plan of *Capital* already bears witness to this intention and reads as follows:

1. *Volume on Capital*
   (a) Capital in general
      (1) Process of production of capital
      (2) Process of circulation of capital
      (3) Profit and interest
   (b) On competition
   (c) On credit
   (d) On joint stock companies
2. *Volume on landed property*

Lieber edition is somewhat more complete, because it indicates all these variations in the text itself. I have counted at least one hundred textual variations in the Lieber edition, some of which are important, but only a few sufficiently so to be mentioned in this introduction. [The present translation was made from *MEW* 23. Significant divergences between this and the earlier editions in German and French are indicated in the text.]

3. *Volume on wage labour*
4. *Volume on the State*
5. *Volume on international trade*
6. *Volume on the world market and crises*[23]

The 1865–6 version of *Capital*, however, falls into four volumes:

Volume 1: Process of production of capital
Volume 2: Process of circulation of capital
Volume 3: Forms of the process in its totality
Volume 4: History of the theory

Roman Rosdolsky, who has made the most extensive study to date of this problem, has isolated no less than fourteen different versions of the plan for *Capital* between September 1857 and April 1868.[24]

Two questions are raised by these changes. First, why did Marx modify his initial plan, and what implications do the modifications have for an understanding of Marx's method and for the content of *Capital*? Second, does the 1865–6 version imply that the four volumes which we possess today represent the full – although in the case of all save the first volume unedited – work as finally intended by Marx? The answer to each of those questions has many interesting implications both for the discussion of Marx's economic theory itself and for the light it throws on the contributions made by some of his gifted followers and disciples.

In fact, what we today call *Capital* is the third attempt by Marx to present his views on the capitalist mode of production in its totality. The first attempt, the *Grundrisse* of 1857–8, follows exactly the initial plan of *Capital*, but stops at point 1 (a) (3) of that plan. The second attempt, dating from 1861–3, is still unpublished, except for the part on *Theories of Surplus-Value*. The third attempt is the 1865–6 one, of which we have Volumes 1–4. We know that, as early as January 1863, Marx had already decided to deal with land rent as an element of distribution of total surplus-value among different sectors of the ruling classes. However, he still seemed to stick at that time to a separate volume on wage-labour, a separate volume on landed property, and separate

23. Karl Marx, letter to Engels of 2 April 1858, in *Selected Correspondence*, p. 104.

24. Roman Rosdolsky, *Zur Entstehungsgeschichte des Marx'schen Kapital*, Frankfurt, 1968, Vol. 1, p. 78.

volumes on credit, competition and joint-stock companies.[25] The logic of this plan implied the desire to deal with the basic social classes of bourgeois society in a separate way: first the industrial capitalists; then the landowners; finally the proletariat. It implied also the desire to separate sharply the problems of production of value, surplus-value and capital from the problems of capitalist competition, which can only be understood as arising out of processes of redistribution of previously produced surplus-value.

However, if this original plan was clearly a necessary stepping stone towards the final analysis of the capitalist mode of production, as Marx's analysis progressed it proved itself increasingly an obstacle to a rigorous and consistent *exposé* of the laws of motion of that mode of production. It had therefore to be discarded in the end. The volume on wage-labour became integrated into Volume 1, 'The Process of Production of Capital'. It appeared impossible to deal with wage-labour separately and apart from the production of surplus-value, that is from the capitalist process of production (Marx probably intended to deal with the fluctuations of wages in Volume 6 on the world market and crises). The volume on landed property became integrated, together with those on profit and interest, on competition and on joint-stock companies, into the new Volume 3, which examines key forms of the capitalist mode of production in its totality, from the point of view of redistribution of the total surplus-value produced among various sectors of the propertied class.

Looking at this transformation of the initial plan of *Capital*, we can, however, also understand what did *not* change. Volumes 1 and 2 of *Capital* can still be subsumed under the heading of 'Capital in General'. Only Volume 3, like the originally planned 4, 5 and 6, which were never written, falls under the heading of 'many capitals'. This means concretely that a certain number of problems, such as, for instance, the problem of the origin and mechanics of the 'trade cycle' (of capitalist crises of overproduction), have no place in Volumes 1 and 2 and can be dealt with only when one descends from the highest level of abstraction, where capital is dealt with in its global relationship to wage-labour, to an examination of the interactions of various capitals upon each other. Because she did not take this specific structure of the successive volumes of *Capital* into account, Rosa Luxemburg was

25. Karl Marx, letter to Kugelmann of 28 December 1862, *MEW* 30, pp. 639–40; *Theories of Surplus-Value*, London, 1969, Part One, p. 404.

methodologically mistaken in accusing Marx of having constructed his reproduction schemes of Volume 2 without solving the 'realization problem' or without formulating a theory of crises.[26] I shall return to this interesting problem in my introduction to *Capital* Volume 2.

A similar mistake is made by Joan Robinson, in her Preface to the second edition of *An Essay on Marxian Economics*, where she construes a contradiction between the assumptions regarding real wages of *Capital* Volume 1 and those of Volume 3. In Volume 1, she says, Marx assumes that a rising labour productivity leads to a rising rate of exploitation, whereas in Volume 3 he assumes that rising labour productivity could lead, through a stable rate of exploitation, to a rising rate of real wages and a declining rate of profit.[27] Joan Robinson does not understand that Volumes 1 and 3 of *Capital* are at different levels of abstraction, deal with different questions, and make different assumptions in order to clarify the *specific dynamics* which allow answers to these questions.

In Volume 1, Marx examines the relations between Capital and Labour in general, abstracting from the effects of competition between capitalists on the distribution of surplus-value and on the variations of real wages. He therefore assumes initially stable real subsistence wages, in order to show through what mechanics surplus-value is produced, appropriated and increased by capital. In Volume 3 he examines the effects of capitalist competition upon the distribution and redistribution of surplus-value among capitalists, and therefore has to integrate into the analysis the effects of this competition on the rate of exploitation (for example in periods of boom, with a high level of employment). In order to work out the basic answers to these questions, it is perfectly logical to abstract *initially* from fluctuations in the rate of profit and wages in Volume 1, and to assume *initially* a stable rate of exploitation in Volume 3, but subsequently to abandon these simplifying hypotheses (Volume 1, Chapter 17; Volume 3, Chapter 14).

Finally, it seems clear from many remarks interspersed throughout the manuscript of Volume 3 that Marx maintained his intention of completing *Capital* with volumes on the state, foreign trade, the world market and crises, although he placed these problems

26. Rosa Luxemburg, *The Accumulation of Capital*, London, 1956, pp. 329–47; Rosdolsky, op. cit., Vol. 1, pp. 86–97.

27. Joan Robinson, *An Essay on Marxian Economics*, London, 1949, pp. viii–ix.

clearly outside the final plan of *Capital* itself.[28] Only when the unpublished manuscript of 1861–3 becomes available will we know whether some rough draft of what he intended to develop in these three books does indeed exist somewhere, or whether it was intended as a completely new and further development of his study of bourgeois society.

In view of these changes in the plan of *Capital* as a whole, the final version of the plan of Volume 1 is all the more striking. We should not forget that Volume 1, as edited by Marx, is largely *posterior* to the original and incomplete drafts of Volumes 2 and 3 later to be edited by Engels.[29] It is therefore Volume 1 which allows us the best insight into Marx's view of capitalism.

From the place of Volume 1 in the total final plan of *Capital*, we can immediately draw an answer to two misconceptions which occur again and again in discussion of Marx's economic theory. It is true that according to Marx and Engels capitalists do not exchange the commodities they own on the basis of their value, whereas under petty commodity production exchange of commodities is roughly based upon their value.[30] But it does not follow at all that *Capital* Volume 1, which assumes the exchange of commodities according to their value, is concerned with pre-capitalist commodity production and exchange, and that only in Volume 3 do we start to examine what capitalist commodity circulation is all about. On the contrary, Marx abstracts from the problem of redistribution of surplus-value among competing capitalists – that is, the problem of the equalization of the rate of profit – in Volume 1 precisely in order to isolate and demonstrate the laws of *capitalist* commodity production and circulation in their 'purest', most fundamental way.

In the same way it is wrong to assume that Volume 1 deals only

28. Karl Marx, *Capital*, Vol. 3, pp. 232, 392, etc.; Rosdolsky, op. cit., Vol. 1, p. 76.

29. According to Maximilien Rubel, the manuscripts for *Capital* Vol. 2 originated between 1865 and 1870, apart from a new version of the first four chapters written in 1877 and a short manuscript of 1879; the manuscripts for Vol. 3 date from 1861–3 and 1865–70 (*Bibliographie des œuvres de Karl Marx*, Paris, 1956, p. 22). We are therefore justified in assuming that, except for the short passages changed in 1877 and 1879, the manuscripts used for editing Vol. 2 and 3 of *Capital* are anterior to the final version of Vol. 1. (See also Engels' introduction to Vol. 2, *MEW* 24, pp. 8–13.)

30. Karl Marx, *Capital*, Vol. 3, pp. 174–5; Friedrich Engels, 'Law of Value and Rate of Profit', ibid. (appendix), p. 876.

with the 'essence' or with 'abstractions', whereas 'concrete' capitalism is analysed only in Volume 3. Nothing could be more 'concrete' and closer to immediately perceived economic data ('appearances') than the analysis of the working day, of wages and of machinery in Volume 1. Commentators here confuse the *type of question* solved in Volume 1 with the *method of answering*. Volume 1 abstracts from capitalist competition, from uneven and combined development and *therefore* from prices of production and equalization of the rate of profit and even more from market prices, in order to reveal the *basic* origin of surplus-value in the process of production, which is a process of consumption of labour-power by capital. But this problem is dealt with by a combination of theoretical insight and empirical verification, by a constant attempt to discover the mediating links between 'essence' and 'appearance', by a thorough analysis of how and why the 'essence' (the value of labour-power) is manifesting itself through the 'appearances' (the fluctuations of real wages).

4. THE PLAN OF VOLUME I

Volume 1 of *Capital* presents itself as a rigorously logical construction. We start from the elementary form of capitalist wealth – the commodity – and its inner contradiction – the contradiction between use-value and exchange-value. Because it is produced by *private* labour, whose social character can no longer be recognized automatically, immediately and directly by society, the commodity can exist only together with a necessary corollary, money, a universal means of exchange. But the analysis of the circulation of commodities accompanied by circulation of money leads to the unfolding of the inner potentialities and contradictions of money: the possibility of exchange-value embodied in money becoming an autonomous economic agent; of money appearing as starting and final point, and not simply intermediary, of a process of circulation; of money bent upon accretion of money, that is of capital.

In pre-capitalist societies, capital appears outside the sphere of production, and hardly ever enters that sphere. It feeds parasitically upon the social surplus product produced and originally appropriated by non-capitalist classes. Here Marx comes to his central point. A basic difference between the capitalist and pre-capitalist modes of production is that under capitalism capital not only appropriates surplus-value; it produces surplus-value. Because he considered this fundamental to an understanding of all aspects of bourgeois society – incidentally, not only the economic but also the political – Marx starts *Capital* with a whole volume devoted to a lengthy analysis of the process of production. For the capitalist process of production is at one and the same time a process of production of value, a process of production of surplus-value, a process of production of capital, and a process of production and constant reproduction of the basic antagonistic social relations: the relation between wage-labour and capital, the compulsion for the proletariat to sell its labour-power to the capitalists, the compulsion for the capitalists to accumulate capital and therefore to maximize the extortion of surplus-value from the workers.

Volume 1 of *Capital* is centred around Marx's basic discovery, the explanation of the 'secret' of surplus-value. There exists one commodity, to wit labour-power, whose use-value for the capitalist is its ability to produce new value larger than its own exchange-value. The 'process of production' which Marx analyses in Volume 1 is, therefore, essentially the process of production of surplus-value.

The production of surplus-value can, however, be examined in a more detailed way only if capital itself is subdivided into constant capital and variable capital. *Constant capital* represents that part of the wealth of the capitalist class with which it acquires and maintains a monopoly of property and access to the material means of production. Thereby it cuts the working class off from any possibility of producing its own livelihood in an independent way. It is a necessary precondition for the production of surplus-value. But it does not produce that surplus-value in and by itself. Only the labour-power of living labour produces additional value, including surplus-value. That is why Marx calls that portion of capital by which the capitalists buy the labour-power of the workers *variable capital*, for only that portion actually produces surplus-value.

The next step in the analysis is the distinction between the production of absolute and of relative surplus-value. Absolute surplus-value is produced by a lengthening of the working day beyond that number of hours during which the worker produces the value which is only the equivalent of his wages. Relative surplus-value is produced by increasing the productivity of labour in the wage-goods industry sector, which enables the worker to reproduce the equivalent of his wages in a shorter portion of the working day, thereby increasing surplus-value without a lengthening of the working day. Marx notes that while the production of absolute surplus-value predominated in the early centuries of the capitalist mode of production (in England, roughly speaking, between the sixteenth century and the first half of the nineteenth), the production of relative surplus-value becomes predominant once the logic of the industrial revolution (of the development of machinery) and the logic of the class struggle between labour and capital fully unfold themselves.

A central section of Part Four of Volume 1 ('The Production of Relative Surplus-Value') is taken up by a lengthy and minute analysis of manufacture and of the modern factory (Chapters 14 and 15). Here the production of surplus-value takes on an important additional dimension. During the stage of manufacturing industry, capital exploits the fruits of an increase in the productivity of labour born from more and more advanced forms of the division of labour. But the *technique of production* remains fundamentally the same. Labour is subdivided in function of the subdivision of the final product produced by manufacture. But beyond these subdivisions no changes occur in the labour process. The main interest for the capitalist during the stage of manufacture is, therefore, the constant direct *control of capital over labour* in order to secure a maximum expenditure of surplus labour with a given level of technique. It is like a workhouse in which the workers lose their freedom to determine their own work rhythm, in which work becomes unfree, forced labour from that point of view also. Many initial manufacturing concerns were indeed literally that: workhouses, filled with labourers who to various degrees had lost their individual freedom.

With the industrial revolution and the emergence of the modern factory, this process of the submission of labour to capital in the course of the process of production is rooted, not only in the hierarchical forms of labour organization, but in the very nature of the production process itself. Inasmuch as production becomes mechanized, it becomes reorganized around machinery. The work rhythm and work content of living labour are subordinated to the mechanical needs of machinery itself. Alienation of labour is no longer only alienation of the products of labour, but alienation of the forms and contents of the work itself.

The explosive potentialities of modern machinery are developed by Marx in three directions simultaneously. Machines are capital's main weapon for subordinating labour to capital in the course of the process of production. Machines are the main weapon for increasing the production of relative surplus-value, thereby relentlessly spurring on the process of accumulation of capital. And labour-saving machines are the main weapon for producing and reproducing the industrial 'reserve army of labour', through which wages are kept fluctuating around the value of the commodity labour-power, and through which the appropriation of surplus-value is normally guaranteed to the capitalists.

Marx, therefore, logically integrates the development of the class struggle between capital and labour into his analysis of the production of surplus-value, inasmuch as he sees that class struggle as originating in that process of production. The extortion of surplus-value from living labour means a struggle by the capitalists to lengthen the working day, to increase the work-load of the workers without increasing wages, to appropriate for capital all the benefits of increased productivity of labour. Conversely, the struggle against capitalist exploitation means, for the workers, a struggle to reduce the working day without any reduction of wages, a struggle for cuts in the work-load, a struggle for increased real wages. How this class struggle against the immediate aspects of capitalist exploitation transforms itself into a struggle for the overthrow of the capitalist system – this question is briefly taken up in the eighth and final part of Volume 1. Part Seven, meanwhile, deals basically with the accumulation of capital, the goal of the whole infernal logic which Marx has laid bare so far. Capital produces surplus-value which in turn is, to a large extent, transformed into additional capital, which in turn produces additional surplus-value. And so on, with all its subsequent contradictory effects for mankind.

If we list the contents of the successive parts of Volume 1, subdividing Part One into its three constituent chapters, we can see how this flawless logic of the analysis unfolds and how it roughly corresponds to the historical process 'stripped of the historical form and diverting chance occurrences'.[31]

I. Starting point: elementary form of capitalist wealth: the commodity

31. Friedrich Engels' review of Marx's *A Contribution to the Critique of Political Economy*. See appendix to volume of that name, London, 1971, p. 225.

(a) the commodity and the realization of its exchange-value, or the process of exchange
(b) the process of exchange and the means of exchange: money
(c) money, necessary mediator of the process of circulation of commodities

II. Money transforming itself into capital, i.e. value searching for an accretion of value, surplus-value; the nature of surplus-value
III. The production of surplus-value: absolute surplus-value
IV. The production of surplus-value: relative surplus-value (from manufacturing to the modern factory system)
V. Relations between wages, productivity of labour and surplus-value; the rate of surplus-value
VI. How the value of labour-power is transformed into wages, their different forms and variations
VII./VIII. The accumulation of capital, i.e. capitalist wealth in its totality: its consequences for labour. The origins of capitalism (the 'primitive accumulation of capital')

At the end of Volume 1 we are back where we started from: capitalist wealth. But now we no longer understand it simply as a sum of 'elementary elements', a mountain of commodities (although it is this mountain also!). We see it now also as the result of a gigantic process of value *production*, of surplus-value *extraction*, out of living labour; as a gigantic movement constantly revolutionizing the means of production, the organization of production, the labour process and the producers themselves. The formula 'capital-value in search of additional value' is now understood as capital organizing a process of self-valorization (*Verwertung*), a process of constant searching for increases in its own value through the unity of the labour process and the process of production of increased value (*Einheit von Arbeitsprozess und Verwertungsprozess*). We thus understand more fully why an analysis of capitalism *has* first to clarify everything which happens in the course of the process of production.[32]

32. The Pelican Marx Library edition of the *Grundrisse* contains a grave and regrettable error of translation. Marx's concept of *Verwertung* (valorization, process of accretion of value) is translated throughout as 'realization of capital'. Marx uses the concept of realization generally only in relation to the realization of the value of commodities (containing, of course, surplus-value). But this problem has its place in the realm of the circulation of commodities and capital, whereas the problem of valorization of capital (the problem of surplus-value or profit in relation to, or as a proportion of, capital) is a basic aspect of the capitalist process of production.

Marx's attitude towards technology, machinery and the factory system has often been misinterpreted, even by authors favourably inclined towards him. It is obviously true that more than any other contemporary economist, sociologist or philosopher, he was aware of the long-range revolutionary effects of machinery upon all aspects of life in bourgeois society. It is also true that his indictment of the inhuman results of the capitalist use of machinery cannot escape anyone who reads Chapters 10, 15 and 25 of *Capital* Volume 1 with a minimum of attention. Is it therefore appropriate to see in Marx a latter-day Luddite, a forerunner of the zero-growth prophets? Or is it true, as others have argued,[33] that Marx was a deep admirer of capitalist technology and put all his hopes in the long-run emancipatory effects of that technology, alone capable of reducing the unavoidable work-load and work-fatigue to which man is condemned?

Marx the dialectician, bent upon an all-sided analysis of capitalism and capitalist technology, avoids both these pitfalls, the conservatively romantic as well as the inhumanly mechanistic one. In classic passages of the *Grundrisse*[34] he underlines the civilizing and progressive aspects of capitalism, its giant impulse to develop the social forces of production, its relentless search for new ways and means to economize on labour, for new needs and new sectors of mass production, which help to unfold man's unlimited possibilities. But simultaneously he shows how the *specific capitalist form* of this development increases tenfold the inhuman potentiality of technology, machinery and exchange-value 'gone mad' (that is, becoming goals in themselves). Capitalism subordinates men to machines instead of using machines to liberate men from the burden of mechanical and repetitive work. It subordinates all social activities to the imperatives of an incessant drive for individual enrichment in terms of money, instead of gearing social life to the development of rich individualities and their social relations. The contradiction between use-value and exchange-value, inherent in every commodity, fully unfolds itself in this contradictory nature of *capitalist* machinery. When capitalism is not overthrown once it has created the material and social preconditions for a classless society of associated producers, this

33. See among others, Kostas Axelos, *Marx, penseur de la technique*, Paris, 1963.

34. Karl Marx, *Grundrisse*, Pelican Marx Library, pp. 325, 527–9, 707–12, etc.

contradiction implies the possibility of a steadily increasing *transformation of the forces of production into forces of destruction*, in the most literal sense of the word: not only forces of destruction of wealth (crises and wars), of human wealth and human happiness, but also forces of destruction of life *tout court*.

5. THE MARXIST LABOUR THEORY OF VALUE

No part of Marx's theory has been more assaulted in the academic world during the last seventy-five years than his theory of value. His bourgeois critics show a sharp class instinct here, for this theory is indeed the corner-stone of the whole system. But no contemporary intellectual endeavour has been so obviously based upon a basic misunderstanding as the repeated attacks on the Marxist labour theory of value.[35]

That theory recognizes two aspects of the problem of value, a quantitative and a qualitative one. From a quantitative point of view, the value of a commodity is the quantity of simple labour (skilled labour being reduced to simple labour through a given coefficient) socially necessary for its production (that is, at a given average productivity of labour). From a qualitative point of view, the value of a commodity is determined by *abstract* human labour – commodities which have been produced by *private* labour become commensurate only inasmuch as society abstracts from the concrete and specific aspect of each individual private craft or branch of industry and equalizes all these labours as abstract social labour, regardless of the specific use-value of each commodity.

In order to understand this theory, it is sufficient to formulate the question to which Marx tried to give an answer. The problem is as follows. Man has to work in order to satisfy his material needs, to 'produce his material life'. The way in which the labour of all producers in a given society is divided among different branches of material production will determine the extent to which different needs can be fulfilled. Hence, given a certain set of needs, a rough equilibrium between needs and output requires a

35. The 'classical' attack by Böhm-Bawerk was answered by Hilferding (both are printed together in Böhm-Bawerk, op. cit.). Other similar attacks were made by Pareto (op. cit., pp. 40 ff.), Michael von Tugan-Baranovsky (*Theoretische Grundlagen des Marxismus*, Leipzig, 1905, pp. 139 ff.), and others. A more recent one is contained in Joan Robinson, op. cit., and is effectively answered by Rosdolsky, op. cit., Vol. 2, pp. 626–40.

distribution of labour (of 'labour inputs') between these various branches of production in a given proportion, and in that only. In a primitive society, or in a fully developed socialist one, this distribution of labour inputs occurs in a consciously planned way: in a primitive society, on the basis of habits, custom, tradition, magico-ritual processes, decisions by elders etc.; in a socialist one, on the basis of a democratic selection of priorities by the mass of the associated producers-consumers themselves. But under capitalism, where labour has become private labour, where products of labour are commodities produced independently from each other by thousands of independent firms, no conscious decision pre-establishes such an equilibrium of inputs of labour and socially recognized needs (under capitalism this implies, of course, that only those needs expressed through effective demand are socially recognized). Equilibrium is reached only accidentally, through the operation of blind market forces. Price fluctuations, to which academic economists remain glued, are in the most favourable hypothesis only signals which indicate whether this equilibrium is being shaken, by what pressure and in what direction. They do not explain *what* is being equilibrated and *which* is the driving force behind all these myriad fluctuations. It is precisely this question which Marx tried to answer with his perfected labour theory of value.

From this approach it is immediately clear that, contrary to what so many of his critics starting with the Austrian Böhm-Bawerk assumed, Marx never intended to explain short-term price fluctuations on the market with his theory of value.[36] (Probably he intended to raise some of the problems involved in short-term price fluctuations in the never-written Volume 6 of the original plan for *Capital*.) Nor does it make any sense to speak of the labour theory of value, as explained in Volume 1 of *Capital*, as a 'micro-economic theory' allegedly in contrast with the 'macro-economic' labour theory of value in Volume 3. What Marx tried to discover was a *hidden key behind price fluctuations*, the atoms inside the molecule so to speak. He moved the whole economic analysis to a different and higher level of abstraction. His question was not: *how does* Sammy run (what movements do his legs and body make while running), but *what makes* Sammy run.

It follows that 99 per cent of the criticism directed against the

36. Böhm-Bawerk, op. cit., pp. 29–30; Samuelson, op. cit., p. 620; Tugan-Baranovsky, op. cit., p. 141.

Marxist labour theory of value is entirely beside the point, especially when it tries to 'refute' the first pages of Chapter 1 of *Capital* Volume 1, which have sometimes been construed as a 'proof' of that theory.[37] To say that commodities have qualities in common other than the fact that they are products of social labour transforms an analysis of social relations into a logical parlour game. Obviously, these 'other qualities' have nothing to do with the *nexus* between members of society in an anarchic market economy. The fact that both bread and aeroplanes are 'scarce' does not make them commensurable. Even when thousands of people are dying of hunger, and the 'intensity of need' for bread is certainly a thousand times greater than the 'intensity of need' for aeroplanes, the first commodity will remain immensely cheaper than the second, because much less socially necessary labour has been spent on its production.

The question has often been asked: why bother at all with this type of inquiry? Why can one not restrict 'economics' to the analysis of what actually occurs in day-to-day economic life (under capitalism, it goes without saying) – the ups and downs of prices, wages, interest rates, profits etc., instead of trying to discover mysterious 'forces beneath the surface of the economy' which are supposed to govern actual economic events, but only on a very high level of abstraction and in the very final analysis?

This neo-positivist approach is curiously and typically unscientific. Nobody dealing with medicine, not to speak of other physical sciences, would dare for fear of becoming a laughing stock to ask: 'Why bother to look for the "deeper causes" of diseases, when one can collect symptoms to establish a diagnosis?' Obviously no real understanding of economic development is possible if one does not try to discover precisely what 'lies behind' immediate appearances. Laws about immediate short-term fluctuations of prices on the market cannot explain why, to give an interesting example, one kilogram of gold buys in 1974 nearly twice as many given baskets of American consumer commodities as seventy years ago (the average consumer price index has risen somewhat more than fivefold compared to 1904, whereas the price of gold on the free market has risen nine times). Obviously this basic movement of prices in the long run has something to do with the different dynamics of the long-term social productivity of

37. Böhm-Bawerk, op. cit., pp. 65–80; Joseph Schumpeter, *Capitalism, Socialism and Democracy*, London, 1962, pp. 23–4.

labour in the various consumer industries on the one hand and in the gold-mining industry on the other; that is, with the laws of value as formulated by Marx.

Once we understand that the famous 'invisible hand' which is supposed to regulate supply and demand on the market is nothing but the operation of that same law of value, we can tie together a whole series of economic processes which otherwise remain disconnected pieces of analysis. Money born out of exchange can serve as a universal equivalent of the value of commodities only because it is itself a commodity with its own intrinsic value (or, in the case of paper money, represents a commodity with its own intrinsic value). Monetary theory is re-united with the theory of value and the theory of capital accumulation. The ups and downs of the trade cycle appear as the mechanism through which upheavals in the value of commodities end by asserting themselves, with the painful devalorization (loss of value) this entails, not only for the 'infantry' of the commodity army, the individual mass of finished consumer goods sold on a day-to-day basis, but also for its 'heavy artillery', that is, large-scale machinery, fixed capital. The theory of economic growth, of the 'trade cycle', of capitalist crises, the theory of the rate of profit and of its tendency to decline – everything flows in the last analysis from this operation of the law of value. So the question whether it has any use at all in economic analysis is, therefore, as meaningless as the question whether you need the concept of basic particles (atoms, etc.) in physics. Indeed, no coherent and consistent analysis of the capitalist economy in its totality, explaining all the basic laws of motion of that system, is possible without 'elementary principles' organized around the value of commodities.

In Marxist economic theory, the 'law of value' fulfils a triple function. In the first place it *governs* (which does not mean that it determines here and now) the exchange relations between commodities; that is to say, it establishes the *axis* around which *long-term changes* in relative prices of commodities oscillate. (This includes under capitalism also the exchange relation between capital and labour, an extremely important point to which we shall return presently.) In the second place it determines the relative proportions of total social labour (and this implies, in the last analysis, total material resources of society) devoted to the output of different groups of commodities. In this way, the law of value distributes in the final analysis material resources over different branches of production (and of social activity in general) according to the division of 'effective demand' for different groups of commodities, it being always understood that this occurs within the framework of antagonistic class relations of production and distribution. In the third place it rules economic growth, by determining the average rate of profit and directing investment towards those firms and sectors of production where profit is above average, and away from those firms and sectors where profit is below average. Again, these movements of capital and investment correspond in the final analysis to conditions of 'economy' and 'waste' of social labour, that is to the workings of the law of value.

Marx's labour theory of value is a further development and perfection of the labour theory of value as it emanated from the 'classical' school of political economy, and especially of Ricardo's version. But the changes Marx brought into that theory were manifold. One especially was to be decisive: the use of the concept of *abstract social labour* as the foundation of his theory of value. It is for this reason that Marx cannot be considered as in any way an 'advanced neo-Ricardian'. 'Labour quantities as the essence of value' is something quite different from 'labour quantities as *numéraire*' – a common measuring rod of the value of all commodities. The distinction between concrete labour, which determines the use-value of commodities, and abstract labour, which determines their value, is a revolutionary step forward beyond Ricardo of which Marx was very proud; indeed he considered it his main achievement, together with the discovery of the *general* category of surplus-value, encompassing profit, rent and interest. It is based on an understanding of the peculiar structure of a society of commodity-producers, that is of the key problem of how to relate to each other the segments of the global labour potential of society which have taken the form of private labour. It represents, therefore, together with Marx's concept of necessary labour and surplus labour (necessary product and surplus product), the key nexus between economic theory and the science of social revolution, historical materialism.

The way in which the Marxist labour theory of value sharply excludes use-value from any direct determination of value and exchange-value has often been interpreted as a rejection by Marx of use-value beyond the boundary of economic analysis and theory altogether. This does not correspond at all to the rich dialectical complexity of *Capital*. When we deal with the problems of reproduction, in the introduction to Volume 2, we shall have occasion to dwell on the specific way in which the contradiction between use-value and exchange-value *has* to be bridged under capitalism, in order to make economic growth at all possible. Here, we only want to stress that, for Marx, the commodity was understood as encompassing *both* a unity and a contradiction between use-value and exchange-value: a good with no use-value for any potential buyer could not realize its exchange-value; and the specific *use-value* of two categories of commodities, means of production and labour-power, played a key role in his analysis of the capitalist mode of production.

As has already been stated, the law of value fundamentally expresses the fact that in a society based upon private property and private labour (in which economic decision-making is fragmented between thousands of independent firms and millions of independent 'economic agents') social labour cannot immediately be recognized as such. If Mr Jones has his workers produce 100,000 pairs of shoes a year he knows that people need shoes and buy them; he even knows, if he bothers to do his homework, that the annual number of shoes sold in the United Kingdom (and all those countries to which he intends to export his output) vastly outdistances the modest figure of 100,000 pairs. But he has no way of knowing whether the *specific* 100,000 pairs of shoes he owns will find specific customers willing and able to buy them. Only after selling his shoes and receiving their equivalent can he say (provided he has realized the average rate of profit on his invested capital): my workers have truly spent socially necessary labour in my factory. If part of the produced shoes remain unsold, or if they are sold at a loss or at a profit significantly less than the average, this means that part of the labour spent on their production has not been recognized by society as socially necessary labour, has in fact been wasted labour from the point of view of society as a whole.

But this 'recognition of' or 'refusal to recognize' a given quantity of labour by society occurs exclusively in function of meeting effective demand on the market, that is it is independent of the use-value or social usefulness of the specific physical qualities of a given commodity. Society recognizes quantities of labour spent in its production, making abstraction of these considerations. That is why Marx called these quantities, quantities of abstract socially necessary labour. If a pound of opium, a box of dum-dum bullets or a portrait of Hitler find customers on the market, the labour which has been spent on their output is socially necessary labour; its production has been value-production. If, on the contrary, an exquisite piece of china or a new pharmaceutical product for some reason does not find customers, its production has created no value, has been equivalent to a waste of social labour – even if, in some distant future, their creators will be celebrated as geniuses or benefactors of mankind. The labour theory of value has nothing to do with judgements on the usefulness of things from the point of view of human happiness or social progress. It has even less to do with establishing 'conditions for justice in exchange'. It simply recognizes the deeper meaning of the actual act of exchange and of the output of commodities under capitalism, and what governs the distribution of income between social classes which results from these acts, independently of any moral, aesthetic or political judgement. Indeed, if one were to look for such 'judgements', one would have to say that Marx, while understanding why the law of value has to operate as it does under commodity production, did not at all strive to 'defend' that law, but on the contrary to build a society in which its operations would be totally abolished.

One of the most common and innocuous objections made against Marx's labour theory of value runs along these lines: if prices are governed in the last analysis by value (socially necessary quantities of abstract labour), how can goods have prices if they are not products of labour, that is if they have no value? Marx himself in fact answered that objection long before drafting *Capital* Volume 1.[38] Products of nature ('free goods'), which have indeed no value since no social labour has been spent on their production, can get a price through private appropriation, through the social institution of private property. Land on which no human hand has ever worked to increase its fertility has no value. But it can get a price if it is surrounded by a fence upon which is put a placard 'Private property: Trespassing forbidden', and if people are ready to pay that price because they need that land as a source of livelihood. This price will in reality be the capitalization of the net income (land rent) accruing to its owner, income produced by those who will farm it and draw material resources (goods for self-consumption or commodities) from it through their toil.[39]

38. See *A Contribution to the Critique of Political Economy*, p. 62.

39. Again and again the objection has been raised against the Marxist labour theory of value that it 'assumes' labour to be the only scarce factor of

In reaction against all those who mistakenly claimed that Volume 1 of *Capital* was concerned with showing that commodities actually exchange under capitalism according to the quantities of abstract socially necessary labour they contain, some authors have contended that the labour theory of value is concerned only with a *qualitative* problem and not with a *quantitative* one, the 'socially necessary' labour content of commodities being unmeasurable. This bends the stick too far in the other direction. It is true that the quantitative measurement of the labour quantities in commodities is difficult. But the difficulty is not so much a conceptual one (one could, for example, start from macro-economic aggregates, the total sum of man-hours spent in the whole realm of material production – industry, agriculture and commodity transport – in a given country, its division between different branches of industry and key groups of commodities, their interrelationship through an input-output table, the labour spent for the average unit produced in 'autarchic' branches where no raw material has to be imported from foreign lands, and so climb up towards an estimate of total labour expenditure per branch and per commodity produced . . .) as one stemming from a lack of accurate information. It will be necessary to 'open the books' of all capitalist enterprises and to verify these figures on the basis of shop-floor evidence in order to approach a quantitative

production and supposes either that land and machines are abundant or that they can be excluded altogether from value analysis. This is obviously nonsense. Leontief makes the correct point that Marx was probably the first economist to give fixed capital a central importance in the process of production, as against, for example, Böhm-Bawerk (op. cit., p. 93). What Marx does assume is that machines cannot in and by themselves 'command' portions of the total available labour-power of society to be additionally expended or to move from one sector of production to another – a proposition which is rather self-evident, besides having been scientifically proved by Marx. Once one understands that, for Marx, value is in the last analysis assignment of portions of the socially available labour-power, total value newly produced being equal to total expenditure of living labour in a given period, one solves the riddle. Incidentally, one should also understand that Marx, advancing beyond classical economy, did not 'dissolve' the value of the annual product into wages and surplus-value (profits, rents and interests), but added to this the value of raw materials and machinery used up in the process of production. His only point was that this part of the annual product's value did not increase in the process of production but was only maintained, the only source of *new* value being living labour.

measurement of the labour content of commodities in capitalist countries.[40]

6. MARX'S KEY DISCOVERY: HIS THEORY OF SURPLUS-VALUE

The classical school of political economy, including Ricardo, saw profits as a residual net income, once wages had been paid. Indeed, so strict was their adherence to this concept that Ricardo believed that only increases or decreases in production costs in the wage-good industries could influence the rate of profit. Whatever happened to the luxury goods industry, or even to raw materials, would not affect the global rate of profit.

This view is incomplete and therefore incorrect, But it was at least an attempt to come to grips with the problem of income distribution between social classes as a function of what happens in the course of production. The exponents of post-Ricardian 'vulgar' economic theory, and especially the neo-classical marginalists, do not bother to ask the question 'why?', they are content just to answer the question 'how?'. They simply note that 'factors' (labour, capital, land) get different 'prices' on the market, and limit themselves to a study of how these prices fluctuate. To consider the *origins* of profit, interest and rent; to ask whether workers *must* abandon part of the product of their labour when they work for an alien entrepreneur; to examine the mechanisms through which this appropriation occurs as a result of an honest-to-god act of exchange, without any cheating or plotting: it was left to Marx to unravel these basic questions about the capitalist mode of production.

The origin of the income and consumption of the ruling classes in pre-capitalist societies is no matter of speculation. Anybody knows that, from an economic point of view, they were the results of appropriation of part of the fruits of the producers' labour by the ruling class. When the medieval serf worked half the week for his own livelihood on the land of his manse, and the other half of the week without remuneration on the estate of the noble or the church, one could argue that, from a 'moral' point of view, he was offering unpaid labour 'in exchange' for the 'service' of profane or divine protection. But nobody would confuse this 'exchange' with what goes on in the market place. It was in fact no economic

40. Friedrich Engels' insert in *Capital*, Vol. 3, pp. 74–6.

exchange at all, in any sense of the word, no give-and-take of anything which can be 'priced', in even the most indirect way. The 'service of protection' is not 'bought' by the serf any more than a small Chicago businessman 'buys a service' from a gang of hoodlums. It is an extortion imposed upon him by the social set-up, whether he likes it or not. The origin of the social surplus product accruing to the pre-capitalist ruling class is, therefore, obviously unpaid labour (whether in the form of labour services, or of physical products of these labour services, or even of money-rent) expended by the producers.

In the case of slavery, the context is as clear if not clearer, especially in those extreme examples where even the miserable pittance of the slave was not provided by the masters, but had to be provided by the slave himself on the seventh day of the week. Indeed, regarding these slave plantations, even the most sceptical critics of historical materialism will find it hard to doubt that the whole social product, the part which fed the slaves as well as the part which fed the masters, had but one origin: social labour expended by the slaves and by them alone.

When, however, we look at the capitalist mode of production, everything seems much more complicated and much more obscure, to say the least. No brutal force, personified by an overseer with a whip or some group of armed men, appears to force the worker to give up anything he has produced or owns himself. His relationship with the capitalist appears to be based upon an act of exchange which is identical to that of a small artisan or a farmer, owners of commodities they themselves have produced, who meet in the market place. The worker appears to sell his 'labour' in exchange for a wage. The capitalist 'combines' that labour with machines, raw material and the labour of other men to produce finished products. As the capitalist owns these machines and raw materials, as well as the money to pay the wages, is it not 'natural' that he should also own the finished products which result from the 'combination of these factors'?

This is what *appears* to occur under capitalism. However, probing below the surface, Marx comes up with a series of striking observations which can only be denied if one deliberately refuses to examine the unique social conditions which create the very peculiar and exceptional 'exchange' between labour and capital. In the first place, there is an institutional inequality of conditions between capitalists and workers. The capitalist is not *forced* to buy labour-power on a continuous basis. He does it only if it is profitable to him. If not, he prefers to wait, to lay off workers, or even to close his plant down till better times. The worker, on the other hand (the word is used here in the social meaning made clear precisely by this sentence, and not necessarily in the stricter sense of manual labourer), is *under economic compulsion* to sell his labour-power. As he has no access to the means of production, including land, as he has no access to any large-scale free stock of food, and as he has no reserves of money which enable him to survive for any length of time while doing nothing, he *must* sell his labour-power to the capitalist on a continuous basis and at the current rate. Without such institutionalized compulsion, a fully developed capitalist society would be impossible. Indeed, once such compulsion is absent (for example where large tracts of free land subsist), capitalism will remain dwarfed until, by hook or by crook, the bourgeois class suppresses access to that free land. The last chapter of *Capital* Volume 1, on colonization, develops this point to great effect. The history of Africa, especially of South Africa, but also of the Portuguese, Belgian, French and British colonies, strikingly confirms this analysis.[41] If people are living under conditions where there is no *economic* compulsion to sell their labour-power, then repressive *juridical* and *political* compulsion has to deliver the necessary manpower to the entrepreneurs; otherwise capitalism could not survive under these circumstances.

The function of trade unions, be it said in passing, is immediately clarified in the light of this analysis. Workers who combine to set up a reserve fund can be freed at least for some weeks from the compulsion to sell their labour-power on a continuous basis at the given market rate. Capitalism does not like that at all. It is contrary to 'nature'; if not to human nature, then at least to the deeper nature of bourgeois society. That is why, under robust nascent capitalism, trade unions were simply banned. That is also why, under senile capitalism, we are gradually returning to a situation in which workers are denied the right to strike – the

41. We refer here to the large-scale appropriation of land by white settlers and colonial companies, the herding together of Africans into 'reserves', the imposition of money taxes in essentially non-monetary economies, forcing the Africans to sell their labour-power in order to get the necessary money to pay taxes, the imposition of large-scale money fines, or even direct forced labour penalties for innumerable transgressions of laws specially designed to furnish the settlers with labour-power, etc., etc.

right to abstain from selling their labour-power at the offered price whenever they like. In this instance, Marx's insight is clearly confirmed by the highest authorities of the bourgeois state: under capitalism, labour is fundamentally *forced* labour. Whenever possible, capitalists prefer hypocritically to cloak the compulsion under a smokescreen of 'equal and just exchange' on the 'labour market'. When hypocrisy is no longer possible, they return to what they began with: naked coercion.

Marx, of course, was perfectly well aware of the fact that, in order to organize production in modern factories, it was not enough to combine the social labour-power of manual and intellectual workers. It was necessary to provide for land, buildings, energy, infrastructural elements like roads and water, machinery, a given fabric of organized society, means of communication, etc. But it is obviously absurd to presume that, because factory production is impossible without these conditions of production, roads and canals therefore 'produce value'. It is no more logical to assume that machines 'produce' any value, in and by themselves. Of all these 'factors' it can be said only that their given value has to be maintained and reproduced, through incorporation of part of it in the current output of living labour, during the production process.

We come nearer to the truth when we note that *property titles* (private appropriation rights) to land and machinery lead to a situation where these 'factors' will not be incorporated into the process of production without their proprietors receiving an expected 'return' over and above the compensation for the wear and tear of the 'factors'. This is obviously true. But it does not follow at all that such 'returns' are then 'produced' by the property titles. Nor does it imply that owners of such property titles meet the owners of labour-power on an equal footing. Only if we were in a 'capitalistic slave society', where owners of slaves hired out labour-power to owners of factories renting land from landed proprietors, could one say that institutional equality existed between all owners – though, of course, not between owners and slaves! Obviously, in that case, the slave owners would hire out their slaves only if they received a 'net return' *over and above the upkeep of the slaves*.

In the second place, the social situation in which a small part of society has monopolized property and access to the means of production, to the exclusion of all or nearly all direct producers, is in no way a product of 'natural inequality of talents and inclinations' among human beings. Indeed, it did not exist for tens of thousands of years of social life on the part of *homo sapiens*. Even in the relatively recent past, say 150 years ago, nine-tenths of the producers on this planet – who were in their overwhelming majority agricultural producers – did have direct access, in one way or another, to their means of production and livelihood. The separation of the producer from his means of production was a long and bloody historical process, analysed in detail by Marx in Part Eight of *Capital* Volume 1, 'So-Called Primitive Accumulation'.

In the third place, the worker does not sell the capitalist his labour, but his *labour-power*, his capacity to work for a given period of *time*. This labour-power becomes a commodity under capitalism.[42] As such it has a specific value (exchange-value), as any other commodity does: the quantity of social labour necessary to reproduce it – that is to say the value of the consumer goods necessary to keep the worker and his children in condition to continue to work at a given level of intensity of effort. But it has a

42. Obviously Marx did not 'transform' men into 'commodities', as so many of his 'ethical' opponents accuse him of doing. He noted that *capitalism* had operated such a transformation and therefore condemned capitalism. Popper significantly contends that 'the value theory [of Marx] . . . considers human labour as fundamentally different from all other processes in nature, for example from the labour of animals. This shows clearly that the theory is based ultimately upon a moral theory, the doctrine that human suffering and a human lifetime spent is a thing [!] fundamentally different from all natural processes . . . I do not deny that this theory is right in the moral sense . . . But I also think that an economic analysis should not be based upon a moral or metaphysical or religious doctrine of which the holder is unconscious.' (*The Open Society*, Vol. 2, p. 329). In the first place, Marx was not at all unconscious of the differences between human labour and the endeavours of animals such as ants; he comments on it in the first chapter of *Capital* Vol. 1. In the second place, there is nothing metaphysical about the fact that, when men engage in mutual social relations in order to produce their livelihood, they will certainly consider human labour, as the basis of this social organization, quite differently from natural processes, fertility of the soil or of cattle, etc. There is nothing metaphysical about the distinction, *from man's point of view*, between chemical processes in trees and the necessary arrangements to divide the total labour time available to the community between different types of human activity. Two thousand years ago, defenders of the institution of slavery used to equate slaves with 'speaking instruments', or 'speaking beasts of toil'. We know very well that Popper does not condone slavery. Would he then say that this condemnation of slavery is purely 'metaphysical', or would he admit that it is based upon a scientific, anthropological distinction between man and animals?

special quality, a special 'use-value' for the capitalist. When the capitalist 'consumes' labour-power in the process of production, the *worker produces value*. His labour has the double capacity to *conserve value* – that is, to transfer into the finished product the value of the raw material and of a fraction of the machinery used up in this process of production – and to *create new value*, by spending itself. The whole mystery of the origin of profits and rents is over once one understands that, in the process of production, the workers can (and must – otherwise the capitalist would not hire them) produce value over and above the value of their own labour-power, over and above the equivalent of the wages which they receive. We are back where we started in pre-capitalist societies, and we have been able to eliminate the cobweb of apparent 'exchange equality': like feudal rent or the slave-owner's livelihood, capitalist profits, interests and rents originate from the *difference between what the workers produce and what they receive for their upkeep*. Under capitalism this difference appears in the form of value, and not of physical output. This fact prevents the process from being immediately transparent. But it does not make it fundamentally different from the 'exchange' taking place between feudal lord and serf.

It is therefore incorrect to state, as does Blaug, following other academic critics of Marx, that Marx's theory of surplus-value is a theory of 'unearned increment'.[43] It is an *appropriation* or *deduction theory* of the capitalists' income, as was the classical labour theory of value. Capitalists appropriate value which the workers have already produced, prior to the process of circulation of commodities and of distribution of income. No value can be distributed – from a macro-economic point of view, in other words viewing bourgeois society as a whole – which has not been previously produced.

Marx himself considered the discovery of the concept of surplus-value, representing the sum total of profits, interests and rents of all parts of the bourgeois class, as his main theoretical discovery.[44]

43. Mark Blaug, 'Technical Change and Marxian Economics', *Kyklos* Vol. 3, 1960, quoted in Horowitz, op. cit., p. 227.

44. 'Das Beste an meinem Buch ist 1. (darauf beruht *alles* Verständnis der facts) der gleich im *Ersten* Kapitel hervorgehobne *Doppelcharakter der Arbeit*, je nachdem sie sich in Gebrauchswert oder Tauschwert ausdrückt; 2. die Behandlung des *Mehrwerts unabhängig von seinen besondren* Formen als Profit, Zins, Grundrente etc. Namentlich in 2. Band wird dies sich zeigen' (Marx, letter to Engels of 24 August 1868, *MEW* 31, p. 326).

It ties together the historical science of society and the science of the capitalist economy, explaining both the origins and content of the class struggle and the dynamic of capitalist society.[45]

For once we understand that surplus-value is *produced* by workers, that surplus-value is nothing but the age-old social surplus product *in money form*, in the form of value, we understand the historical leap which occurred when that social surplus product no longer appeared essentially in the form of luxury goods (of which consumption is necessarily limited, even under conditions of such extreme extravagance as during the Roman Empire or in the eighteenth-century French court) but in the form of money. More money means not only additional purchasing power for such luxury goods, but additional purchasing power for more machines, more raw materials, more labour-power. Here too Marx discovered an economic compulsion. Private property, the fragmentation of social labour among various firms, that is, the very nature of generalized commodity production – capitalism – implies a compulsion to compete for shares of the market. The need to accumulate capital, the need to increase the extraction of surplus-value, the unquenchable thirst for surplus-value which characterizes capitalism, it is all here: the accumulation of capital = the transformation of surplus-value into additional capital.

Again, as for value, we should note what this is all about: command over fractions of the total disposable quantity of social labour. It is sufficient to recall this basic fact to understand how misplaced are criticisms of the theory of surplus-value which speak about the 'productivity of capital', capital being understood as machines.[46] Machines can never, in and by themselves, hire any

45. Popper (*The Open Society*, Vol. 2, p. 160) contends that Marx did not discover the general category of surplus-value at all, but inherited it from Ricardo. He quotes Engels' introduction to Vol. 2 of *Capital* in that respect. Engels says nothing of the kind. He states, as any student of economic doctrines knows, that a long series of economists, from Adam Smith and the physiocrats to Ricardo and the post-Ricardian anti-capitalists of the eighteen twenties and thirties in Britain, considered profits and rents to be subtractions from the products of 'productive labour'. But only Marx succeeded in showing *what kind of labour* produces surplus-value and what the real content of the process of surplus-value production is, irrespective of its specific forms, and in *explaining* this process.

46. Samuelson, following Böhm-Bawerk, derives this 'productivity of capital' from the fact that 'you can get more future consumption product by using indirect or roundabout methods' (*Economics, an Introductory Analysis*, New York, 4th edition, pp. 576–7). In the explanation which follows, the

fraction of the disposable social labour force, except in science fiction. In the more prosaic world in which we live, *men* owning machines can, for that reason, hire and fire other men. How the product of the labour of these men is then divided, and why, is what Marx seeks to explain.

Of course, Marx did not 'deny' that machinery could increase the social productivity of labour. On the contrary, if one reads Chapter 15 of *Capital* Volume 1, one will see immediately that he was more aware of that potential of technology than any economist among his contemporaries. But the question which most of his critics and other exponents of 'vulgar' economics overlook is very simple, namely, why should the results of the increased productivity of labour be appropriated by the capitalist? Why should the combined productivity of many men working together – the famous 'collective labour potential of the factory' to which a key analysis is devoted in the original Part Seven ('Chapter Six') omitted from the published version of *Capital* Volume 1 (see appendix to this volume, pp. 943–1084) – the combined productivity of scientists and technologists, workers by hand and brain, inventors of machinery and flexers of muscle, increase the profit of the owners of machinery? Surely not because that machinery has some mysterious quality of 'creating' value, that is of 'creating' quantities of socially necessary labour?[47] Surely rather because the owners are in a position to appropriate the products of that combination. So we are back to Marx's theory of surplus-value.

An interesting, if somewhat astounding, innovation in apologetics for capitalist profits has recently occurred in the form of the theory of the firm developed by Alchian and Demsetz.[48] Owners of different 'co-operating inputs' are supposed to have a natural tendency to shirk, because they give some preference to 'non-

'increment', however, originates from the fact that 'current consumption' is 'sacrificed' for the production of 'intermediate goods'. But it is *people* who forgo consumption (we leave aside *which* people really are forced into abstinence). People *produce* intermediate goods. People increase the productivity of their *labour*. How all these *human* operations suddenly lead to value oozing out of 'intermediate goods' (called 'productivity of capital') is a mystifying secret wh ch Samuelson does not solve.

47. The only quality machines have 'in and of themselves' is to increase the productivity of labour and thereby to *decrease* the value of commodities – not to 'create' value.

48. A. Alch an and H. Demsetz, 'Production, Information Costs and Econom c Organisation', *American Economic Review*, 1972.

pecuniary goods' (!) such as leisure, attractive working conditions and time to converse with fellow workers. It follows, according to Alchian and Demsetz, that if shirking is to be checked someone must have both the right to monitor the performance of team members and the disinclination to shirk himself. To this end he must have the right to receive the *residue* after all other inputs have been paid contractual amounts, the right to terminate membership of the team and the right to sell these rights. After having received with great joy the good tidings that he has now been promoted to the status of member of a 'co-operative team', on an equal footing with the capitalist, the average worker cannot fail to wonder for what mysterious reason the 'someone' who gets all these 'economically necessary rights' is *always* the owner of the 'input – means of production' and *never* the owner of the 'input – labour-power'. Would it be because the capitalist is free from the human vice of shirking, or has no inclination to leisure or attractive working conditions? Or is it perhaps because Messrs Apologists for Capitalism are trying to argue away the fact of surplus-value appropriation through monopoly ownership of the means of production?

7. MARX'S THEORY OF CAPITAL

Capital is thus, from the Marxist point of view, a *social relation between men* which appears as a relation between things or between men and things. Flowing logically from Marx's labour theory of value and theory of surplus-value, this is another of the key discoveries which opposes his economic theory radically to all forms of academic 'economics'.

Marx energetically rejects the idea, as expounded by 'vulgar' and neo-classical economists, that 'capital' is just 'any stock of wealth' or 'any means to increase labour productivity'.[49] A chimpanzee using a stick to get at bananas is no more the first capitalist than a tribal community learning to accrue its wealth through animal husbandry or land irrigation is 'accumulating capital'. Capital presupposes that goods are not being produced for direct consumption by the producing communities, but are sold as commodities; that the total labour potential of society has become fragmented into private labours conducted independently

49. Joseph Schumpeter, *History of Economic Analysis*, New York, 1954, pp. 558–9.

of each other; that commodities therefore have value; that this value is realized through exchange with a special commodity called money; that it can therefore start an independent process of circulation, being property of a given class of society whose members operate as owners of value looking for increments of value. If, as Adam Smith explained to successive generations of students of economic phenomena, productive (technical) *division of labour* is a source of increased labour productivity – to a large extent independently from the specific social form of organization of the economy – then capital is not a product of that division of labour, but of a *social division of labour*, in which owners of accumulated value face non-owners.

Joseph Schumpeter reproached Marx with having elaborated a theory of capital which was unable to explain the origins of capital.[50] Nothing is further from the truth. Marx the dialectician perfectly understood the difference between, on the one hand, the production and reproduction of capital on the basis of the capitalist mode of production and, on the other, the origins and development of capital in pre-capitalist modes of production. Indeed, one of the essential objections to the imprecise and unscientific handling of categories by 'vulgar' economists was their undifferentiated use of the terms 'capital' and 'capitalism' as more or less synonymous. *Capitalism* is the capitalist mode of production, the seizure of the means of production by capital, which has become predominant in the sphere of production. *Capital* is value (initially in the form of money) becoming an independent operator in the pores of a non-capitalist mode of production. Capital appears initially as usury and merchant (long-distance trade) capital. After a long historical process, and only under specific social conditions, does capital victoriously penetrate the sphere of production in the form of manufacturing capital. (This occurred in the late fifteenth and sixteenth centuries in Western Europe; in the eighteenth century in Japan. In China, *isolated elements* of manufacturing capital had probably already appeared more than a thousand years earlier.)

In simple commodity production, capital does not *produce* surplus-value. It simply transforms into surplus-value parts of current output and revenue which originate independently from capital. It can appropriate part of the social surplus product normally passing into the hands of pre-capitalist ruling classes (for

50. Schumpeter, *Capitalism, Socialism and Democracy*, pp. 15–18.

instance the appropriation, through usury, of part of the feudal land rent). It can appropriate part of the product which normally serves as a consumption fund for the producers themselves. The basic characteristic of these operations of capital under pre-capitalist relations of production is that it will barely increase the global wealth of society; it will neither significantly develop productive forces nor stimulate economic growth. It can only have a disintegrating effect on the given pre-capitalist social order, precipitating the ruin of several social classes. However, by accelerating the transformation of goods produced and consumed as use-values only into commodities, that is by accelerating the spread of money economy, it can historically prepare the ground for an eventual appearance of the capitalist mode of production.

Capital operating in pre-capitalist modes of production refers essentially to a theory of money circulation and appropriation. This is why in Volume 1 of *Capital* Marx first introduces capital in Part Two, *after* having explained the nature of money. Indeed, Part Two is entitled 'The Transformation of Money into Capital'. Here again, the logical analysis corresponds to the historical process, to which Marx continually refers, albeit for the most part in footnotes. On the other hand, capital operating in the capitalist mode of production, the real object of study of *Capital*, refers obviously to a theory of production and appropriation of value and surplus-value. Marx explains in Volume 1, Chapter 24, how the law of appropriation of commodities is transformed when we pass from a society of petty commodity producers to a capitalist society. In the first case, the direct producers are owners of the products of their labour; in the second, the owners of capital become the owners of the products of the labour of the direct producers. Apologists for capitalism try to justify this fact by the argument that, after all, capitalists 'place at the disposal' of the workers the tools with which production occurs.[51] But again history allows us to pierce through the hypocrisy of the argument. For capitalism was not born – in the days of manufacturing – with the capitalist 'putting at the disposal of the producers' any new machinery. It was born with the capitalists *expropriating* the tools

51. For example, MacCord Wright, *Capitalism*, New York, 1951, p. 135. In the 'Results of the Immediate Process of Production', Marx shows how mystifyingly capitalism represents increases in the *social productivity of labour*, through *social* developments like scientific progress, co-operation of many workers, etc. as results of the 'productivity of capital'.

owned by the producers themselves and assembling these very tools under a common roof.[52]

Capital, under the capitalist mode of production, is therefore value constantly increased by surplus-value, which is produced by productive labour and appropriated by capitalists through the appropriation of the commodities produced by the workers in factories owned by capitalists. The way in which this analysis of capital and capitalism hinges on the institution of private property has often been misunderstood or (and) misrepresented, both by critics and by disciples of Marx. It therefore merits some comment.

Historically and logically, capitalism is tied to the private ownership of the means of production, which allows private appropriation of produced commodities, thus private appropriation of surplus-value, and thus private accumulation of capital. It is surely not accidental that the 'rights of private property' are thus at the bottom of the whole constitutional and juridical superstructure which centuries of law-making have erected upon the basis of commodity production.

But what we confront when we examine the social relations which lie behind these juridical forms is, of course, something which is not simply formal private property; otherwise the analysis would be reduced to simple tautology. When Marx states that commodity production is only possible because social labour has been fragmented into *private labours conducted independently from each other*,[53] he refers to a *socio-economic* and *not* a juridical reality; the latter is only a reflection – and sometimes a very imperfect one! – of the former. What capitalism is about, then, is a specific relation between wage-labour and capital, a social organization in which social labour is fragmented into firms independent of each other, which take independent decisions about investment, prices and forms of financing growth, which compete with each other for shares of markets and profits (of the total surplus-value produced

52. On this aspect of the development of home industries and of the first manufactures in the fifteenth and sixteenth centuries, see, among other sources, N. W. Posthumus, *De Geschiedenis van de Leidsche Lakenindustrie*, 's-Gravenhage, 1908.

53. See below, p. 165. In a note added by Engels in the fourth German edition of *Capital* Vol. 1 (see p. 138 below), he makes the point that in English there are two different words to express the two different aspects of labour: use-value-producing labour is called *work*, exchange-value-producing labour, which is only quantitatively measured, is called labour.

by productive labour in its totality), and which *therefore* buy and exploit wage-labour under specific economic conditions, compulsions and constraints. It is not simply a general relationship between 'producers' and 'accumulators', or 'producers' and 'administrators', for such a relationship is in the last analysis characteristic of all class societies and not specific to capitalism at all.

The *content* of the *economic* institution of private capital is therefore the *independent firm* (whether a small manufacturer or a giant multi-national corporation). Whether the *juridical form* strictly conforms to that content or not is irrelevant, and often poses complex legal problems. Are stockholders only owners of income titles, or are they owners of fractions of the firm's 'assets' or 'property'? The bankruptcy laws – which differ in different capitalist countries – can go into the most sophisticated nuances imaginable on this subject. But the vital economic decisions (key investment decisions, for example) are taken by all those firms which are really independent and not subordinate companies. The basic fact of life of the capitalist economy is the fact that these vital decisions are not taken by society as a whole or by the 'associated producers'.

Again, the content of this *economic* institution of private property (fragmented social labour) should not be confused with the question of the precise *agents* who take the independent firms' decisions. Whether those who take the decisions are individual owners, or representatives of stockholders, or so-called managers, does not in the least change the fact that they are working under the same previously analysed economic compulsion. Some economists today, such as Galbraith and even some Marxists, contend that the contemporary giant corporation has largely freed itself from these constraints.[54] This is an illusion, born of an extrapolation from conditions prevailing during a rather lengthy boom. In fact, the idea that any giant corporation, whatever its dimensions or power, could emancipate itself definitively from the compulsion of (monopolistic) competition, that is, could have a guaranteed specific demand for its products, independently of the trade cycle and from technological innovation, could make sense only if it were insulated both from economic fluctuations and

54. John Kenneth Galbraith, *The New Industrial State*, New York, 1967, Chapter 18.

from economic uncertainty, that is if the very nature of its output as commodity production was denied. Experience does not confirm such a contention.

The basic distinction which Galbraith, following Baumol, Kaysen and others, introduces between compulsion to profit maximization (true for yesterday's firms) and compulsion to growth maximization (true for today's corporations)[55] becomes devoid of practical long-term significance once we understand that growth remains essentially a function of profit, that capital accumulation can result in the last analysis only from surplus-value production and realization. The only kernel of truth which remains, then, is the difference between short-term and long-term profit maximization, which is indeed one of the basic differences between competitive capitalism and monopoly capitalism.

The debate on the nature of capital has received a new and significant impetus with the 'internal' critique of the theory of the marginal productivity of capital by Piero Sraffa and the Cambridge school. The latter have demonstrated convincingly that the measurement of capital inputs in the neo-classical 'production function' is based upon circular reasoning.[56] For if the effect of marginal increases or decreases of capital inputs upon output has to be *measured*, this can only be done in money terms, given the heterogeneous nature of so-called 'capital goods'. 'But this process of pricing or valuation of capital inputs presupposes a rate of return on the plant and equipment in question, of which the latter value is the capitalization'; that is 'one has to *assume* a rate of interest in order to demonstrate how this equilibrium rate of return is determined'.[57] The way out, obviously, is to look for a common substance in all the 'capital goods' independent of money, that is to return to socially necessary labour as the measurable substance of the value of all commodities.

55. ibid., Chapter 10.

56. Joan Robinson, *The Accumulation of Capital*, London, 1956; Piero Sraffa, *Production of Commodities by Means of Commodities*, Cambridge, 1960.

57. Maurice Dobb, 'The Sraffa System and the Critique of the Neo-Classical Theory of Distribution', reprinted in E. K. Hunt and Jesse G. Swartz (ed.), *A Critique of Economic Theory*, Harmondsworth, 1972, p. 207. One should note, however, that, to use the Schumpeterian jargon, Dobb thus only justifies the use of labour as a *numéraire* (a unit of account), in a typically neo-Ricardian way, and not at all on the basis of the Marxist labour theory of value.

8. MARX'S THEORY OF ACCUMULATION OF CAPITAL

Capital is thus, by definition, value looking for accretion, for surplus-value. But if capital produces surplus-value, surplus-value also produces additional capital. Under capitalism, economic growth therefore appears in the form of accumulation of capital. The basic drive of the capitalist mode of production is the drive to accumulate capital. This is not so because of some mysterious and tautological 'accumulative passion' or inclination on the part of capitalists. It is essentially explained by competition, that is by the phenomenon of 'various capitals'. Without competition, Marx states categorically, the 'driving fire' of growth would become extinguished.[58] Totally monopolized capital ('a single world trust') would essentially be stagnating capital.

But competition is combined with the trend to replace labour by machinery as a driving force for capital accumulation and economic growth under capitalism. If the extension of output maintained the given relationship between inputs of living labour and inputs of dead labour (machinery and raw materials), it would rapidly reach both a physical limit (the total available manpower) and hence a profit limit. Under conditions of permanent full employment, wages would tend to increase and erode profits to the point where capital accumulation and economic growth would gradually disappear.

Under capitalism, however, economic growth is not 'neutral' with respect to the relationship between living and dead labour inputs (between variable and constant capital). It is heavily loaded in favour of an expansion of labour-saving devices. Indeed, a permanent tendency to increase the social productivity of labour is the main civilizing by-product of capital accumulation, the main objective service which capitalism has rendered mankind. Capital accumulation takes on the primary form of an increase in the value of plant and equipment, as well as of the stock of raw materials available in industrialized capitalist countries. On a long-term basis, this accumulation is as impressive as Marx could have imagined. The value of all accumulated private non-farm producer durables multiplied more than tenfold in constant dollars between 1900 and 1965 in the U.S.A., and this estimate is certainly undervalued as it is based upon official records biased for reasons of tax evasion.

58. Karl Marx, *Capital*, Vol. 3, p. 254.

Capital accumulation is, of course, distinct from the behaviour of pre-capitalist ruling classes. If all surplus-value were to be consumed in the form of luxury goods, no capital accumulation would take place at all. Capital would then be maintained at the level it had already reached. This special 'limiting' case was indeed presented by Marx under the name of 'simple reproduction', for purely analytical reasons. It does not, of course, correspond to any 'real' stage or situation of a normally functioning capitalist mode of production.[59] As we pointed out, what characterizes capitalism is precisely the compulsion to accumulate, that is 'enlarged reproduction'.

Enlarged reproduction presupposes that not all surplus-value produced by productive labour, and appropriated by the capitalist class, is unproductively consumed. Part of it is transformed into luxury goods and disappears from the process of reproduction. Part of it is transformed into additional capital by being used to buy additional plant and equipment, additional raw materials and additional labour-power. This, then, is the process of accumulation of capital: the transformation of surplus-value into additional capital, which can produce new increments of surplus-value, leading to new increments of capital. The movement develops in the form of a spiral, as Simonde de Sismondi, one of the early 'romantic' critics of capitalism, whom Marx quotes approvingly on this question, already understood.

The fact that capital accumulation is possible only because part of the surplus-value appropriated by the capitalist class is not socially squandered in luxury goods constitutes the starting point for the so-called 'abstinence' theory (more accurately, justification) of profits and capitalist exploitation.[60] Historically, there is not an atom of evidence for the assumption that capital somehow grew out of the 'frugal habits' of some members of the community, as opposed to the 'improvidence' of others, each of them having equal access to resources that were initially com-

59. One could say that it corresponds to a border case of stagnation in a given phase of the trade cycle.

60. Even Schumpeter still largely defended this 'abstinence' theory of profit, although giving it a less vulgar character than in the case of Senior. 'The capitalist ... exchanges a fund against a flow. The "abstinence" for which ... he is being paid enters into the accumulation of the fund. There is no additional payment for refraining from consuming it even in cases in which this would be physically possible' (*History of Economic Analysis*, p. 661). See also *Capitalism, Socialism and Democracy*, p. 16.

parable. On the contrary, all historical evidence confirms that the sudden appearance of large amounts of 'capital' (in the form of a stock of precious metals and other treasure) in a society previously confined almost exclusively to natural economy (to the output of goods possessing only use-value) was the result not of 'frugality' and 'thrift' but of large-scale piracy, robbery, violence, theft, enslavement of men and trade in slaves. The history of the origins of West European usury and merchant capital between the tenth and the thirteenth centuries, from the piracy in the Mediterranean through the plundering of Byzantium by the Fourth Crusade to the regular plundering razzias into the Slav territories of Central and Eastern Europe, is very eloquent in this respect.

What is unconfirmed by history is even more absurd in the light of contemporary economic analysis. Nobody could seriously argue that Messrs Rockefeller, Morgan and Mellon have to be compensated for their virtue in not squandering tens of billions of dollars on additional yachts, mansions and private jets – the vulgar version of the abstinence theory. But its more sophisticated version, namely the idea that the profits of the owners of capital are just the way in which their 'fund' is transformed into the 'flow' of long-term capital investment, provides a nice piece of circular reasoning. For whence does the 'fund' originate, if not precisely from the 'flow', that is to say what else is capital if not accumulated profits? To deny that profits originate in the process of production flies in the face of all scientific as well as practical observation of what goes on in a capitalist economy. Once we understand this, there is no room left for any abstinence theory of profit – only for a subtraction one.

The process of capital accumulation is viewed by Marx in *Capital* at two different and successive levels of abstraction. In Volume 1, in the framework of 'Capital in general', he examines it essentially in the light of what occurs in and flows from the exchange between wage-labour and capital. In Volume 3, he examines capital accumulation (economic growth under capitalism) in the light of what occurs in the sphere of 'many capitals', that is of capitalist competition. I shall therefore leave to the introduction to Volume 3 an examination of the main criticisms made of Marx by those who question the validity of the laws of motion of capital accumulation set out in that volume. Here, I shall limit myself to examining the basic effects of capital accumulation on wage-labour.

Unlike many of his contemporaries, including some of the sternest non-Marxist critics of capitalism, Marx did not consider that capital accumulation had a simple and unequivocally detrimental effect upon the situation of wage-labour. Marx had studied the movement of real wages during the trade cycle, and the fact that wages were at their highest level when capital accumulation was progressing at the quickest pace by no means escaped him.[61] But, once again, he tried to go beyond such evident facts to study the *fundamental modifications in value terms* which capital accumulation would exercise upon labour.

It thus became his contention that the very way in which capital accumulation proceeds, the very motive force of capitalist progress – the development of fixed capital, of machinery – contains a powerful dynamic to reduce the *value* of labour-power. For as this value is the equivalent of the value of a *given* quantity of consumer goods, supposed to be necessary to restore the capacity of a worker to produce at a given level of intensity, a decrease in the value of these consumer goods resulting from an increase in the productivity of labour in the consumer goods industry leads to a decrease in the value of labour-power, all other things remaining equal.

This argument implies neither any tendency to a decrease in real wages (on the contrary, it is based upon the assumption of *stable* real wages in the short and medium term), nor any trend towards 'growing absolute misery' of the working class. We shall deal with this theory falsely attributed to Marx in the next section of this introduction. But it does imply that the favourable results of the increase in productivity of labour end by falling, to a large extent, into the hands of the capitalist class, by transforming themselves into supplementary 'relative surplus-value', provided that the long-term trend of the industrial reserve army of labour is either stable or increasing.

On a world scale this has certainly been true for as long as capitalism has existed. As Marx predicted, capitalism spread not only by creating new jobs but also by creating new unemployed (by destroying employment of previous wage earners, and especially of previously self-employed small farmers and handicraftsmen). But to calculate a 'world average value of labour-power' is of course a meaningless abstraction. Indeed, ever since industrial capitalism

61. Karl Marx, 'Wages, Price and Profit', in *Selected Works* in one volume, London, 1970, pp. 220–21.

in the West started to swamp the rest of the world with its cheap, mass-produced commodities, and at the latest since the eighteen-seventies, a *divergent* trend has appeared in the world economy: a long-term decline of the reserve army of labour in Western Europe (as a result of exports of both emigrants and commodities) and a rise in the reserve army of labour in the underdeveloped countries. (This latter process included, of course, the transformation of masses of pre-capitalist farmers, cattle-raisers and artisans into uprooted 'marginalized' vagrants, migrant seasonal labourers, and forced labourers, following a pattern similar to what had happened a few centuries earlier in Western Europe.)

The dynamics of 'capital accumulation on a world scale' have therefore to be seen as those of an organic whole, and not as the simple sum of capital accumulation processes in distinct countries. The operation of the world market as a gigantic syphon to transfer value from the south to the north of our planet (from the countries with lower to the countries with higher productivity of labour) lies at the very root of the imperialist system. While the debate on the theoretical explanation of this phenomenon is still in its initial stages,[62] it is important to note that the phenomenon itself is based upon uneven movements (uneven mobility) of capital and labour, and introduces all those dimensions into the analysis of capitalism which Marx reserved for the never-written Volumes 4, 5 and 6 in the original plan of *Capital*.

The accumulation of capital is the accumulation of wealth in the form of commodities, of value. Value production becomes a goal in itself. Work is degraded to the level of a means by which to receive money incomes. One of the most striking and most 'modern' parts of *Capital* is that which examines the inhuman consequences of capital accumulation for the workers and for work itself. Marx himself added to the second German edition of Volume 1 the note

62. See, among other writings: Samir Amin, *L'Accumulation à l'échelle mondiale*, Paris, 1970; Arghiri Emmanuel, *Unequal Exchange* (including a discussion with Charles Bettelheim), London, 1972; Christian Palloix, *L'Économie mondiale capitaliste*, Paris, 1971; and the discussion of these books by Ernest Mandel in *Late Capitalism*, London, 1975. Interestingly enough, W. Arthur Lewis, in his 'Development with Unlimited Supplies of Labour' (Manchester School of Economic and Social Studies, Vol. XXII, May 1954), tries to show that stepped-up capital accumulation implies a large industrial reserve army; but he limits this case exclusively to initial industrialization and does not admit Marx's assumption of permanent reconstitution of this reserve army through the mechanization process.

that, under capitalism, labour-power not only becomes a commodity for the capitalist but also receives this form *for the worker himself*, implying that this degradation of work is both objectively and subjectively the fate of the industrial proletariat. It took 'official' political economy a long time, indeed until after the growing revolt of the workers against assembly line speed-ups, to discover what Marx had anticipated from a thorough understanding of the fundamental mechanisms which govern the capitalist mode of production.

Because capital accumulation presupposes production for profit, because it has profit maximization as its very *rationale*, exact and minute cost calculations entail constant reorganizations of the production process with the single purpose of reducing costs. From the point of view of the single capitalist firm, a worker cannot be seen as a human being endowed with elementary rights, dignity, and needs to develop his personality. He is a 'cost element' and this 'cost' must be constantly and exclusively measured in money terms, in order to be reduced to the utmost. Even when 'human relations' and 'psychological considerations' are introduced into labour organization, they are all centred in the last analysis upon 'economies of cost' (of those 'overhead costs' called excessive labour turnover, too many work interruptions, absenteeism, strikes, etc.).[63]

Capitalist economy is thus a gigantic enterprise of dehumanization, of transformation of human beings from goals in themselves into instruments and means for money-making and capital accumulation. It is not the machine, nor any technological compulsion, which inevitably transforms workers and men and women in general into appendices and slaves of monstrous equipment. It is the capitalist principle of profit maximization by individual firms which unleashes this terrifying trend. Other types of technology and other types of machine are perfectly conceivable – provided that the guiding principle of investment is no longer 'cost-saving' by individual competing firms, but the optimum development of all human beings.

63. The most extreme case is that of 'globalization of costs' in cost-benefit analysis, in which human illness and death are likewise computed in the form of money costs.

9. MARX'S THEORY OF WAGES

Strangely enough, the idea of an ever-increasing decline in the standard of living of the working class, which has often been falsely attributed to Marx, originated with those economists against whom he maintained a constant barrage of polemics after perfecting his own economic theories. It originated with Malthus and, via Ricardo, reached several socialists of Marx's generation, such as Ferdinand Lassalle. Whether under the guise of a 'stable wage fund' or under the guise of an 'iron law of wages', it is essentially a *population growth theory of wages.* Whenever wages rise sufficiently above the physiological minimum, labourers are supposed to have more children, who then in turn create large-scale unemployment and depress wages back to the minimum.

The logical shortcomings of this theory are glaring. It examines only what happens on the supply side of labour-power; it does not examine at all what happens on the demand side. It presupposes that the potential working population is a linear function of population increase, and that the demographic movement is in turn a linear function of real income. All the intermediate links – like the effects of increases of income not only upon the child mortality rate but also upon birth rates, not to speak of the effects of increases of income and of the organized strength of the working class on the length of the working week, the duration of training and the moment of retiring from the work process – are eliminated from the chain of reasoning, thereby leading to wrong and indeed absurd results.

If one compares Marx's own theory of wages to the opinions held by academic economists of his time, one sees at once the step forward which he accomplished. For he points out not only that labour-power, having been transformed by capitalism into a commodity, has a value which is objectively determined like the value of all other commodities, but also that the value of labour-power has a characteristic distinct from that of all other commodities – to wit that it is dependent on two elements: the *physiological* needs and the *historical-moral* needs of the working class.

This distinction is closely linked with the peculiar nature of labour-power: a commodity inseparable from and integrated with human beings, who are not only endowed with muscles and a stomach, but also with consciousness, nerves, desires, hopes and potential rebelliousness. The *physical capacity* to work can be measured by the calory inputs that have to compensate losses of energy. But the *willingness* to work at a given rhythm, a given intensity, under given conditions, with a given equipment of higher and higher value and increasing vulnerability, presupposes a level of consumption which is not simply equivalent to a sum-total of calories, but is also a function of what is commonly considered by the working class to be its 'current', 'habitual' standard of living.[64] Marx notes that these habitual standards differ greatly from country to country, and are generally higher in those countries which have an advanced, developed capitalist industry than in those which are still at pre-industrial levels, or are going through the throes of 'primitive' industrial capital accumulation.[65]

We thus reach an unexpected conclusion: according to this aspect of Marx's work, real wages would actually have to be higher in more advanced capitalist countries – and therefore also in more advanced stages of capitalism – than in less developed countries. This would also imply that they would tend to increase in time, as the level of industrialization increases. On the other hand, we have noted earlier that Marx explained fluctuation of wages during the trade cycle, that is of the price and not of the value of labour-power, as being governed essentially by the movements of the industrial reserve army. Real wages would tend to increase in times of boom and full employment and to decline in times of depression and large-scale unemployment. He indicated, however, that there was nothing automatic about this movement, and that the actual class *struggle* – including trade-union action, which he considered indispensable for this very reason – was the instrument through which workers could take advantage of more

64. Lenin makes the point that with the development of capitalist industry there is a progressive increase in the workers' needs ('On the So-Called Market Question', in *Collected Works*, Vol. 1, pp. 106–7). See also Marx: 'This much, however, can even now be mentioned in passing, namely that the relative restriction on the sphere of the workers' consumption (which is only quantitative, not qualitative, or rather, only qualitative as posited through the quantitative) gives them as consumers ... an entirely different importance as agents of production from that which they possessed e.g. in antiquity or in the Middle Ages, or now possess in Asia' (*Grundrisse*, Pelican Marx Library, p. 283). Also ibid., pp. 186–7, 409.

65. Karl Marx, 'Wages, Price and Profit', *Selected Works* in one volume, p. 223; *Capital*, Vol. 1, Chapter 22 (see below, pp. 702–5). The most categorical statement in that respect is to be found in *Theories of Surplus-Value*, Part II, pp. 16–17: 'The more productive one country is relative to another in the world market, the higher will be its wages, as compared with the other.'

favourable conditions on the 'labour market' somewhat to increase their wages, whereas the main effect of depression was that it would weaken the resistence of the working class to wage-cuts.

But Marx stuck to his theory of value with regard to wages. Wages are the prices of the commodity labour-power. Like all other prices, they do not fluctuate at random, but around an axis which is the value of that commodity. The movements of wages that are influenced by the ups and downs of the trade cycle explain only short-term fluctuations: these have to be integrated within a wider analysis, explaining the long-term fluctuations of wages in function of the *changes in the value of labour-power.*

We can thus formulate Marx's theory of wages as an *accumulation of capital wage theory,* in opposition to the crude demographic wage theory of the Malthus–Ricardo–Lassalle school. Long-term movements of wages are a function of the accumulation of capital in a fivefold sense:

- Accumulation of capital implies a decline in value of a given basket of consumer goods included in the given standard of living of the working class (with the given reproduction costs of labour-power). In this sense, the development of capitalism tends to *depress the value* of labour-power, all other things remaining equal. Let us repeat: such a decline in the value of labour-power does not imply a decline, but only a stability, of real wages.
- Accumulation of capital implies a decline in the value and an expansion of the output (mass production) of consumer goods previously not included in the reproduction costs of labour-power. If objective and subjective conditions are favourable, the working class *can force* the inclusion of these goods into the accepted minimum standard of living, can expand the 'moral-historical' component of the value of labour-power, thereby *increasing its value.* This again does not happen automatically, but essentially as a result of the class struggle.
- Accumulation of capital will favour the increase in value of labour-power if the *long-term structural supply* of labour-power does not strongly exceed demand, or is even below demand. This explains why wages in the U.S.A. were from the beginning significantly higher than in Europe, why wages started rising significantly in the latter part of the nineteenth century in Europe as a result of massive overseas emigration of the reserve army of labour, and why persistent massive unemployment and underemployment in

the underdeveloped countries has implied a tendentially declining value of labour-power (often even accompanied by declining real wages) in the last two decades.

– Accumulation of capital forms the upper *barrier* which no increase in the value or the price of labour-power can break under capitalism. If and when the increase in the value of labour-power implies a strong decline in surplus-value, accumulation of capital slows down, large-scale unemployment reappears, and wages are 'readjusted' to a level compatible with capital accumulation. In other words, under capitalism, wages *can* fall to the point where the 'historical-moral' ingredient of the value of labour-power completely disappears, where they are actually reduced to the bare physiological minimum. They *cannot* rise to the point where the 'historical-moral' ingredient of the value of labour-power wipes out surplus-value as the source of capital accumulation.

– Accumulation of capital implies increased exploitation of the workers, including an increased *attrition of labour-power*, especially through intensification of the production process. But this in turn implies the *need for higher consumption* just to reproduce labour-power even physiologically. So one can say that, in this sense, capitalism increases the value of labour-power by making its exploitation more intensive.[66] One can especially find negative confirmation of this effect of the accumulation of capital on the value of labour-power. Once wages decline below a certain level (especially under the effects of wars or reactionary dictatorships), the productive effort of the workers will decline and labour-power will not be reconstituted to its full productive capacity, as a result of too low a level of wages.

How, then, has it been possible for so many writers, for so long, to have attributed to Marx a 'theory of absolute impoverishment

66. We have noted that the *value* of labour-power is an objective category. This implies, among other phenomena, that an important increase in the intensity of the labour process leads to an increase in the value of labour-power, all other things remaining equal. A higher expenditure of labour-power implies the need for higher consumption, for example, food of higher calory content, to avoid an erosion of the capacity to work. Rosdolsky (op. cit., Vol. 1, p. 331) in this respect draws attention to a distinction made by Otto Bauer between 'physiological needs' born from the simple life process of the worker, and those needs born from the work process, the second expanding progressively compared with the first in step precisely with the growing intensification of work under capitalism.

of the workers under capitalism' which obviously implied a theory of tendential fall in the value not only of labour-power but even of real wages?[67] In the first place because Marx, in his youthful writings, did in fact hold such a theory – for example, in the Communist Manifesto.[68] But this was formulated before he had brought his theoretical understanding of the capitalist mode of production to its final, mature conclusion. It is only in the years 1857–8 that we have the birth of Marx's economic theory in its rounded, consistent form. After he had written *A Contribution to the Critique of Political Economy* and the *Grundrisse*, there was no longer a trace of any such historical trend towards absolute impoverishment in his economic analysis.

In the second place, because so many writers confuse Marx's treatment of the *value* of labour-power (which depends upon the *value* of the consumer goods the worker buys with his wages) with the category of real wages (determined by the *mass* of consumer goods his wages buy). Under capitalism, given the constant increase in the productivity of labour, these categories can move in opposite directions.[69]

67. See, among others: Pareto, op. cit., p. 63; Ludwig von Mises, *Le Socialisme*, Paris, 1938, p. 438; Schumpeter, *Capitalism, Socialism and Democracy*, pp. 34–8; Karl Popper, *The Open Society*, Vol. 2, pp. 155–8; W. Arthur Lewis, *Theory of Economic Growth*, London, 1955, p. 298; Eric Roll, *A History of Economic Thought* (2nd edition), London, 1954, pp. 284, 293, etc. Two authors who, though they have studied Marx closely and call themselves Marxists, nevertheless repeat the same mistaken view are John Strachey in *Contemporary Capitalism*, London, 1956, pp. 101–8 and Fritz Sternberg in *Der Imperialismus*, Berlin, 1962, pp. 57–60. More objective are Paul M. Sweezy's account in *The Theory of Capitalist Development*, Oxford, 1943, pp. 87–92, and J. Steindl's in *Maturity and Stagnation in the American Economy*, Chapter 14, Oxford, 1952.

68. 'Manifesto of the Communist Party', *The Revolutions of 1848*, Pelican Marx Library, 1973, pp. 74–5, 78.

69. *Capital*, Vol. 1, Chapter 17 (see below, p. 659), contains the key formula in that respect: 'In this way it is possible, given increasing productivity of labour, for the *price* of labour-power to fall constantly and for this fall to be accompanied by a constant growth in the *mass* of the worker's means of subsistence' (our stress). In the same way, in a famous passage at the end of 'Wages, Price and Profit', Marx says that: '... consequently the general tendency of capitalistic production is not to raise but to sink the average standard of wages, or to push the *value of labour* to its minimum limit' (*Selected Works* in one volume, p. 225) and he adds that efforts to *increase wages* 99 times out of 100 only tend to maintain the value of labour-power. This whole argument applies to the trend of the *value* of labour-power, not to that of real wages.

In the third place, because two famous passages in *Capital* Volume 1 have been consistently misinterpreted.[70] In both these passages Marx does speak about 'increasing misery' and pauperism, and about 'accumulation of misery'. But the context indicates clearly that what he is referring to is the poverty and misery of the 'surplus population', of the 'Lazarus layer of the working class', that is, of the *unemployed or semi-employed poor*. Revealing studies on poverty in rich countries like the United States and Great Britain[71] have strikingly confirmed that the misery of these old-age pensioners, unemployed, sick, homeless, degraded or irregularly working lower layers of the proletariat *is* indeed a permanent feature of capitalism, including the capitalism of the 'welfare state'. The truth is simply that in passages such as these Marx uses formulations that are ambiguous and so lend weight to confusion on the question.

Does this mean that Marx did not formulate any theory of impoverishment of the working class, or that he made optimistic predictions about the general trend of working-class conditions under capitalism? This would of course be a complete paradox, in the light of what he wrote in Chapter 25 of *Capital* Volume 1. The point to be made is simply that this chapter – like all of Marx's mature writings on this subject – *is not concerned with movements of real wages at all*, any more than the chapters on value are about movements of market prices of commodities other than the commodity labour-power. This is clearly indicated in the very passage in question by Marx's statement that as capital accumulates the situation of workers becomes worse *irrespective of whether their wages are high or low*.[72]

What we in fact have here is a theory of a tendency towards *relative impoverishment* of the working class under capitalism in a

70. See below, Chapter 25, Section 4, pp. 797–8, 799.

71. See, for example, Michael Harrington's already classic *The Other America*, Harmondsworth, 1963, and the equivalent British study by Brian Abel Smith and Peter Townsend, *The Poor and the Poorest*, London, 1963, which estimates that 14 per cent of the British population (7 million people!) were living in, or on the margin of, poverty twenty years after the establishment of the welfare state! To have revealed that such poverty is rooted in the *system* of wage-labour, and that no permanent elimination of it (i.e. a guaranteed standard of living for all human beings, irrespective of how much they work or indeed whether they work at all) is possible without upsetting the economic compulsion to sell the proletarian's labour-power, is one of Marx's most epoch-making discoveries and fundamental to his economic theory.

72. See below, p. 799.

double sense. Firstly, in the sense that productive workers tend to get a smaller part of the new value they produce: in other words there is a trend towards an increase in the rate of surplus-value. Secondly, in the sense that *even when wages rise* the needs of the workers as human beings are denied. This applies even to their additional consumer needs that grow out of the very increase in the productivity of labour which results from the accumulation of capital. One has only to think of the unfulfilled needs of workers in the fields of education, health, skill acquisition and differentiation, leisure, culture, housing, even in the richest capitalist countries of today, to see how this assumption remains accurate in spite of the so-called 'consumer society'. But it applies much more to the needs of the worker as a producer and a citizen – his need to develop a full personality, to become a rich and creative human being, etc.; these needs are brutally crushed by the tyranny of meaningless, mechanical, parcellized work, alienation of productive capacities and alienation of real human wealth.

In addition to this law of *general relative* impoverishment of workers under capitalism, Marx also notes a trend towards *periodic absolute* impoverishment, essentially in function of the movement of unemployment. This is closely linked to the inevitability of cyclical fluctuations under capitalism, that is the inevitability of periodic crises of overproduction, or 'recessions' as they are called today with less provocative connotations.

There is also another aspect of Marx's theory of wages over which, for almost a century, controversy has raged. This is the question of the different values of 'skilled labour-power' and 'unskilled labour-power' (whether related or not to the question of whether Marx gives a satisfactory explanation of the fact that, according to his labour theory of value, skilled labour produces more value in an hour of work than unskilled labour). Starting with Böhm-Bawerk, some critics have claimed to discover here one of the basic inconsistencies in Marx's economic theory.[73] For if the greater productivity, in value terms, of skilled as opposed to unskilled workers is a function of the higher wages of the former, are we not back at Adam Smith's famous circular argument, in

73. For example. Böhm-Bawerk, op. cit., pp. 80–85; Pareto, op. cit., pp. 52–3; Schumpeter, *Capitalism, Socialism and Democracy*, p. 24, etc. An interesting discussion of this problem was recently provided by Bob Rowthorn, 'Skilled Labour in the Marxist System', in *Bulletin of the Conference of Socialist Economists*, Spring 1974.

which the 'price of labour' determines the 'natural price' of goods but is in turn determined by the 'natural price' of one category of goods, so-called wage goods, that is food?

But in fact Marx avoided such circular reasoning, contrary to what his critics mistakenly assume. He never explained the higher value content of an hour of skilled labour as compared to an hour of unskilled labour by the higher wages which skilled labour receives. This higher content is explained strictly in terms of the labour theory of value, by the additional labour costs necessary for producing the skill, in which are also included the total costs of schooling spent on those who do not successfully conclude their studies.[74] The higher value produced by an hour of skilled labour, as compared to an hour of unskilled labour, results from the fact that skilled labour participates in the 'total labour-power' (*Gesamtarbeitsvermögen*) of society (or of a given branch of industry) not only with its own labour-power but also with a fraction of the labour-power necessary to produce its skill. In other words, each hour of skilled labour can be considered as an hour of unskilled labour multiplied by a coefficient dependent on this cost of schooling.[75] Marx speaks in this context of 'composite labour' as against 'simple labour'. The skill, by analogy, can be compared to an additional tool, which is in itself not value-producing, but which transfers part of its own value into the value of the product produced by the skilled worker.

74. This solution was first formulated by Hilferding in his answer to Böhm-Bawerk (op. cit., pp. 136–46), then worked out more explicitly by Hans Deutsch (*Qualifizierte Arbeit und Kapitalismus*, Vienna, 1904) and Otto Bauer ('Qualifizierte Arbeit und Kapitalismus', in *Die Neue Zeit*, 1905–6, No. 20). Deutsch differs from Hilferding in that according to Hilferding only the cost of production of skill (the work of the teacher, etc.) adds to the value of skilled labour-power, whereas for Deutsch the time spent by the apprentice (or student) himself while learning has to be added to those costs. Bauer supports Deutsch's thesis that the 'labour' of the apprentice (student) creates supplementary value and enters the process of value production of the skilled worker, but contrary to Deutsch (and together with Hilferding) he contends that this value increases the surplus-value produced by the skilled worker, not the value of his own labour-power. See on this controversy also Rubin, op. cit., pp. 159–71, and Rosdolsky, op. cit., Vol. 2, pp. 597–614.

75. Rubin, op. cit., pp. 165–6.

10. MARX'S THEORY OF MONEY

Marx's attempt to formulate his own theory of money originates in a significant flaw in Ricardo's economic system.[76] While Ricardo adheres to a strict labour theory of value concerning commodities, he contends that this is true for gold only if the quantity in circulation remains in exact proportion to the mass and prices of other commodities. Increases or decreases in this money circulation would provoke an increase or decrease in commodity prices and this in turn would provoke a further decrease or increase in the value of gold. Marx tries to overcome this inconsistency by integrating his theory of money into his general explanation of value, value production and autonomous value circulation (money circulation, capital circulation), on the basis of a rigorous application of the labour theory of value.

As with the theory of value, the most important aspect of this monetary theory is the qualitative one, which has hitherto received too little attention from either the critics or the disciples of Marx. The fact that social labour, in a society based upon generalized commodity production, is fragmented into many segments of private labour executed independently of each other leads, as we have seen, to the result that its social character can only be recognized *post festum*, through the sale of the commodity and depending upon the amount of equivalent it receives in this sale. The social character of the labour embedded in the commodity, therefore, can only appear as *a thing* outside the commodity – that is, money. The fact that relations between human beings appear under capitalism (generalized commodity production) as relations between things – a phenomenon which Marx analysed at length in the fourth section on 'The Fetishism of the Commodity' of Chapter 1 of *Capital* Volume 1 (see pp. 163–77 below) – should, therefore, not be understood in the sense that people under capitalism, being in the grip of false consciousness, have the illusion of being confronted with things when in reality they are confronted with specific social relations of production. It is also an objective necessity and compulsion. Under conditions of generalized commodity production, social labour *cannot* be immediately recognized otherwise than through its exchange against money. The circulation of commodities cannot but produce its own

76. Karl Marx, *A Contribution to the Critique of Political Economy*, pp. 170–79.

counterpart in the circulation of the medium of exchange, money.[77] Money is the necessary materialization of abstract social labour: that is the qualitative determinant in Marxist monetary theory.

It is by losing sight of this fundamental social nature of money, rooted in specific social relations of production, that so many authors, including Marxist ones,[78] have been tempted to give money, and money-creation, functions which they cannot fulfil in a society based upon private property. To assume an 'automatic' realization of the exchange-value of commodities through the creation of an 'adequate' volume of money presupposes that that value is pre-established, that all labour expended on the production of these commodities was socially necessary labour. In other words, it presupposes that there exists a permanent equilibrium of supply with effective demand and, therefore, that there is no commodity production at all but *a priori* adaptation of production to consciously registered needs. Under capitalism, including monopoly capitalism, this can never be achieved.

Money born from the process of exchange, from the circulation of commodities, can realize the value of these commodities only because it itself has value, because it itself is a commodity produced by socially necessary abstract labour. Marx's theory of money is, therefore, above all a *commodity theory of money* in which the monetary standards (precious metals) enter the process of circulation with an intrinsic value of their own. From that point of view, Marx must reject any quantity theory of money applied to money

77. See Marx's footnote at the beginning of Chapter 3 on Money (below, p. 188): 'The question why money does not itself directly represent labour-time, so that a piece of paper may represent, for instance, *x* hours' labour, comes down simply to the question why, on the basis of commodity production, the products of labour must take the form of commodities. This is obvious, because their taking the form of commodities implies their differentiation into commodities [on the one hand] and the money commodity [on the other]. It is also asked why private labour cannot be treated as its opposite, directly social labour.'

78. For example, Hilferding's proposal (*Das Finanzkapital*, pp. 29–30) for a category called 'socially necessary value of circulation' (*gesellschaftlich notwendiger Zirkulationswert*), established by dividing the sum of *values* of all commodities by the velocity of circulation of money. Hilferding does not notice the incongruity of dividing quantities of value, i.e. socially necessary labour quanta, by the velocity of circulation media. Only prices (the *monetary* expression of value) can, of course, be so divided. Commodities cannot enter the circulation process except with (preliminary) prices. (See *A Contribution to the Critique of Political Economy*, pp. 66–8.)

based upon a gold or gold-and-silver basis. When, with a given velocity of circulation, a given amount of gold has a value higher than that of the total mass of commodities against which it exchanges itself, it can no more 'lose' value (that is, provoke an increase of prices through abundance of bullion) in the circulation process than any other commodity. What happens is simply that part of it will be withdrawn from circulation and hoarded, until such time as the need for circulation again increases.

But if such a commodity theory of money implies a straight rejection of the quantity theory, as long as money is directly based upon precious metals, it points in the opposite direction as soon as we are faced with paper bank notes which function in reality as *representatives* of, and tokens for, precious metals. In this case, quite independently of whether or not there is legal convertibility of paper into gold,[79] emission of paper money to the amount which, at a given value of gold and a given velocity of circulation of the bank notes, enables it to realize the prices of all the commodities in circulation, will leave these prices unaffected. But if this amount of paper money in circulation is doubled at its face value, all other things remaining equal, prices expressed in that currency will also double, not in contradiction with, but in application of, the labour theory of value. To simplify, if we presume that each unit of gold circulates only once a year, the equation 1,000,000 tons of steel = 1,000 kilos of gold means that the same quantity of socially necessary abstract labour (say 100,000,000 man hours) has been necessary to produce the respective quantities of steel and gold. If £1,000,000 represents 1,000 kilos of gold, then the fact that the price of 1 ton of steel is £1 is just a straight expression of the equality in value (in quantities of abstract labour) between 1 ton of steel and 1 kilo of gold. But if, through additional issuing of paper money, 1,000 kilos of gold is now represented by £2,000,000 instead of £1,000,000, then, all other things remaining equal, the price of steel will rise from £1 to £2 in strict application of the labour theory of value.

This does not mean that, with regard to paper money, Marx was the proponent of any mechanistic quantity theory. There is an evident analogy between his theory and the traditional forms of

79. This was, for example, the case in France after its military defeat by Germany in 1870–71, when the payment of a heavy gold war indemnity to the Reich imposed a temporary suspension of convertibility of the franc without provoking any inflationary price movement in the Third Republic.

the quantity of money; but this analogy is limited by two essential factors. In the first place, for Marx, with paper money as with metallic money, it is the movement of the value of commodities, that is fluctuations of material production and of productivity of labour, which remains the *primum movens* of price fluctuations, not the ups and downs of the quantity of paper money in circulation.[80] In that respect, in *Capital* Volume 3, Marx examines the need to increase money circulation at the moment of the outbreak of the crisis, and he sharply criticizes the role which the Bank of England played, through the application of the 'currency principle', in accentuating money panics and monetary crises as accelerators of crises of overproduction when these coincided with an outflow of gold from England. In the same way, however, he denied any possibility of preventing recessions by issuing additional money.[81]

In the second place, Marx understood perfectly that the dialectical interrelationship of all the elements of a mechanistic quantity theory equation excludes the possibility of simply deriving conclusions from independent variations of a single one of these elements. He knew, for example, that the velocity of circulation of money was co-determined by the trade cycle, and could not be considered stable in a given phase when only the quantity of money was supposed to change. But an analysis of his opinions on all these subjects as well as a short comment on his whole theory of the role of money in the trade cycle and of fictitious capital has its place in the introduction to Volume 3 rather than Volume 1 of *Capital.*

With the development and generalization of commodity production, money becomes more and more transformed into money capital. It is more and more replaced by 'monetary signs' in the process of circulation, and becomes more and more transformed from a means of exchange into a means of payment, that is into the counterpart of debts, into an instrument of credit. But in examining the credit role of money Marx maintains a rigorous adherence to the labour theory of value, so that his whole economic system is thoroughly 'monistic'. Money as the general equivalent of the

80. Except in cases of galloping inflation.

81. See Karl Marx, *Capital*, Vol. 3, p. 503. In the margin of the first edition of *Capital* Vol. 1, Marx added a note to Chapter 3, converted by Engels in subsequent editions into a footnote (see below, p. 236n.), in which he indicated the distinction between monetary crises as expressions of general crises of overproduction, and autonomous monetary crises.

exchange value of all commodities and money as the means to settle debts (resulting out of the generalization of sales on credit) are both claims on a given fraction of the total labour expenditure of society in a given period. Whatever the 'nominal' value of the currency, and whatever the 'standard of measurement' of prices, it is obviously impossible to distribute more labour quantities than have been produced and stocked within the same period of time. On the other hand, given the very nature of commodity production, no general increase of money circulation (no increase of 'aggregate demand') can in the long run prevent the eventuality that a whole series of commodities produced will not meet the 'specific demand' they need to allow their proprietors to realize at least the average rate of profit. Technological changes, differences in productivity between different plants and firms, changes in real wages and in the structure of consumer expenditures, changes in the rate of profit entailing changes in the direction and structure of investment: all these complex movements which make the trade cycle and periodic recessions possible and indeed unavoidable under conditions of generalized commodity production cannot be eliminated by manipulation of currency volume or currency units. Experience since Marx's death, and especially since the 'Keynesian revolution', fully confirms the correctness of this diagnosis, although it also confirms that, under specific conditions and within specific limits, monetary policies can reduce the *amplitude* of economic fluctuations, a fact of which Marx was perfectly aware.[82]

Marx's short comments on the dual nature of gold, as the basis 'in the last resort' of all paper money systems and as the only possible 'world currency' acceptable for final settlement of accounts between the central banks (and bourgeois classes) of different nations, make especially interesting reading today, when the Bretton Woods monetary system has broken down because of the inconvertibility of the dollar into gold. It is interesting to note that Marx, while rejecting all theories which explain the 'value' of money by convention or state compulsion,[83] does relate this role of gold as a means of final settlement of accounts on an international scale to the specific role of the bourgeois state. Among the functions of the state is that of creating the 'general conditions for capitalist production'. A coherent and accepted currency cer-

82. Karl Marx, *Capital*, Vol. 3, Chapter 34, especially p. 539.

83. Karl Marx, *Grundrisse*, p. 165; *A Contribution to the Critique of Political Economy*, p. 116.

tainly belongs to these 'general conditions'. Paper money with a fixed rate of exchange (*Zwangskurs*) can be imposed only *through the authority of the state* within given limits.[84] But where this authority is absent, proprietors of commodities cannot be forced to accept in exchange for their goods paper money whose rate they consider inflated. 'Paper gold' as a universal means of exchange and payment on the world market presupposes, therefore, a world government, in other words the absence of inter-imperialist competition and, therefore, in the last analysis the withering away of private property. To expect such a situation to occur under capitalism is utopian.

Marx's theory of money has been much less analysed, criticized and discussed by later Marxists than other parts of his economic theory.[85] An interesting discussion did, however, occur on the eve of the First World War between Hilferding, Kautsky and Varga, on the possibility of deducing from the *value* of commodities a 'socially necessary volume of money' – a hypothesis which is obviously mistaken since it confuses the *value* of commodities with their *price*.[86] Varga, moreover, in a series of polemics which were continued in the early twenties, persisted in maintaining that, as central banks bought gold at a fixed price, the fluctuations of the intrinsic value of gold would not influence the general level of prices, but only govern the ups and downs of the differential rent commanded by gold mines with a productivity above the level allowing the average rate of profit at the given price of gold.[87] Subsequent developments, especially in the last four or five years, have confirmed that both these attempted corrections of Marx's theory of money were unfounded and wrong.

84. Karl Marx, *Grundrisse*, pp. 121–35; *A Contribution to the Critique of Political Economy*, pp. 116, 119–22, 149–53.

85. A rare exception is the book by Bruno Fritsch, *Die Geld- und Kredittheorie von Karl Marx*, Frankfurt, 1968, which, although very critical, recognizes Marx's merit as the 'first real theoretician of credit'. Much weaker was an earlier book by H. Block, *Die Marxsche Geldtheorie*, Jena, 1926.

86. Karl Kautsky, 'Geld, Papier und Ware', in *Die Neue Zeit*, 1911–12, Nos. 24, 25.

87. Eugen Varga, 'Goldproduktion und Teuerung', in *Die Neue Zeit*, 1911–12, I, No. 7, and 1912–13, I, No. 16; Rudolf Hilferding, 'Geld und Ware', ibid., 1911–12, I, No. 22; Karl Kautsky, 'Die Wandlungen der Goldproduktion und der wechselnde Charakter der Teuerung', Erganzungschaft No. 16, *Die Neue Zeit*, 1912–13; Otto Bauer, 'Goldproduktion und Teuerung', *Die Neue Zeit*, 1912–13, II, Nos. 1 and 2. This discussion continued between Varga and E. Ludwig in 1923, in the theoretical organ of the KPD, *Die Internationale*.

II. *CAPITAL* AND THE DESTINY OF CAPITALISM

It is above all through its integration of theory and history that Marxism manifests its superiority in the economic domain over classical and neo-classical political economy. It is through its ability to foresee correctly long-term trends of capitalist development, including the main inner contradictions of the capitalist mode of production which propel this long-term development forward, that *Capital* continues to fascinate friend and foe alike. Those who, generation after generation, continue to accuse Marx of 'unscientific' *parti pris* or speculative excursions into the realms of prophecy[88] cannot escape the burden of proof. It is up to them to account for the mysterious fact that a thinker according to them so devoid of analytical tools should have been able unfailingly to work out the long-term laws of motion that have determined the development of capitalism for a century and a half.

Apart from the so-called law of increasing absolute impoverishment of the working class wrongly attributed to Marx, the aspect of the latter's theoretical conclusions concerning the capitalist mode of production which has been most consistently under attack since *Capital* Volume 1 first appeared has been the so-called 'theory of the inevitable collapse of capitalism' (*Zusammenbruchstheorie*). First strongly challenged by the Bernsteinian 'revisionists' within the socialist movement, and only weakly defended by most orthodox Marxists of the epoch,[89] the theory has been exposed to ridicule by a monotonous succession of authors in the last decades. All have asked the ritual rhetorical question: has not the capitalist mode of production shown a capacity of adaptation and self-reform far beyond anything which Marx foresaw?[90]

88. The most outstanding example is that of Popper, *The Open Society and its Enemies*, Vol. 2. See also, by the same author, *Conjectures and Refutations*, pp. 336–46, quoted above.

89. For Bernstein's questioning of the breakdown theory see, for example, op. cit., pp. 113–28. For a very mild reply see Heinrich Cunow, 'Zur Zusammenbruchstheorie' in *Die Neue Zeit*, 1898–9, I, pp. 424–30. In *Das Finanzkapital* Hilferding already raised the theoretical possibility of an 'organized' capitalism without crises, through the operations of a 'general cartel' (op. cit., p. 372).

90. See, for example, Tugan-Baranovsky, op. cit., pp. 236–9; Schumpeter, *Capitalism, Socialism and Democracy*, p. 42; Popper, *The Open Society and its Enemies*, Vol. 2, p. 155 et al.; C.A.R. Crosland, *The Future of Socialism*,

Arguments along these lines usually contain a basic flaw: they try to prove too much. They contend that capitalism has survived so many crises that nobody can seriously challenge its capacity to survive future ones. But at the same time they also contend that the present economic system in the West cannot any longer be characterized as 'capitalist'; and that through successive self-reform and adaptation, in order to overcome crises which threatened to wreck it, capitalism has transformed itself into a new social organization of the economy. This they most often characterize by the term 'mixed economy', although a host of other formulas such as 'managerial capitalism', 'organized capitalism', 'managerial society', 'technostructure rule', etc. have at times been devised to describe it.[91]

But *Capital* is not simply a powerful tool for understanding the great lines of world development since the industrial revolution. It also furnishes us with a clear and unequivocal definition of what the capitalist mode of production essentially represents. Capitalism is neither a society of 'perfect competition', nor a society of 'increasing pauperism', nor a society where 'private entrepreneurs rule the factories', nor even a society in which 'money is the one and only master'. Vague and imprecise definitions of this type, which allow evasion of the *basic* issues, lead to endless confusion about the relationship of today's economic system in the West with the economic system analysed by *Capital*.[92] *Capital* shows that the capitalist mode of production is fundamentally determined by

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London, 1956, pp. 3–5, etc. An interesting and voluminous anthology of texts related to the *Zusammenbruchstheorie* has been published in Italy by Lucio Colletti and Claudio Napoleoni, *Il futuro del capitalismo – crollo o sviluppo?*, Bari, 1970.

91. It is impossible to list all the important authors who have evolved this type of analysis. It is sufficient to indicate the main trends: that of James Burnham's 'Managerial Revolution'; that of the social democrats and Samuelson's 'mixed economy' (see Crosland, op. cit., pp. 29–35); that of Robin Morris's 'Managerial Capitalism'; and that of Galbraith's 'technostructure' (*The New Industrial State*) which follows, perhaps unknowingly, the analysis of the German Social Democrat Richard Loewenthal (writing under the pen-name Paul Sering), in *Jenseits des Kapitalismus*, Nuremberg, 1946.

92. Here a characteristic statement by Popper: 'How utterly absurd it is to identify the economic system of the modern democracies with the system Marx called "capitalism" can be seen at a glance, by comparing it with his ten-point programme for the communist revolution' (in the Communist Manifesto of 1848) (*The Open Society and its Enemies*, Vol. 2, p. 129).

three conditions and three only: (1) the fact that the mass of producers are not owners of the means of production in the economic sense of the word, but have to sell their labour-power to the owners; (2) the fact that these owners are organized into separate firms which compete with each other for shares of the market on which commodities are sold, for profitable fields of investment for capital, for sources of raw materials, etc. (that is, the institution of private property in the economic sense of the word); (3) the fact that these same owners of the means of production (different firms) are, therefore, compelled to extort the maximum surplus-value from the producers, in order to accumulate more and more capital – which leads, under conditions of generalized commodity production and generalized alienation, to constantly growing mechanization of labour, concentration and centralization of capital, growing organic composition of capital, the tendency for the rate of profit to fall, and periodically recurrent crises of over-production.

If these are the criteria, there can be no question that Western society is still capitalist; that wage-labour and capital are still the two antagonistic classes of society; that accumulation of capital is more than ever the basic motive force of that society; and that the extortion and realization of private profit governs the basic drive of separate firms.

Such aspects of contemporary Western society as the fact that some of these firms are nationalized; that there is growing state intervention in the economy; that competition has become 'imperfect' (that it is no longer essentially fought by cutting prices, but rather by reducing production costs and increasing distribution and sales); that workers have strong trade unions (except when, under conditions of violent social crisis, bourgeois democratic freedoms are abolished) and that their standard of living has risen far more than Marx expected it to rise – all this in no way abolishes or reduces the relevance of the basic structural features of capitalism, as defined by *Capital*, from which all the basic laws of motion of the system flow. These basic laws of motion thus continue to remain valid.

Without courting paradox one could even contend that, from a structural point of view, the 'concrete' capitalism of the final quarter of the twentieth century is much closer to the 'abstract' model of *Capital* than was the 'concrete' capitalism of 1867, when Marx finished correcting the proofs of Volume 1. Firstly, because the intermediate class of small independent producers, proprietors of their own means of production, which was still a significant social layer a century ago, has today nearly been eroded out of existence; dependent wage and salary earners, compelled to sell their labour-power, now amount to over 80 per cent of the economically active population in most Western countries and in several to over 90 per cent. Secondly, because concentration and centralization of capital has led to a situation where not only do a couple of hundred giant corporations dominate the economy of each imperialist country, but a few hundred multi-national corporations also concentrate in their hands one third of all the wealth of the capitalist *world* economy. Thirdly, because the productivity and the objective socialization of labour have increased to such an extent that production of value for private enrichment has become absurd beyond anything Marx could have foreseen a century ago and the world cries out so compellingly for a planned husbanding of resources to satisfy needs on the basis of consciously and democratically chosen priorities that even opponents of socialism cannot fail to understand the message.[93]

Why then, one might ask, have the expropriators not yet become the expropriated, and why does capitalism still survive in the highly industrialized countries? The answer to that question would involve a detailed critical review of twentieth-century political and social history. But the whole point is, of course, that Marx never predicted any sudden and automatic collapse of the capitalist system in one 'final' crisis, due to a single economic 'cause'. In the famous Chapter 32 of *Capital* Volume 1, 'The Historical Tendency of Capitalist Accumulation', Marx describes economic tendencies provoking a reaction from social forces. The growth of the proletariat, of its exploitation, and of organized revolt against that exploitation, are the main levers for the overthrow of capitalism. Centralization of the means of production and objective socialization of labour create the economic preconditions for a society based upon collective property and free co-operation by associated producers. But they do not automatically produce such a society on some universal day of victory. They have to be consciously utilized, at privileged moments of *social* crisis, to bring about the revolutionary overthrow of the system.

Marx was as far removed from any fatalistic belief in the automatic effects of economic determinism as any social thinker could

93. See, for example, the reaction of scholars like Barry Commoner (*The Closing Cycle*, London, 1972) to the ecological crisis.

be. He repeated over and over again that men made and had to make their own history, only not in an arbitrary way and independently from the material conditions in which they found themselves.[94] Any theory of the collapse of capitalism, therefore, can only present itself as Marxist if it is a theory of conscious overthrow of capitalism, that is, a theory of socialist revolution.[95] Chapter 32, at the end of *Capital* Volume 1, only indicates in very general terms how and why objective inner contradictions of the capitalist mode of production make this overthrow both possible and necessary. The rest has to result, in Marx's words, from the growth of 'the revolt of the working class, a class constantly increasing in numbers, and trained, united and organized by the very mechanism of the capitalist process of production'.

In other words, between the growing economic contradictions of the capitalist mode of production on the one hand, and the collapse of capitalism on the other hand, there is a necessary mediation: the development of the class consciousness, organized strength and capacity for revolutionary action of the working class (including revolutionary leadership). *That* chapter of Marxist theory is not incorporated into *Capital.* Perhaps Marx intended to discuss it in the book on the State which he wanted to write but never came even to draft. At all events, he left no systematic exposition of his thought in this respect, although many ideas on the subject are to be found scattered throughout his articles and letters. It was up to his most gifted followers, foremost among them Lenin, Trotsky and Rosa Luxemburg, to deal systematically with what one might call 'the Marxist theory of the subjective factor'.

94. See, for instance, the end of Marx's remarkable letter to Friedrich Bolte of 23 November 1871 (*Selected Correspondence*, pp. 269–71) in which he explains the necessity for previous organization of the working class in order for it to be able to challenge the bourgeoisie for political power, and the fact that without such systematic education through propaganda, agitation and action, the working class remains a captive of bourgeois politics.

95. Rosa Luxemburg admirably synthesized the contradictory trends as early as 1899: 'The production relations of capitalist society approach more and more the production relations of socialist society. But on the other hand, its political and juridical relations [and, one might add, their ideological reflections in the minds of men as well] establish between capitalist society and socialist society a steadily rising wall. This wall is not overthrown but on the contrary strengthened and consolidated by the development of social reforms and the course of [bourgeois parliamentary] democracy' ('Reform or Revolution', in Mary Alice Waters (ed.), *Rosa Luxemburg Speaks*, New York, 1970, p. 57).

The survival of capitalism to this day in the most industrialized countries has certainly given it a life-span far beyond what Marx expected. But this is not because the system has developed in essentially other directions than those predicted by *Capital*. Nor is it because it has been able to avoid a periodic repetition of explosive social crises. On the contrary, since the Russian revolution of 1905, and certainly since the outbreak of the First World War, such crises have become recurrent features of contemporary history.

In the course of such crises, capitalism has indeed been overthrown in many countries, Russia and China being the most important. But contrary to what Marx expected, this overthrow occurred not so much where the proletariat was most strongly developed numerically and economically, as a result of the greatest possible extension of capitalist industry, that is, in those countries which also have a powerful bourgeois class. It occurred rather in those countries where the bourgeoisie was weakest and where, therefore, the political relationship of forces was favourable for a young proletariat capable of gaining the support of a strongly rebellious peasantry. This historical detour can be understood only if one integrates into the analysis two key factors: on the one hand, the development of imperialism and its effect on the large part of the human race which lives in socially and economically underdeveloped societies (the law of uneven and combined development); on the other hand, the interrelationship between the lack of revolutionary experience on the part of the Western working class during the long period of 'organic growth' of imperialism (1890–1914) and the growing reformism and integration of social democracy into bourgeois society and the bourgeois state which were responsible for the failure of the first large-scale revolutionary crises in the West, in 1918–23 (above all in Germany and Italy). As a result of this failure, the victorious Russian revolution itself became isolated, and the international working-class movement went through the dark interlude of Stalinism, from which it only slowly began to emerge in the nineteen-fifties. This brings us back to what I have called the Marxist theory of the subjective factor – and incidentally explains why, after the rich flowering of Marxist economic theory in the period 1895–1930, a quarter of a century of almost total stagnation occurred in that field too.

The debate around the *Zusammenbruchstheorie* has suffered from a confusion between two different questions: the question whether the replacement of capitalism by socialism is inevitable (an inevitable result of the inner economic contradictions of the capitalist mode of production); and the question whether, in the absence of a socialist revolution, capitalism would live on for ever. A negative answer to the first question in no way implies a positive one to the second. Indeed, classical Marxists, following the young Marx, formulated their prognosis in the form of a dilemma: socialism or barbarism.

The social catastrophes which mankind has witnessed since Auschwitz and Hiroshima indicate that there was nothing 'romantic' in such a prognosis, but that it expressed a clear insight into the terrifying destructive potential of exchange-value production, capital accumulation, and the struggle for personal enrichment as ends in themselves. The concrete mechanics of the economic breakdown of capitalist economy may be open to conjecture. The interrelationship of the downturn of value production (decline of the total number of labour hours produced as a result of semi-automation), of the increasing difficulty of realizing surplus-value, of increasing output of waste not entering the reproduction process, of increasing depletion of national resources and, above all, of long-term decline of the rate of profit, is still far from clear.[96] But a very strong case can be made for the thesis that there are definite limits to the adaptability of capitalist relations of production, and that these limits are being progressively attained in one field after another.

It is most unlikely that capitalism will survive another half-century of the crises (military, political, social, monetary, cultural) which have occurred uninterruptedly since 1914. It is most probable, moreover, that *Capital* and what it stands for – namely a scientific analysis of bourgeois society which represents the proletariat's class consciousness at its highest level – will in the end prove to have made a decisive contribution to capitalism's replacement by a classless society of associated producers.

96. I shall return to this whole subject, and especially to the relationship of the breakdown controversy to the tendency for the average rate of profit to decline, in the introduction to *Capital*, Vol. 3.

ERNEST MANDEL

Appendix

Results of the Immediate Process of Production

Our knowledge and understanding of *Capital* has been significantly advanced during the last decades as a result of the publication in the thirties of two previously unknown major texts by Marx. The first of these was, of course, the *Grundrisse*, which the Pelican Marx Library has now made available to English-speaking readers in a separate volume. The second was an originally planned Part Seven of Volume 1 of *Capital*, published here for the first time in an English translation. Entitled 'Resultate des unmittelbaren Produktionsprozesses' ('Results of the Immediate Process of Production'), and hereafter referred to as the *Resultate*, it was first published in 1933, simultaneously in Russian and German, by Adoratsky in Volume II of *Arkhiv Marksa i Engelsa* (*Marx-Engels Archives*), printed in Moscow. Only when it was reprinted in German and other Western European languages in the late sixties did it become an object of intense study by Marxists and academic 'Marxologists' alike.

It seems to have been written between June 1863 and December 1866,[1] that is after the 1861–3 manuscript (the enormous twenty-three notebooks) was completed. Indeed, Kautsky published an excerpt from notebook 18 (undated, but which he supposes to have been written in December 1862) in which the final draft contents for Volume 1 of *Capital* are listed. After the first five parts, which are maintained in the final version, it reads as follows:

6. Reconversion of surplus-value into capital. Primitive accumulation. Wakefield's colonial theory.
7. Result of the production process. – The change in the form of the law of appropriation can be shown either under 6 or under 7.
8. Theories of surplus-value.
9. Theories of productive and unproductive labour.[2]

1. This suggestion is put forward by Bruno Maffi, in his interesting 'Presentation' to the recent Italian translation (Marx, *Il Capitale: Libro I, capitolo VI inedito*, Florence, 1969).

2. Karl Kautsky, 'Vorrede', in Karl Marx, *Theorien über den Mehrwert*, Vol. 3, Stuttgart, 1910, p. viii.

We know that 8 and 9 were relegated by Marx from Volume 1 to Volume 4. A new Part Six was introduced into the final version of Volume 1, entitled 'Wages' ('Arbeitslohn'). The original 6 thus became Part Seven, with a new and striking title: 'The Accumulation of Capital' We know already that the new Part Six on wages was introduced as a result of the change made by Marx in the plan for the whole of *Capital*, when he abandoned his intention to deal with wage-labour in a later and separate volume. But why was the originally planned Part Seven discarded? (As written, it is entitled 'Chapter Six'. 'Seven' was changed into 'Six' because Marx intended at the time to publish the present Part One as an introduction. 'Chapter' was the term he was using at the time for what in the published version became 'Part'.) For the time being, it is impossible to give a definitive answer to that question, on the basis of the knowledge which we possess about the development of Marx's thought between 1863 and 1866. Possibly the reason lay in Marx's wish to present *Capital* as a 'dialectically articulated artistic whole'.[3] He may have felt that, in such a totality, 'Chapter Six' would be out of place, since it had a double *didactic* function: as a summary of Volume 1 and as a *bridge* between Volumes 1 and 2.

Be that as it may, in the light of this intended double function, the *Resultate* contains many illuminating insights, not only regarding Volume 1 but also regarding Volume 2. I shall just mention in this respect the *explicit* statement by Marx, so often contested by his critics and by some of his followers too, that he considered the *constant expansion of the capitalist market as absolutely necessary for the survival of the capitalist mode of production.* For precisely because capitalist production is production through a growing mass of machinery, a growing fixed capital, a growing organic composition of capital, it is also of necessity mass production of commodities on a constantly increasing scale, whose sale demands a constantly growing market.

The key aspect of the *Resultate* relates to the synthesis of the capitalist mode of production as production of surplus-value and production of commodities produced by capital, and to the interconnected problem of the origin and content of the increased productivity of labour without which no increase in surplus-value production would be possible in the long term. For this purpose, Marx introduces a distinction between what he calls the formal and the real 'subsumption of labour under capital'. Formal subsumption is characteristic of the period of manufacture; real subsumption is characteristic of the modern factory, with its constant revolution of production techniques and methods. Using this distinction, he unfolds the particular inner logic of capitalism in pages which have an 'up-to-date' ring matched by few other writings by nineteenth-century economists. The search for a constant increase in surplus-value production implies a search for constant

3. Karl Marx, letter to Engels of 31 July 1865, in *MEW* 31, p. 132.

reductions in cost price, a constant cheapening of commodities. Thereby capital, rather than adapting itself to a given structure of demand or socially acknowledged needs, by revolutionizing production revolutionizes demands and needs themselves, expanding markets, provoking new needs, creating new products and new spheres into which production of exchange values for more value, production for profit, makes its appearance.

This leads to a constant expansion of technology, of the use of and search for scientific discoveries applicable in the production process itself. These discoveries too become a business subsumed under capital. So a new and formidable source of increased productivity of labour appears, unknown before the modern factory. Marx denounces the mystification which consists in considering science both as a 'source of value' and as a 'proof' that 'capital is productive'. He stresses the fact that, under capitalism, labour should not be seen as manual labour only, but as the *combined or collective labour potential* (*kombiniertes Arbeitsvermögen, Gesamtarbeitsvermögen*) of all those whose labour is indispensable to produce the final product. He even uses the concept of the 'collective worker', the 'global worker' (*Gesamtarbeiter*), in this respect. The value-producing process is the manifestation of labour-time spent by all those who co-operate in production while selling their labour-power to the capitalist. This 'global worker' explicitly included, for Marx, engineers, technologists and even managers.[4]

It would be possible, at this point, to deal with the important controversy still raging among students and followers of Marx concerning the exact definition of, and distinction between, 'productive' and 'unproductive' labour. I prefer, however, to relegate this discussion to the introduction to Volume 2. For the real difficulty in establishing the distinction does not, in fact, hinge so much upon what occurs *inside* the process of production – this problem is adequately clarified in the *Resultate* – as upon the distinction *between* production and circulation of commodities and upon the problem of the so-called service industries. The final version of Marx's opinion in that respect (his initial views had been expressed in *Theories of Surplus-Value*) can be found in *Capital* Volume 2.

What is necessary, however, is to stress that what we find extensively dealt with in the *Resultate* is nothing but a further development of one of the most striking aspects of the *Grundrisse*, namely Marx's theory of the *objective socialization of labour by capitalism*. For what Marx sketches in these pages – summarizing what is already developed in Chapter 15 of Volume 1 – is the way in which the integration of science and production, the development of technology and of machinery, has a twofold way of objectively denying the private character *of work and of labour* which is the very essence of commodity production.

4. See below, pp. 1052–5.

On the one hand, inside the factory, the individual labourer and the individual scientist alike can work only as part of a team. They can no longer do individual jobs in function of individual inclinations, regardless of the activities of other members of the team. Their jobs have become part of a *co-operative totality* which, potentially, once capitalism has been superseded by the reign of the associated producers, will open up undreamt-of possibilities for the development of individual talents and capacities too, precisely because this high level of objective co-operation of labour immensely widens the general scope of human endeavour and potential self-development.

On the other hand, between factories, branches of industry, countries, the more the centralization of capital advances, the more technical and economic integration advances also, creating closer and closer bonds of objective co-operation between producers who are still living hundreds if not thousands of miles apart. In this way too, capitalism prepares the ground for both the real unity of the human race and the real universality of the individual, made materially possible by this objective socialization of labour.

But under the capitalist mode of production this objective socialization of labour cannot free itself from the shackles of capitalist relations of production. This whole gigantic machinery can function under capitalism only for the purpose and with the goal of private appropriation of profit, of profit maximization by each individual firm, which is something quite distinct from optimum economic development (and even from the optimization of the division and growth of social material resources). The conflict between, on the one hand, the development of the objectively more and more socialized productive forces and, on the other, the capitalist relations of production based upon private appropriation determines both recurrent economic crises and a potential social crisis, which becomes terrifyingly explosive as soon as bourgeois society has fulfilled its progressive mission and enters its period of historical decline.

In this connection, a word is necessary about the fragments published here as 'Isolated Fragments'. Found in the same notebook of Marx's and included in the German manuscript published in 1933, they are not, properly speaking, part of the original Part Seven ('Chapter Six'). Adoratsky entitled them 'Einzelne Seiten' (separate pages). Two of these are especially significant, one discussing the importance and function of trade unions and the second on the function of emigration. Both confirm the interpretation of Marx's theory of wages put forward in the introduction to this volume.

In the first fragment Marx insists on the fact that a trade union is a combination of sellers of the commodity labour-power, which enables them to negotiate the price of this commodity with the capitalists under more equal conditions than if they were to negotiate on an individual basis. As is the case with all commodities, this price can never for very long radically depart from the axis of the value of labour-power around which it oscillates. However, by preventing the capitalists from lowering the value of labour-power, trade unions can at least prevent all the results of increased productivity of labour from automatically accruing to the former: in other words they can achieve an increase in real wages, through the inclusion in the value of labour-power (in its moral-historical element) of the counter-value of new mass-produced commodities satisfying newly acquired needs.

The second fragment emphasizes the limits of emigration from Europe (especially from Britain) overseas, states that the international mobility of labour is inferior to the international mobility of capital, but adds that *if Britain's overseas emigration significantly increased, this would destroy its dominant position on the world market.* This is exactly what did in fact happen.[5] As a result of a significant increase both in British exports of commodities and in British exports of redundant labour, a secular decline of the industrial reserve army occurred, which explains the secular rise in real wages.

5. Between 1841 and 1881, the net outflow of population from Britain was practically nil, Irish and Scottish immigration offsetting English overseas emigration. In the period 1881–91 this net outflow was over 600,000 and in the period 1881–1911 nearly 1·2 million (A. K. Cairncross, *Home and Foreign Investment*, Cambridge, 1953, p. 70).

ERNEST MANDEL

Introduction

1. THE PLACE OF VOLUME 2 IN MARX'S GENERAL ANALYSIS OF CAPITALISM

'The second volume is purely scientific, only dealing with questions *from one bourgeois to another*,' wrote Frederick Engels to the Russian populist, Lavrov, on 5 February 1884. Seventeen months later, he told Sorge: 'The second volume will provoke great disappointment, because it is purely scientific and does not contain much material for agitation.' Finally, on 13 November 1885, he wrote to Danielson: 'I had no doubt that the second volume would afford you the same pleasure as it has done to me. The developments it contains are indeed of such superior order that the vulgar reader will not take the trouble to fathom them and to follow them out. This is actually the case in Germany where all historical science, including political economy, has fallen so low that it can scarcely fall any lower. Our *Kathedersozialisten* have never been much more, theoretically, than slightly philanthropic *Vulgärökonomen*, and now they have sunk to the level of simple apologists of Bismarck's *Staatssozialismus*. To them, the second volume will always remain a sealed book ... Official economic literature observes a cautious silence with regard to it.'[1]

These predictions were to be verified far beyond Engels's fears. In fact, ten years passed before two young Russian Marxists – Tugan-Baranowski followed by S. Bulgakov – made the first application of the main conceptual innovations of Volume 2. And it took nearly another decade for these concepts finally to penetrate Germany and the Western world, through an international debate in which Tugan-Baranowski – albeit

1. Engels to Lavrov: *Marx-Engels Werke*, vol. 36, p. 99; Engels to Sorge: ibid., pp. 296 and 324; Engels to Danielson: ibid., pp. 298 and 384 (see also Marx/Engels, *Selected Correspondence*, Moscow, 1975, pp. 365–6). For *Kathedersozialisten*, etc., see notes on pp. 88 and 101 below.

for the moment continuing to call himself a Marxist – began to revise some of Marx's key theories.[2] Volume 2 of *Capital* has indeed been not only a 'sealed book', but also a forgotten one. To a large extent, it remains so to this very day.

Grave misunderstandings arise, however, if the reader attempts to pass straight from Volume 1 to Volume 3, under-estimating the key place of Volume 2 in the monumental theoretical construction. Marx himself quite precisely clarified this place, in a letter sent to Engels on 30 April 1868: 'In Book I . . . we content ourselves with the assumption that if in the self-expansion process £100 becomes £110, the latter will *find already in existence* in the market the elements into which it will change once more. But now we investigate the conditions under which these elements are found at hand, namely the social intertwining of the different capitals, of the component parts of capital and of revenue (= *s*).'[3] This intertwining, conceived as *a movement of commodities and of money*, enabled Marx to work out at least the essential elements, if not the definitive form of a coherent theory of the trade cycle, based upon the inevitability of periodic disequilibrium between supply and demand under the capitalist mode of production. To forget this role of Volume 2 and jump to Volume 3 carries the danger of evacuating all problems *specific* to the inner contradictions of the commodity – problems of the market, of the realization of value and surplus-value, etc. – which, although touched upon in Volume 1, are only fully developed in Volume 2. We may even say that it was only by dealing with the reproduction of capital in its *totality* that Marx could bring out in their full complexity the inevitable contradictions of the basic cell of capitalist wealth – the individual commodity.

The 'intertwining of the different capitals, of the component parts of

2. Tugan-Baranowski's *Studies on the Theory and History of the Commercial Crises in England* originally appeared in Russian in 1894. According to Rosdolsky this version was radically different from the famous German edition of 1901 which sparked off the international debate (see Roman Rosdolsky, *The Making of Marx's Capital*, London, 1977, p. 470, note 66). Bulgakov's *On the Markets for Capitalist Production* was published in Russian in 1897. In autumn 1893, Lenin had made considerable use of Marx's reproduction schemas in a lengthy article, 'On the So-Called Market Question', which was based on a verbal report given to a St Petersburg social-democratic circle in answer to G. Krassin's lecture on the same subject. However, while the article seems to have circulated in manuscript form in Petersburg, it was not published at the time and was thought to have been lost until its publication in 1937. It now appears in Volume 1 of Lenin's *Collected Works*.

3. Marx/Engels, *Selected Correspondence*, op. cit., p. 191.

capital and of revenue' – that *dual movement* of both specific use-values and exchange-values, of supply and demand – also enabled Marx to develop an analysis of *the reproduction of capitalist economy and bourgeois society in its totality.* Of course, in this achievement, which is one of the greatest in the whole of social science, Marx did not have to start out from scratch; he was able to base himself above all on Quesnay's pioneering work, *Tableau économique*.[4] Nor should it be claimed that Marx solved 'all' problems of reproduction. In particular, he left only an unfinished sketch of the section on expanded reproduction and had no time to work on the vexed question of how it can attain occasional equilibrium while encompassing the famous 'laws of motion' of capital (especially those outlined in Volume 3: rising organic composition of capital; increasing rate of surplus-value; competition leading to concentration and centralization and to renewed competition, in spite of the tendency of equalization of the rate of profit; tendency of the average rate of profit to decline). Nevertheless, Volume 2 may be seen in a very real sense as the predecessor and initiator of modern aggregation techniques, which were sometimes even directly inspired by the book. On the road from Quesnay through Marx, Walras, Leontiev and Keynes, the leap forward made by Marx is immediately apparent. And the movement away from Marx in neo-classical and vulgar 'macro-economics' contains elements of enormous regression, of which contemporary economists are only now slowly beginning to take note.[5]

4. It should be stressed that from 1758 onwards Quesnay's writings demonstrate a clear understanding of a circuit of commodities and income, as well as a grasp that, in the last analysis, all incomes originate in production (see *Tableau économique*, *Extraits des économies réelles de Sully*, *Explication du tableau économique* and *Analyse de la forme économique du tableau*).

5. For an interesting comparison between Quesnay's *Tableau économique* and Marx's reproduction schemas, see Shigeto Tsuru, 'On Reproduction Schemes', in Paul M. Sweezy, *The Theory of Capitalist Development*, New York, 1942, pp. 365ff. Also worthy of note is Jacques Nagels, *Genèse, contenu et prolongements de la notion de reproduction du capital selon Karl Marx (Boisguillebert, Quesnay, Leontiev)*, Brussels, 1970.

While there seems to be a relation between Leontiev's input-output tables and the labour theory of value (see, for example, B. Cameron, 'The Labour Theory of Value in Leontiev's Models', in *Economic Journal*, March 1952), these tables reflect only the use-value inter-relationships ('exchanges') between different departments, and abstract from the question of the source of the purchasing power necessary to mediate these 'exchanges'. See also Koshimura's assessment: 'Leontiev, immersed in the minutiae of numerous small departments, fails to abstract or generalize and so ignores both the capital structure as a whole, and the component parts of commodities, i.e. c, v, and m . . . For this reason his table, while useful for the statistical

Volume 2 of *Capital* carries the subtitle: *The Process of Circulation of Capital*, while Volume 1 was subtitled: *The Process of Production of Capital*. At first sight, the distinction is clear. Volume 1 is centred around the factory, the workplace. It explains the character of the production of commodities under capitalism as both a process of material production and one of valorization (i.e. production of surplus-value).[6] Volume 2, by contrast, is centred around the market-place. It explains not how value and surplus-value are produced, but how they are realized. Its *dramatis personae* are not so much the worker and the industrialist, but rather the money-owner (and money-lender), the wholesale merchant, the trader and the entrepreneur or 'functioning capitalist'. More broadly defined than simple industrialists, entrepreneurs are those capitalists who, having a certain amount of capital at their disposal (whether they own or borrow it is irrelevant here), try to increase that capital through the purchase of means of production and labour-power, the production and then the sale of commodities, the reinvestment of part of realized profit in additional machinery, raw materials and labour-power, and the production of an increased quantity of commodities.

The role of workers in Volume 2 will cause some surprise, both to non-Marxist readers heavily armed with current academic preconceptions of Marx as 'an outdated and typically nineteenth-century economist', and to dogmatic pseudo-Marxists whose understanding of Marx is based more on second-hand vulgarizations than on the genuine article. For if workers appear at all in Volume 2, it is essentially as *buyers of consumer goods* and, therefore, as *sellers* of the commodity labour-power, rather than as producers of value and surplus-value (although, of course, this latter quality, established in Volume 1, remains the solid foundation on which the whole of the unfolding analysis is based).

However, in order to grasp the deeper significance of the concept 'process of circulation of capital', as well as the exact place of Volume 2 in Marx's overall analysis of the capitalist mode of production attempted in his three-volume *magnum opus*, we have to understand the inner connection between the production of value and its realization. Commodity production is the expression of a specific form of social organization, which encompasses a basic contradiction. On the one hand, human

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description of empirical phenomena, ignores the inner structure of capitalist production.' (Shinzaburo Koshimura, *Theory of Capital Reproduction and Accumulation*, Kitchener, Ont., 1975, p. 9.)

6. See my introduction to *Capital* Volume 1, London, 1976.

production has outgrown the primitive form of subsistence-farming and handicrafts, which prevailed in more or less isolated communities of producer-consumers. The progress of the division of labour and labour productivity, as well as the growth of transport and communications, have steadily increased the range and depth of human interdependence. More and more local, regional, even national and continental communities depend upon one another for the supply and combination of raw materials, instruments of labour and human producers themselves. The labour process has thereby become to an increasing extent *objectively socialized*. At the same time, however, private ownership of the means of production and circulation combines with the appearance and growth of (money) capital to make *private appropriation* both the starting-point and the goal of all productive endeavour. Thus, while labour is objectively more and more socialized, it remains to a greater degree than ever before organized on the basis of *private production*.

Commodity production, value production, the 'value form', as Marx calls it at the beginning of Volume 1, are rooted in this basic contradiction.[7] Production is impossible without *social* labour – without the co-operation of thousands (in some cases, hundreds of thousands) for the production of a given commodity, under optimum conditions of productivity of labour. But since production is based upon and tuned to private appropriation, social labour is not immediately organized as such – its input into the production process is not decided by society as a whole, and it is expended as *private labour*. Its social nature can only be recognized *a posteriori*, through the sale of the commodity, the realization of its value and, under capitalism, the appropriation in the form of profit by its capitalist owner of a given portion of the total surplus-value created by productive workers in their entirety. Value production or commodity production thus expresses the contradictory fact that goods are at one and the same time the product of social labour and private labour; that the social character of the private labour spent in their production cannot be immediately and directly established; and that *commodities must circulate*, their value must be *realized*, before we can know the proportion of private labour expended in their production that is recognized as social labour.

There is thus an indissoluble unity between the production of value and surplus-value on the one hand, and the circulation (sale) of commodities, the realization of value, on the other. Under commodity production, and even more so under its capitalist form, the one cannot

7. ibid., p. 131.

take place without the other. That is why the study of 'capital in general' – provisionally abstracted from competition and 'many capitals' – encompasses *both* the process of production and the process of circulation of commodities.[8]

However, once we begin to examine the circulation of commodities *under capitalism* (in the first place, their sale with the purpose of realizing their value) we are considering much more than simple *commodity* circulation. We are in fact dealing with the circulation of commodities *as capital*, that is to say, with the circulation of capital. In the course of his progressive analysis of the circulation process, Marx introduces a new and passionately interesting object of study: *the reproduction and circulation* ('turnover') *of the total social capital.* While formally this is the title of only the third Part of Volume 2, it could well be argued that it expresses the underlying subject-matter of the whole volume.

Marx himself explains[9] that the circulation and reproduction of each individual capital, analysis of which is begun in the first sections of Volume 2, must be seen as part of a more general movement of circulation and reproduction – that of the sum total of social capital. This is so not only because such a study must methodologically precede examination of the effects of competition on the division of surplus-value among various capitalist firms, but also because a broader question still has to be answered. How can an anarchic social system, based upon private determination of investment, 'factor-combination' and output, assure the presence of the objective, material elements necessary for further production and growth? What are the *absolute preconditions* of such growth? It was in order to answer these eminently 'modern' questions that Marx developed his famous reproduction schemas and showed that growth could be accommodated within his theory of capitalism.

Since capitalist production is production for profit (value production oriented towards an accretion of value), growth always has the meaning of *accumulation of capital.* While this is already made clear in Volume 1 of *Capital* (Chapters 22 and 23), the argument is only fully elaborated

8. Marxists have generally attached much less importance to problems of circulation than to those of production, often overlooking their essential unity. A rare example of bending the stick too far in the other direction is the book by the 'right-wing' Austro-Marxist and former president of the Austrian Republic, Dr Karl Renner – *Die Wirtschaft als Gesamtprozess und die Sozialisierung*, Berlin, 1924. Renner focuses his analysis entirely on the *circulation* of commodities and deliberately seeks to make of the sphere of circulation the springboard for the socialization of economic life.

9. See below, pp. 427–30.

in Volume 2. The key concepts are those of *capitalization of (part of) surplus-value* and *expanded reproduction.* For economic growth to occur, part of the surplus-value produced by the working class and appropriated by the capitalists must be *spent productively* and not wasted unproductively on consumer goods (and luxury goods) by the ruling class and its retainers and hangers-on. In other words, it must be transformed into additional constant capital (buildings, equipment, energy, raw materials, auxiliary products, etc.) and additional variable capital (money capital available to hire an increased labour force). The accumulation of capital is nothing other than this (partial) capitalization of surplus-value, i.e. the (partial) transformation of profit into additional capital.[10]

Expanded reproduction denotes a process whereby the turnover of capital (both individual capitals and total social capital, although not necessarily *all* individual capitals; given competition, we may even say: in the long run, *never* all capitals) leads, after a certain number of intermediary stages minutely studied in Volume 2, to *a larger and larger scale of productive operation.* More raw materials are transformed by more workers using more machinery into more finished products, with greater overall value than in the previous turnover cycle. This results in higher total sales and final profits, which in turn allow a higher absolute sum (if not in all cases a higher percentage) of profit to be added to capital. Thus does the spiral of growth continue . . .

The study of the circulation of commodities, the reproduction (and accumulation) of capital and the rotation of capital in its totality constantly encompasses the dialectical unity-and-contradiction of opposites contained in the commodity form of production, namely, the contradictory unity of use-value and exchange-value, doubled in that of commodities and money. One of the outstanding features of *Capital* Volume 2, to which insufficient attention has been paid by academic and Marxist commentators alike,[11] is precisely the masterly way in which Marx develops this initial theme of *Capital* Volume 1 throughout his analysis of the process of circulation. We shall have occasion to come back to this.

10. Most significantly, capital accumulation also requires that means of production producing *additional means of production* be added to means of production producing consumer goods or simply replacing means of production used up in current production.

11. An important exception is Rosdolsky, op. cit.

2. THE THREE FORMS OF CAPITAL

From the outset, Marx makes it clear that capital, in the capitalist mode of production,[12] appears in three forms: money capital, productive capital and commodity capital. Money capital is the original form and final purpose of the whole devilish undertaking. Productive capital is the basic precondition of the constantly enlarging spiral. Without the penetration of capital into the sphere of production, the social product and surplus product can only be re-apportioned and re-appropriated, not increased by capitalist enterprise. Under such conditions, capitalists would act essentially as parasites upon and plunderers of pre-capitalist (or post-capitalist) forms of production, rather than as masters of the production and appropriation of surplus-value (of the social surplus-product). As for commodity capital, it is the basic curse of capitalism that commodities *must* go through the phase in which they contain – in as yet unrealized form – the surplus-value produced by the working class. In other words, before money capital can return to its original form, swollen by surplus-value, it *has* to go through the intermediate stage of commodity-value – of value embodied in commodities which still have to pass the acid test by being sold.

Marx used the formula 'metamorphosis of capital' to indicate that, like a butterfly passing through the successive stages of larva, chrysalis and moth, capital takes on the forms of money capital, productive capital and commodity capital, before returning to the stage of money capital. While these three forms are to a large extent successive in the process of rotation of capital, they are also co-existent with one another. One of the most important and brilliant sections of Volume 2 is that which stresses again and again the *discontinuous* nature of reproduction of the three forms of capital, and the organic link of this discontinuity with the very essence of the capitalist mode of production.

Precisely because the capitalist mode of production is generalized production of commodities, money capital cannot and does not merely precede and succeed the widespread appearance of capital; it has to exist *side by side* with it. Similarly, money capital is not just the result of the sale of commodities; its social existence is a precondition of that sale. Finally, commodity capital is not simply the outcome of the function-

12. This specification is necessary. Although capital may appear and survive in pre-capitalist and post-capitalist societies (ones in transition from capitalism to socialism), it does so essentially outside the realm of production. In no case can it *dominate* the main sectors of production. This occurs only with the appearance of productive capital – the form proper to the capitalist mode of production.

ing of productive capital; it is also its necessary basis. Indeed, current production is only possible (and this applies especially to commodities with an above-average life span or production period) if all commodities produced during the previous turnover cycle have *not* already been sold to the final consumers – if, that is, *stocks and reserves* of raw materials, energy, auxiliary products, intermediary products and consumer goods needed to reproduce labour-power are available on a large scale. Continuity of the production process may be said to depend upon discontinuity or desynchronization of the turnover cycle of money capital, productive capital and commodity capital.

Furthermore, the very nature of capitalist relations of production requires the existence of money capital prior to the initiation of the production process. The separation of 'free' workers from their means of production and livelihood implies a *constraint* upon the owners of the means of production *to purchase* labour-power before the commencement of productive operations. And they must have at their disposal adequate money capital to effect the transaction: 'In the relation between capitalist and wage-labourer, the money relation, the relation of buyer and seller, becomes a relation inherent in production itself.'[13]

Thus, to a large extent, Volume 2 examines the *constant intertwining* of appearance and disappearance of money capital, productive capital and commodity capital – from the sphere of circulation into that of production, and back into the sphere of circulation, until the commodity is finally consumed. Each form passes over into the other, without expelling it entirely from the sphere of circulation, let alone from the overall social arena. Indeed, we can say that the dialectics of money (money capital) and commodities (commodity capital) is the basic contradiction examined in *Capital* Volume 2. Here again Marx's 'modernism' is particularly striking.

These considerations show the crucial importance of the 'time factor' in Marx's analysis of the capitalist mode of production. Its functioning cannot be understood if complete abstraction is made of time sequences and schedules, the duration of the production and turnover cycles of commodities, and the length of the turnover period of capital. Marx's important distinction between circulating capital and fixed capital is based exclusively on the amount of time required for each of these two parts of money capital to revert to its original form. Circulating capital (spent on raw materials and wages) is recovered by the capitalist firm after each production cycle and circulation cycle of commodities. Fixed

13. See below, p. 196.

capital, however, is recovered in its entirety only after *n* cycles of production and circulation, whose number depends on the longevity of machinery and buildings. As is well known, Marx worked on the hypothesis that the average longevity of machinery (not, of course, buildings) is equivalent to, and indeed *determines*, the average duration of the trade cycle. It would be a fruitful task for Marxist scholars to deepen our understanding of the role and function of this 'time dimension' in Marx's *Capital.* For time appears there as the measure of production, value and surplus-value (labour time); as the nexus connecting production, circulation and reproduction of commodities and capital (cycles of turnover and reproduction of capital); as the medium of the laws of motion of capital (trade cycles, cycles of class struggle, long-term historical cycles); and as the very essence of man (leisure time, life span, creative time, time of social intercourse).

The study of the process of circulation of commodities and capital is concerned essentially with metamorphosis – the change from one form to another which we have just mentioned. But this analysis, starting from a high level of abstraction and drawing nearer and nearer to the everyday 'phenomena' of capitalist life, itself represents this process of circulation in successive stages of concreteness. First there is the circulation of (money) capital in its most general form as we encountered it in Volume 1:

$$M\text{–}C\text{–}M'(M+AM)$$

Money buys commodities so that they may be sold with an accretion of money – a profit – part of which will be added to the initial money capital.

If we translate this formula into the real operations of the capitalist mode of production, we have to replace *C*, the commodities bought, with the specific operation of the industrialist, namely, the purchase of means of production and labour-power in order that the labour-power may produce additional value, surplus-value. This combination of means of production and labour-power gives rise, through the process of production, to new commodities embodying additional value which have to be sold to result in the formation of accumulated capital. Thus the initial formula becomes:

$$M\text{–}C\!<\!\begin{smallmatrix} mp \\ L \end{smallmatrix} \ldots \text{production} \ldots C'\text{–}M'\,(M+AM, \text{ where } AM = \text{accumulated surplus-value})$$

3. THE DUAL ASPECT OF CAPITAL TURNOVER IN MARX'S ECONOMIC THEORY

Basing himself on the contradiction between use-value and exchange-value inherent in the commodity, Marx considered the problem of turnover of capital, of reproduction, as a *dual one*:

(a) In order that (at least simple, and normally expanded) reproduction may be achieved, the total value embodied in the produced commodities *must be realized*, that is to say, they must be sold *at their value*. Contrary to assumptions made by some of his most astute followers, principally Rudolf Hilferding, Otto Bauer and Nikolai Bukharin, Marx did not regard this process of realization as 'automatic'; nor did he derive it 'from his reproduction schemas', as some have naïvely suggested.[14] Indeed, a substantial section of the final Part of Volume 2, and most of the controversies which have been raging ever since Rosa Luxemburg raised the issue, have turned around a more or less detailed examination of *how* the value embodied in commodities as represented by the famous reproduction schemas *could* be realized by purchasing power generated in the production process.

(b) *At the same time*, at least simple – and normally expanded – reproduction require for their success that the *use-value of the commodities produced* should fulfil the *material* conditions for restarting production on either the existing or a broader scale. Reproduction could not take place in a situation where, on a technological base lower than total automation and in the absence of food reserves, the commodity package consisted entirely of raw materials and machinery; the workers and capitalists would starve and disappear before the available machinery could be used to restart agricultural production, or the existing stock of raw materials could be transformed into synthetic food. Similarly, reproduction would be impossible where the entire output of current commodity production, carried out with the large-scale use of sophisticated machinery, was composed of consumer goods and raw materials; if there were no stocks of machinery or spare parts, then machinery and

14. See especially Rudolf Hilferding, *Das Finanzkapital*, Vienna, 1923, p. 310; Nikolai Bukharin, *Imperialism and the Accumulation of Capital*, London, 1972, p. 226; and Otto Bauer, 'Die Akkumulation des Kapitals' in *Die Neue Zeit*, Vol. 31, 1913.

production would break down before the well-fed workers could build new machines out of simple raw materials.

We should add in passing that expanded reproduction, which is 'the norm' under capitalism, does not demand merely the existence (i.e. previous production) of use-values representing the necessary objective elements of reproduction (means of production to replace used-up equipment and raw materials; further means of production required to enlarge the scale of operation of material production; consumer goods to feed both already employed workers and additional recruits to the work force). Expanded reproduction also demands the presence of *a potential source of additional labour.* The *dual function* of the 'industrial reserve army of labour', both as regulator of wages (assuring that the rate of surplus-value remains above a certain level) and as material precondition of expanded reproduction, should not be overlooked. If 'traditional' means of increasing or maintaining that 'reserve army' are drying up (where, for example, independent peasants, handicraftsmen and shop-keepers have declined as a proportion of the total active population, or where substitution of machines for men in industry is slowing down), then new sources can always be tapped through sweeping transformation of housewives into wage-labourers; mass immigration of labour; extensive re-deployment of student youth onto the labour market, and so on.[15]

Marx's giant step forward in economic analysis may be gauged by the fact that, until this very day, most academic economists have still not fully grasped this basic innovation of his schemas of reproduction. They have broken up the totality of the process of reproduction of capital, based upon this 'unity of opposites', into a disconnected dichotomy. On the one hand, analysis centres on *physical coefficients* (especially at the level of inter-branch exchanges, as in Leontiev's input-output tables and all their derivations), i.e. it deals with use-values. On the other hand, as in the case of Keynesian and post-Keynesian treatises[16], the study focuses on money flows, income flows, that is to say on exchange-values largely disembodied from the commodities in the production of which

15. See Ernest Mandel, *Late Capitalism*, London, 1975, pp. 170–71.

16. Paul Samuelson's *Economics* (4th edition, New York, 1958, p. 41) attempts to correlate revenue flows and commodity flows by means of an inter-related system of 'supply-demand markets'. But it is the 'public' which buys 'consumer goods', while 'selling' land, labour and capital goods (i.e. factors of production) to 'business'! 'Business' in turn buys land, labour and capital from 'the public' and

they originated. Income theories are thereby more and more disconnected from production theories, and if the mediation of the 'production function' is employed at all, it remains largely inoperative, being considered at the micro-economic level rather than the macro-economic one.

Above all, *the constant combination and intertwining of the two* – the obvious fact that incomes are generated in the production of commodities with a given use-value, corresponding to the structure of socially recognized needs, and that disequilibrium is unavoidable without a structure of income congruent with that of value produced – this has not even been posed, still less tackled by traditional academic theory (with the marginal exception of certain students of the trade cycle and the theory of crisis). The technique of aggregation introduced by Keynes has, if anything, made matters even more confused by operating with undifferentiated money flows. For it evacuates the problem (not to mention its solution) of whether a given national income has a specific structure of demand (for consumer goods, for producer goods producing producer goods, for producer goods producing consumer goods, for luxury goods, for weapons and other commodities bought only by the state, etc.) which corresponds exactly to the specific structure of the total commodity-value created in the process of production.

In fact, most of the relevant academic theory (and not a little post-Marxian Marxist theory as well) for a long time assumed some kind of Say's law to be operative.[17] That is to say, it took for granted that a given value-structure of output is correlated with a congruent incomes structure (structure of purchasing power) through the normal operation of market forces. One of Marx's major purposes in Volume 2 of *Capital*

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sells consumer goods to it. Samuelson does not seem to have noticed that, under capitalism, 'the public' (i.e. the mass of consumers) does not own 'capital goods' (i.e. raw materials and equipment) and that these are sold by certain 'businesses' to others. In his system, 'capital goods' are 'sold' without having been produced. It should be noted that Marx's reproduction schemas are not only of greater analytical and theoretical rigour; at the same time, they are more realistic, that is to say, they conform more closely to the real organization of capitalist economic life than the mystifying constructions of many species of academic economics.

17. For example, Oskar Lange, in his lengthy and interesting discussion of the reproduction schemas and derived equilibrium formulae, constantly abstracts from the *dual* flow of commodities and money, and assumes a relationship of pure barter between the two departments. (See Oskar Lange, *Theory of Reproduction and Accumulation*, Warsaw, 1969, pp. 24, 28, etc.)

is to show that this is not so: that such congruence depends upon certain exact proportions and structures, both of exchange-values and of use-values; that, for instance, wages *never* buy machines under capitalism; and that these exact proportions are extremely difficult to realize in the actual practice of capitalism.

It is thus all the more surprising that Joan Robinson reproaches Marx for having 'failed to realize how much the orthodox theory stands and falls with Say's Law and set himself the task of discovering a theory of crises which would apply to a world in which Say's Law was fulfilled, as well as the theory which arises when Say's Law is exploded'.[18] Would it not be more correct to state that Robinson herself, following Keynes's concept of 'effective demand', fails to realize how much Marx's theory of the commodity as a unity-and-contradiction of use-value and exchange-value not only underpins his concept of the necessary fluctuation of supply and demand at a macro-economic level, but actually intertwines it with his theory of income distribution (demand distribution) in capitalist society? Under capitalism, income distribution has a *class* structure determined by the very structure of the mode of production, and governed in the medium term by the class interests of the capitalists. Any increase in 'effective demand' which, instead of increasing the rate of profit, causes it to decline will never lead to a 'boom' under capitalism. *That* basic truth was well understood by Ricardo as well as Marx – though it is not by many latter-day Keynesians.

We said earlier that one of the basic functions of the reproduction schemas is to demonstrate that growth (i.e. the very existence of capitalism) is at least *possible* under the capitalist mode of production. Given the extremely anarchic nature of the organization of production (under *laissez-faire* capitalism on the home market, under monopoly capitalism on the world market), and given the very nature of competition, this is by no means as obvious as it sounds. The reproduction schemas locate the combination of value and use-value structures of the total commodity package within which growth *can* occur. But Marx never sought to prove that these proportions are automatically and constantly guaranteed by the 'invisible hand' of market forces. On the contrary, he insisted again and again[19] that these proportions are *difficult* to realize and impossible permanently to retain, and that they are

18. Joan Robinson, *An Essay on Marxian Economics*, New York, 1966, p. 51.

19. Cf. below: 'The fact that the production of commodities is the general form of capitalist production already implies that money plays a role, not just as means of circulation, but also as money capital within the circulation sphere, and gives

automatically upset by those same forces that bring them occasionally into being. In other words, the reproduction schemas show that equilibrium, not to speak of equilibrated growth, is the exception and not the rule under capitalism: that disproportions are far more frequent than proportionality, and that growth, being essentially uneven, inevitably produces the breakdown of growth – contracted reproduction or crisis.

When we say that Marx's reproduction schemas summarize the turnover of capital and commodities as *a dual movement*, we mean that they are based upon *a combined dual flow* – a flow of value produced in the process of production, and a flow of money (money revenue and money capital) unleashed in the process of circulation in order to realize the value of the commodities produced. The schemas are evidently not based upon barter: department I does not 'exchange' goods with department II simply according to 'mutual need'. *Before* the capitalists or employed workers of department I can obtain the goods they need, they must prove themselves to have sufficient purchasing power to *buy* them from department II *at their value.*[20] Furthermore, the difficulty cannot be solved by some legerdemain such as the sudden introduction *ex nihilo* of additional sources of purchasing power. If new sources of money do appear – and we shall see that they play a key role in Marx's schemas – they must be organically connected with the problem under examination. In other words, it has to be demonstrated that they are *necessarily coexistent* with the process of production and circulation of commodities under the capitalist mode of production.

The dual nature of the reproduction schemas, reflecting the dual nature of the commodity and commodity production in general, in no way circumvents or contradicts the operation of the law of value – a law which establishes, among other things, that the quantity and quality of value produced, both that of each individual commodity and that of the total sum of commodities, is independent of their use-value. Use-value

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rise to certain conditions for normal exchange that are peculiar to this mode of production, i.e. conditions for the normal course of reproduction, whether simple or on an expanded scale, which turn into an equal number of conditions for an abnormal course, possibilities of crisis, since, on the basis of the spontaneous pattern of this production, this balance is itself an accident' (pp. 570–71). Cf. also Karl Marx, *Grundrisse*, London, 1973, pp. 413–14.

20. In Volume 2 of *Capital*, which, like Volume 1, features in Marx's general plan under the heading 'Capital in General' ('Das Kapital im Allgemeinen'), the author consciously abstracts from competition. Therefore, prices of production play no part, and calculations are strictly value calculations.

is a necessary *precondition* of commodity-value. A good which nobody wants to buy because it fulfils no need cannot be sold, and therefore has no exchange-value. Labour expended in its production is socially wasted, not socially necessary labour. Similarly, a certain use-value structure of total output – a given quantity of *x* raw materials, *y* pieces of equipment and *z* types of consumer goods – is a material and *social* precondition of the successful accomplishment of (simple or expanded) reproduction. But the use-value of these commodities will only be realized if their market prices can be matched, that is, if they can be bought. (Millions can – and do! – starve under capitalism, even though all the food they need is there, because they lack the purchasing power to buy it. Of course they would also starve if the food were really lacking, but, although this does happen occasionally, it is a much rarer occurrence.) Moreover, the system will be in equilibrium (i.e. expanded reproduction will be possible in value terms) only if these commodities are broadly speaking *sold at their value*, that is to say, if the surplus-value produced by the working class is realized in the form of profit. And this is by no means assured under capitalism.

A further preliminary condition of equilibrium has to be fulfilled before the dual flow of commodities and purchasing power between the departments can even be examined. The *sum total* of output of both departments must be equal to, not smaller or larger than, the total demand generated by expanded reproduction. Under simple reproduction this may be expressed as follows:

$$\mathrm{I} = \mathrm{I}_c + \mathrm{II}_c$$
$$\mathrm{II} = \mathrm{I}_v + \mathrm{I}_s + \mathrm{II}_v + \mathrm{II}_s$$

Under expanded reproduction this becomes:

$$\mathrm{I} = \mathrm{I}_c + A\mathrm{I}_c + \mathrm{II}_c + A\mathrm{II}_c$$
$$\mathrm{II} = \mathrm{I}_v + A\mathrm{I}_v + (\mathrm{I}_s - A\mathrm{I}_c - A\mathrm{I}_v) + \mathrm{II}_v + A\mathrm{II}_v + (\mathrm{II}_s - A\mathrm{II}_c - A\mathrm{II}_v)$$

The value and mass of the means of production produced must be equal to the value and mass of the means of production used up in both departments during the current production period (plus, under conditions of expanded reproduction, the value of the additional means of production needed in both departments). The value and mass of the consumer goods produced must be equal to the demand for consumer goods (wages+profits spent on unproductive consumption) in both departments.

4. THE SIGNIFICANCE OF MARX'S REPRODUCTION SCHEMAS

The so-called 'conditions of proportionality' in a two-department system (where the total mass of commodities is classified into a department I of means of production and a department II of consumer goods) were formulated by Marx himself. In the case of simple reproduction they are:

$$\mathrm{I}_v+\mathrm{I}_s = \mathrm{II}_c$$

Otto Bauer and Bukharin derived from this a similar formula for expanded reproduction, which, although present in Volume 2, was not explicitly formulated by Marx:[21]

$$\mathrm{I}_v+\mathrm{I}_{s_\alpha}+\mathrm{I}_{s_\gamma} = \mathrm{II}_c+\mathrm{II}_{s_\beta}$$ [22]

In conformity with the dual nature of the reproduction schemas, these conditions of proportionality simultaneously have two meanings:

(a) The *exchange-value* of the goods sold by department I to department II must be equal to the value of the goods sold by department II to department I (otherwise, there would emerge an unsaleable surplus in at least one of the two departments).

(b) The specific *use-value* of the commodities produced in both departments must correspond to their mutual needs. For instance, the purchasing power in the hands of the workers producing producer goods must encounter on the market not only 'commodities', but *actual consumer goods* equivalent to that sum of wages. (Under capitalism, workers are not supposed to spend their money on any commodities other than consumer goods.)

The commodity, non-barter nature of the reproduction schemas further implies a *dual flow* between the two departments. When department I *sells* raw materials and equipment to department II (to replace the value of II_c used up in the previous production cycle), commodities flow from department I to department II, while money flows from

21. See below, p. 593
22. Total surplus-value (s) in both departments is divided into three parts:
α: unproductively consumed by the capitalists;
β: accumulated in the form of constant capital;
γ: accumulated in the form of variable capital.

department II to department I. It has to be determined where that money initially came from. Conversely, when department II sells consumer goods to the workers of department I, to enable them to reproduce their labour-power, commodities flow from II to I, while money flows from I to II.

From a purely technical point of view, there is nothing extraordinary or magical in this two-department schema. It is just the most elementary conceptual tool – an extreme simplification intended to bring out *the underlying assumptions of equilibrium* (or equilibrated, proportionate growth) *under conditions of commodity production.* For exchange to occur, there must exist at least two private capitals independent of each other. With these conceptual tools, it would be easy to draw up a three-department model (e.g. with gold as department III), or a four-department one (with both gold and luxury goods as additional departments – the difference between the two being that, while luxury goods are, like weapons, useless from the point of view of reproduction, gold does not enter into the reproduction process but mediates it, assisting the circulation of commodities for expanded reproduction). We could then move on to a five-department model (dividing department I into means of production producing means of production and means of production producing consumer goods) or a seven-department one (further dividing both sub-departments of department I into raw materials and machinery). Step by step, we would approach an inter-branch model reflecting the actual structure of a modern capitalist industrialized economy.[23]

A certain number of conditions of physical interdependence would have to be established among all these branches (they are clarified by Leontiev's input–output tables, based on either stable or changing technology). These would then have to be supplemented by a table of value equivalence (value equilibrium), since the only condition for equilibrium is *overall* realization of value. At this point, there appears an important difference between a two-department schema and a multi-department one. The former necessitates equivalence of exchange-values between the two departments, whereas this is not true of the latter.

23. Department III was first used by Tugan-Baranowski (*Studien zur Theorie und Geschichte der Handelskrisen in England*, Jena, 1901) and von Bortkiewicz as a means of representing the production of luxury goods or gold. Unknown to Tugan-Baranowski and other participants in that discussion, Marx had himself used a four-department schema in the *Grundrisse* (op. cit., p. 441), introducing separate departments for raw materials and machinery and, like Tugan-Baranowski, dividing the means of consumption between a department of workers' consumer goods and one of luxury goods ('surplus products') destined for the capitalists.

Department *C*, for instance (say, raw materials necessary for the production of consumer goods) could have a 'surplus' in its interchange with department *E* (finished mass consumer goods in a nine-department schema, where *F* is the luxury goods department and *G* the gold production one), while it had a 'deficit' in its interchange with department *B* (equipment for the production of producer goods, including raw materials).[24] In such a case, the system would still attain equilibrium provided that all the 'surpluses' and 'deficits' cancelled one another out *for each department* (i.e. were inter-related in a definitely proportionate and not arbitrary manner), and provided that each department realized the total value of the commodities produced within it and disposed of sufficient purchasing power to acquire the necessary objective elements of expanded reproduction (which would have to be supplied with their specific use-values by the current production of departments *A* to *E*).

However, the picture changes once we consider the two-department schema not as a simple conceptual or analytical tool, but as a model corresponding to a social *structure*. It then becomes clear that the choice of *these* two departments as basic sub-divisions of the mass of commodities produced is not at all an arbitrary one, but corresponds to the essential character of human production in general – not merely its specific expression under capitalist relations of production. Man cannot survive without establishing a material metabolism with nature. And he cannot realize that metabolism without using tools. His material production will, therefore, always consist of at least tools and means of subsistence. The two departments of Marx's reproduction schemas are nothing other than the specific *capitalist* form of this general division of human production, in so far as they (1) take the generalized form of commodities, and (2) assume that the workers (direct producers) do not

24. In order to avoid confusion, we shall use for a nine-department schema the letters *A*, *B* . . . *I*, rather than the Roman capitals I, II, etc. Thus, *A* denotes the department of raw materials used in the production of means of production; *B*: equipment employed in the production of means of production; *C*: raw materials used for the production of mass consumer goods; *D*: equipment employed in the production of mass consumer goods; *E*: raw materials used for the production of luxury goods; *F*: equipment employed in the production of luxury goods; *G*: mass consumer goods; *H*: luxury goods (and other goods not entering into the reproduction process – e.g. weapons); *I*: gold. The Soviet economist V. S. Dadajan has constructed a sophisticated 'feed-back' system for expanded reproduction which is based on a four-department system (*A*: means of production; *B*: raw materials; *C*: mass consumer goods; *D*: 'elements of non-productive funds and the rest of social production') See V. S. Dadajan, *Ökonomische Berechnungen nach dem Modell der erweiterten Reproduktion*, Berlin, 1969.

and cannot purchase that part of the commodity mountain which consists of tools and raw materials.[25]

Reverting to the two-department schema presented in *Capital* Volume 2, we can now outline the dual flow of commodities and money between the two departments, both in the case of simple reproduction and in that of expanded reproduction.

1. *Simple reproduction.* In department I, the workers buy commodities from department II to the equivalent of their wages, and the capitalists to the equivalent of their profits. *Both these flows are continuous* (workers and capitalists alike have to eat every day) *regardless* of whether department I commodities have already been sold. Therefore, even simple reproduction requires the *prior existence of money capital and money reserves* (for revenue expenditure) *in the hands of the capitalist class over and above the value of productive capital.*[26] With the money received from the sale of their commodities, the capitalists of department II buy from department I the means of production needed to reconstitute their own constant capital used up during the production process. This money returning to department I, after mediating the purchase-and-sale of means of production within that department, reconstitutes the initial money capital and money-revenue reserve with which the whole turnover process can recommence. Similarly, within department II the capitalists sell consumer goods to their own workers and thereby immediately reconstitute their own variable capital. They sell consumer and luxury goods to all industrialists active within that department, thus realizing the surplus-value contained in the sum total of consumer goods produced.

2. *Expanded reproduction.* Workers and capitalists of department I buy consumer goods from department II to a total value of $\mathrm{I}_v + \mathrm{I}_{s_\alpha}$. With this money, capitalists of department II buy means of production from department I in order to reconstitute their own constant capital used up

25. Rudolf Hickel (*Zur Interpretation der Marxschen Reproduktionsschemata*, p. 116 and p. 7 of footnotes) criticizes our use of a department III, thinking that we justify it by the fact that the state buys weapons or by the notion that weapons are 'waste'. This critique is altogether unfounded. The objective basis of department III lies in the fact that it includes *all* commodities not entering into the reproduction process (with the possible exception of monetary gold, in a four-department schema).

26. See below, pp. 548–9.

during the production process.[27] Now, capitalists of department I have the necessary means (if required, by drawing further on a reserve of money capital) to mediate the circulation of c within their own department and to hire additional workers, who will buy additional consumer goods (to the equivalent of I_{s_γ}) from department II. The capitalists of department II thereby acquire the purchasing power to buy from department I the additional means of production necessary for their own expanded reproduction ($II_{s_\beta} = AII_c$), while the sale of consumer goods to workers and capitalists within department II operates as described above. Finally, with the further means obtained by the sale of AII_c to department II, the capitalists of department I can complete their own expanded reproduction, mediating the sale of AI_c within their department (as well as the purchase of the equivalent of AI_v from department II, if this has not been fully covered in the first stage of circulation).

5. USE AND MISUSE OF THE REPRODUCTION SCHEMAS

Marx's reproduction schemas have been used and abused in a number of ways during the past seventy years, ever since their analytical usefulness began to strike the imagination of followers and opponents alike. We have already indicated one of the most paradoxical forms of abuse of the schemas, namely, utilization of them as 'proof' that capitalism could grow harmoniously and unrestrictedly 'if only' the correct 'proportions' between the departments (the 'conditions of equilibrium') were maintained. The authors responsible for this aberration overlooked the basic assumption made by Marx: that the very structure of the capitalist mode of production, as well as its laws of motion, imply that the 'conditions of equilibrium' are *inevitably* destroyed; that 'equilibrium' and 'harmonious growth' are marginal exceptions to (or long-term averages of) normal conditions of disequilibrium ('overshooting' between the two departments) and uneven growth. We have dwelt on this problem elsewhere and shall not repeat the argumentation here. Suffice it to say that, under capitalism, both the *dynamics of value determination* and the *non-determination of consumer expenditure* make it impossible to maintain exact proportions between the two departments in such a way as to allow harmonious growth.

The very nature of expanded reproduction – capitalist reproduction –

27. Following the equilibrium formula: $II_c+II_{s\beta} = I_v+I_{s\alpha}+I_{s\gamma}$, it is clear that II_c may be equal to, or smaller or greater than $I_v+I_{s\alpha}$, depending on the relation of $II_{s\beta}$ to $I_{s\gamma}$.

under capitalism implies that production takes place not only on a broader scale, but also under changed technological conditions. Constant revolutions in the technique and cost of production are a basic characteristic of the system which Marx underlined much more sharply than any of his contemporaries (including the admirers and sycophants of capitalism). But these constant revolutions entail that the value of commodities as a *social* datum is subject to periodic change. It follows that values at input level do not automatically determine values at output level. Only after a certain interval will it be shown whether a fraction of the 'inputs' have been socially wasted. Neither the subjective will of 'monopolies' or 'the state', nor the cleverness of neo-Keynesian planners, can prevent the assertion of the law of value where private property and competition hold sway. Nothing can stop these long-term shifts in commodity values from leading to a *redistribution* of living labour inputs among different branches of production (and, ultimately, a redistribution of means of production as well).

Similarly, the avoidance of crises of over-production requires proportionality not only between departments, but also between output and 'final consumption' (i.e. consumption by the mass of wage and salary earners, above all in modern industrialized societies, where they generally form with their families more than 80 per cent of the total number of consumers). But this is impossible for two reasons. In the first place, the one freedom which cannot normally be taken away from the workers is the freedom to spend their wages as they wish – and there is no way in which it can be forecast with complete accuracy how they will do this (even if a prediction is 95 per cent correct, that could still leave a 5 per cent surplus of unsaleable consumer goods, which is enough to start an avalanche). Secondly, the laws of motion of capitalism have the inherent tendency to develop the capacity of production (including the production of consumer goods) beyond the limits within which the mode of production confines the purchasing power of those condemned to sell their labour-power. Thus, disproportion is intrinsic to the system itself.[28] However, it is not enough for a Marxist theory of the trade cycle and of crisis to demonstrate the reality of that inherent disproportion (which is, after all, almost a truism, given the regular recurrence of crises of over-production for more than 150 years!); it must also discover

28. See *Grundrisse*, op. cit., p. 414. Cf. also *Capital* Volume 3, Chapter 15, 3, where Marx states that under capitalism 'the proportionality of the particular branches of production presents itself as a constant process through disproportionality'.

the *precise mechanisms* which relate that periodic disequilibrium to the basic laws of motion of capitalism.

In the Soviet Union and other countries where capitalism has been overthrown, Marx's reproduction schemas have been widely used as instruments of 'socialist planning'. We do not deny that, *by analogy*, these schemas may be useful tools for studying specific problems of inter-department structure and dynamics in all kinds of society. But it has first to be clearly understood what is being done in such a case. For, we repeat, the schemas refer to *commodity production* and to *dual flows* of commodities and money incomes. To extend their use to societies which have transcended generalized commodity production, where the means of production are, in their essential mass,[29] use-values distributed by the state (the planning authorities) according to a plan, rather than commodities sold on the basis of their 'value' – this leads to an accumulation of paradoxes, of which the authors are generally not even conscious.

A good example is provided by the late Maurice Dobb. In the fifties, he participated in a 'great debate' among Soviet and East European economists revolving around Stalin's so-called 'law of the priority development of the means of production under socialism' and the establishment of an optimum rate of growth for both departments.[30] Forgetting that what was involved in Marx's reproduction schemas was *value calculation of commodities*, Dobb 'proved' that an increased rate of growth of consumer goods in the future was 'impossible' unless the *present* rate of growth of department I was higher than that of department II. Now, a policy which sacrifices the consumption of four generations of workers and their families merely to increase the rate of growth of that consumption starting with the fifth generation has nothing in common with an 'ideal socialist norm', and cannot be rationally motivated except in terms of purely political contingencies. For Dobb's argumentation is, of course, completely spurious; all that his calculations show is that the *value* of consumer goods produced cannot grow at an increasing rate after *x* years unless the *value* of department I immediately rises at a faster rate than that of department II.

However, neither an individual worker nor the working class itself in

29. The exceptions are those means of production which are sold to agricultural cooperatives and small handicraftsmen or illegally channelled into the black (parallel) market.

30. Maurice Dobb, *On Economic Theory and Socialism*, London, 1955, pp. 330–31, 150–51, and elsewhere.

a post-capitalist society (not to speak of a *socialist commonwealth*) is interested in a constantly rising rate of growth of the *value* of consumer goods. On the contrary, they are concerned with *reducing* that 'value' as much as possible by raising the productivity of labour, and with the withering away of commodity production and market economy. Their basic interests lie in the most rapid optimum *satisfaction of rational consumer needs*, i.e. the production at lowest possible cost of an optimum basket of consumer goods (thereby combining maximum economy of the labour of the producers with maximum satisfaction of consumer needs). To believe that this is the same as maximization of capitalist commodity-value (or profit) is to commit not only a grave theoretical error, but also a disastrous political and social miscalculation.

Even worse were the attempts made in the sixties to revive a so-called 'structural law' of 'socialism', according to which department I must expand at a faster rate than department II.[31] All such endeavours abstract from the *value nature* of the reproduction schemas, and assume that optimum satisfaction of social needs implies both continuous, unlimited expansion of the output of means of production, and the allocation of an even higher fraction of the total labour potential of society to the creation of *material producer goods* (as against social services dealing with health, education, artistic creation, 'pure' scientific research, child-care, etc., etc.). None of these assumptions can be scientifically proven or justified. Indeed, their apologetic function – as a straightforward rationalization of existing practice in the USSR and the 'Peoples' Democracies' – is obvious to any critical observer.

It should be added that both Oskar Lange and Bronislaw Minc, while not clarifying the difference between capitalist and socialist reproduction schemas, correctly demonstrated that increased productivity of labour and technical progress do not necessarily require department I to grow more quickly than department II; nor do they imply increased current outlay on means of production per unit currently (annually) produced.[32]

Rosa Luxemburg well understood that the *form* of the reproduction

31. See, *inter alia*, P. Mstislawski, 'On the Methodology to Justify Optimal Proportions of Social Reproduction', in *Voprosy Ekonomiki*, No. 5, 1964; Helmut Koziolek, *Aktuelle Probleme der politischen Ökonomie*, Berlin, 1966; Rudolf Reichenberg, *Struktur und Wachstum der Abteilungen I und II im Sozialismus*, Berlin, 1968.

32. See Lange, op cit., pp. 32–3, and Bronislaw Minc, *Aktualne zagadnienia ekonomii politicznej socialismu* (Current Problems in the Political Economy of Socialism), Warsaw, 1956.

schemas applies only to capitalist commodity and value production, and that the laws of motion corresponding to that form can have no validity in non-capitalist societies. But even she erred by attaching to the 'equilibrium proportions' derived from the schemas an a-historical, eternal validity which they do not and cannot possess.[33]

If a socially appropriated surplus product is substituted for surplus-value, then the equilibrium formula takes on a new form which expresses the *different social goal* of reproduction, corresponding to the changed social structure. Surplus-value is not simply a part of the total value of commodities produced under capitalism, nor is it just a fraction of the newly produced value product (the national income). *It is also the goal of the capitalist production process.* As such, it is much more than a mere symbol in a reproduction schema which is intended to represent reality at a high level of abstraction. For Marx, the schemas refer to the reproduction of quantified use-value and exchange-value in a given proportion. But they also express the reproduction of capitalist relations of production themselves.[34] All that is implied in the formula $I_v + I_s = II_c$. And all that changes under socialism, once s disappears.

Furthermore, in a society where commodity production has withered away, and where the concept of surplus labour is essentially reducible to that of *social service and economic growth*, the meaning of the notion of 'equilibrium' derived from the 'proportionality formula' is subject to a fundamental transformation. When proportionality is upset in a commodity-producing society, production of *both use-values and exchange-values* declines, because both are inextricably linked to each other. Under socialism, however, no such inexorable nexus survives – not even as a necessary proportion (in the form of an 'eternal law') between labour inputs and use-value inputs. Indeed, in *Capital* Volume 2, Marx goes so far as to state categorically that, after the abolition of capitalism, there will be 'constant relative over-production' of equip-

33. Rosa Luxemburg, *The Accumulation of Capital*, London, 1963, pp. 84–5. Earlier, however, she had specifically stated: 'In every planned system of production it is, above all, the relation between all labour, past and present, and the means of production (between $v+s$ and c, according to our formula), or the relation between the aggregate of necessary consumer goods (again, in the terms of our formula, $v+s$) and c which are subjected to regulation. Under capitalist conditions, on the other hand, all social labour necessary for the maintenance of the inanimate means of production and also of living labour power is treated as one entity, as capital, in contrast with the surplus labour that has been performed, i.e. with the surplus value s. The relation between these two quantities c and $(v+s)$ is a palpably real, objective relationship of capitalist society: it is the average rate of profit' (ibid., p. 79).

34. See *Capital* Volume 3, Chapter 51.

ment, raw materials and foodstuffs. 'Over-production of this kind', he says, 'is equivalent to control by the society over the objective means of its own reproduction.'[35]

It is easy to imagine a society which, having reached a certain level of consumption, consciously decides to give absolute priority to a single goal: reduction of the work load. Its efforts would then be concentrated on assuring the production and distribution of an 'ideal' *package of use-values* with fewer and fewer labour inputs. There would still be 'simple reproduction' at the level of use-values, but it would be achieved with, let us say, a reduction in man-days of 4 per cent per annum (if population increased by 1 per cent and labour productivity by 5 per cent). To call this a situation of 'contracted reproduction' would be wrong, both because a socialist society *would calculate essentially with use-values*, and because in Marx's reproduction schema the concept of 'contracted reproduction' is logically connected with the notions of crisis, interrupted economic equilibrium and declining living standards, whereas the conditions just described involve smooth continuity of material production and reproduction, stable living standards and absence of any kind of crisis.

This does not mean that planned socialist production could do without specific proportions in the flow of labour, means of production and consumer goods between the two departments. Such proportional allocation of resources is indeed the very essence of socialist planning. It means only that there is a qualitative as well as a quantitative difference between value calculations and calculations in labour time – between the dynamics of, on the one hand, appropriation and accumulation of surplus-value, and, on the other hand, rising efficiency (labour productivity) achieved in successive phases of production and measured in quantities of use-values produced during a fixed length of time.[36]

35. See below, pp. 544–5.

36. Cf. the following passage from Engels's *Anti-Dühring*: 'From the moment when society enters into possession of the means of production and uses them in direct association for production, the labour of each individual, however varied its specifically useful character may be, becomes at the start and directly social labour. The quantity of social labour contained in a product need not then be established in a roundabout way; daily experience shows in a direct way how much of it is required on the average. Society can simply calculate how many hours of labour are contained in a steam-engine, a bushel of wheat of the last harvest, or a hundred square yards of cloth of a certain quality. It could therefore never occur to it still to express the quantities of labour put into the products, quantities which it will then know directly and in their absolute amounts, in a third product, in a measure which, besides, is only relative, fluctuating, inadequate, though formerly unavoidable for

Minc goes much farther than Luxemburg when, summing up the opinion of two generations of Stalinist and post-Stalinist East European and Soviet economists, he clearly asserts: 'The basic theses of Marx's theory of expanded reproduction, as expressed in the schemas, are entirely valid under socialism.'[37] Contrary to the explicit theory of

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lack of a better, rather than express them in their natural, adequate and absolute measure, *time*. Just as little as it would occur to chemical science still to express atomic weights in a roundabout way, relatively, by means of the hydrogen atom, if it were able to express them absolutely, in their adequate measure, namely in actual weights, in billionths or quadrillionths of a gramme. Hence, on the assumptions we made above, society will not assign values to products. It will not express the simple fact that the hundred square yards of cloth have required for their production, say, a thousand hours of labour in the oblique and meaningless way, stating that they have the *value* of a thousand hours of labour. It is true that even then it will still be necessary for society to know how much labour each article of consumption requires for its production. It will have to arrange its plan of production in accordance with its means of production, which include, in particular, its labour-power. The useful effects of the various articles of consumption, compared with one another and with the quantities of labour required for their production, will in the end determine the plan.' Frederick Engels, *Anti-Dühring*, Moscow, 1969, pp. 366–7. Cf. also Marx's observation: 'Let us finally imagine, for a change, an association of free men, working with the means of production held in common, and expending their many different forms of labour-power in full self-awareness as one single social labour force . . . Labour-time would in that case play a double part. Its apportionment in accordance with a definite social plan maintains the correct proportion between the different functions of labour and the various needs of the associations. On the other hand, labour-time also serves as a measure of the part taken by each individual in the common labour, and of his share in the part of the total product destined for individual consumption' (*Capital* Volume 1, op. cit., pp. 171–2).

To what theoretical contortions the confusion of capitalist and socialist reproduction schemas necessarily leads is strikingly demonstrated by Reichenberg (op. cit.). First, he calmly includes the material *tools* of the service sector in a department II of consumer goods (p. 16). Next he speaks of an 'intensification of expanded reproduction' as a result of the 'scientific-technical revolution' – an intensification which expresses itself in the fact that 'if the difference between (I_v+I_s) and II_c remains the same, a process of increased accumulation is possible' (p. 21). But he fails to specify the object of this accumulation. Is it the *value* of II_c? Obviously that would be nonsense. The difference between two value quantities cannot change if the quantities themselves do not change. Perhaps it is accumulation of *use-values*? No doubt. But surely an increase in the mass of raw materials and tools (for the output of consumer goods) produced by a given quantity of socially necessary labour is the very definition of an increase in labour productivity. And, at the same time, Reichenberg implies that the value of these goods (and therefore the dynamics of expanded reproduction in *value* terms) has not changed!

37. Bronislaw Minc, *L'Économie politique du socialisme*, Paris, 1974, p. 167.

Marx and Engels, such 'socialist production' would thus remain generalized commodity production, i.e. generalized production of value. We may well ask what kind of intrinsic 'law' of raising surplus labour would then be incorporated into these 'socialist production relations'. For Marx distinctly states that such a law underlies the schemas of expanded reproduction referring to the production of surplus-value.[38]

6. PRODUCTIVE AND UNPRODUCTIVE LABOUR

Marx's theory of reproduction is firmly rooted in his perfected labour theory of value, not only in the sense that his reproduction schemas are based upon a common *numéraire*, labour-time, but also in the sense that what they measure and express is the distribution (and movement) of the labour force available to society among different departments and branches of material production. Value, in Marx's theory, *is* abstract social labour.

Michio Morishima, who has devoted much effort and ingenuity to rehabilitating Marx in the eyes of academic economists as one of the principal forerunners of aggregation techniques, nevertheless continues to detect a contradiction between a macro-economic theory of value, based upon aggregation, and a micro-economic labour theory of value. While dismissing the trite 'contradiction' between Volume 1 and Volume

38. 'In this way a situation comes about in which the individual capitalists have command of increasingly large armies of workers (no matter how much the variable capital may fall in relation to the constant capital), so that *the mass of surplus-value, and hence profit which they appropriate grows*, along with and despite the fall in the rate of profit' (*Capital* Volume 3, Chapter 13, our emphasis). It should be noted that, in the previous sentence, Marx has explicitly referred to accumulation of capital, and thus expanded reproduction. This passage should be contrasted with the no less explicit one concerning economic growth under socialism: 'If however wages are reduced to their general basis, i.e. that portion of the product of his labour that goes into the worker's own individual consumption; if this share is freed from its capitalist limit and *expanded* to the scale of consumption that is both permitted by the existing social productivity (i.e. the social productivity of his own labour as genuinely social labour) and required for the full development of individuality; if surplus labour and surplus product are also *reduced*, to the degree needed under the given conditions of production, on the one hand to form an insurance and reserve fund, on the other hand for the steady expansion of reproduction *in the degree determined by social need* . . . i.e. if both wages and surplus-value are stripped of their specifically capitalist character, then nothing of these forms remains, but simply those foundations of the forms that are common to all social modes of production' (Volume 3, Chapter 50, our emphases). It is clear from these quotations that, for Marx, the difference *in form* implies a difference in quantities, especially in those dynamic quantities which are growth trends.

3, around which so much academic criticism of Marx has revolved for almost a century, he constructs quite an imposing straw man out of this 'new' contradiction.[39] In our opinion, however, his subtle distinction between Marx's 'two' labour theories of value is based upon a simple conceptual confusion. For Marx, value and value production are eminently *social* qualities, referring to relations between men, and not 'physical' attributes adhering to things once and for all. Thus, when Marx writes that the value of a commodity is the embodiment of human labour expended in its production, and when he goes on to say that its value is equal to the socially necessary labour contained within it, he is not making two different statements, but simply repeating the same thesis. For the value of a given commodity is determined only by that portion of labour spent in its production which corresponds to the social average (both the average productivity of labour and the average socially recognized need), that is to say, which is *recognized by society as socially necessary labour.* Labour expended in the production of a given commodity, but not recognized by society, is not productive of value *for the owner of that commodity.*

However, precisely because value and the production of value refer ultimately to the distribution and redistribution of the *total available labour-power of society engaged in production,* that macro-economic aggregate is a basic economic reality, a basic 'fact of life'. If five million workers work 2,000 hours a year in material production, the total value product *is* ten billion hours, independently of whether the socially recognized value of each individual commodity is equal to, or larger or smaller than, the actual number of labour hours expended in its production. It follows that if the value of a *given* commodity is less than the labour actually spent on its production, then there must be at least one other commodity whose value is greater than the quantity of labour actually embodied in it.[40] *Social recognition* of labour expenditure and

39. Michio Morishima, *Marx's Economics,* Cambridge, 1973, pp. 11–12. Cf. *Grundrisse* (op. cit., p. 135): 'What determines value is not the amount of labour time incorporated in products, but rather the amount of labour time necessary at a given moment.'

40. Cf. *Capital* Volume 3, Chapter 10, especially the following passage: 'Strictly speaking, in fact . . . the market value of the entire mass, as governed by the average values, is equal to the sum of its individual values . . . Those producing at the worst extreme then have to sell their commodities below their individual value, while those at the best extreme sell theirs above it.' See also below (p. 207): 'If the commodities are not sold at their values, then the sum of converted values remains unaffected; what is a plus for one side is a minus for the other.'

actual labour expenditure can differ only for individual commodities, not for the total mass.[41] In that sense, Morishima is right when he stresses that, in the last analysis, and for the capitalist mode of production (as distinct from petty commodity production), Marx's law of value is *fundamentally* an aggregate, macro-economic concept.[42]

The nexus between the reproduction schemas (and the problem of the circulation of capital in general) and the theory of value leads us back to one of the most hotly disputed issues of Marxist economic theory: the exact delimitation between productive and unproductive labour. As the schemas are *value* schemas, they express only *value production*, and automatically exclude economic activities which are not productive of value. What precisely are these activities?

It has to be admitted that the solution of this problem was made more difficult by Marx himself. There are undeniable differences – if only of nuance – between, on the one hand, the long section of *Theories of Surplus-Value* dealing with the problem of productive and unproductive labour and, on the other, those key passages of *Capital* (especially Volume 2) which treat the same subject. One striking illustration of this is the analysis of commerical agents and travellers. They are classified as productive workers in the *Theories*, and as unproductive workers in *Capital* Volumes 2 and 3.[43] In recent years, a long and often confused debate among Marxists has further complicated the matter.[44] It is also

41. I shall come back to this thesis when I deal with the so-called transformation problem in the introduction to Volume 3.

42. Morishima, op. cit., pp. 2–3.

43. *Theories of Surplus-Value*, Part I, Moscow 1969, p. 218; *Capital* Volume 3, Chapter 17; and see below, pp. 209–11. Even within Part 1 of *Theories of Surplus-Value*, there are striking contradictions on this question. Thus on page 157 Marx writes: 'An actor, for example, or even a clown, according to this definition, is a productive labourer if he works in the service of a capitalist.' And on page 172 he states: 'As for labours which are productive for their purchaser or employer himself – as for example the actor's labour for the theatrical entrepreneur – the fact that their purchaser cannot sell them to the public in the form of commodities but only in the form of the action itself would show that they are unproductive labours.'

44. See, *inter alia*, Jacques Nagels, *Travail collectif et travail productif dans l'évolution de la pensée marxiste*, Brussels, 1974; S. H. Coontz, *Productive Labour and Effective Demand*, London, 1965; Arnaud Berthoud, *Travail productif et productivité du travail chez Marx*, Paris, 1974; Ian Gough, 'Marx and Productive Labour', in *New Left Review*, No. 76, November–December 1972; Peter Howell, 'Once Again on Productive and Unproductive Labour', in *Revolutionary Communist*, No. 3/4, November 1975; Mario Cogoy, 'Werttheorie und Staatsausgaben', in *Probleme einer materialistischen Staatstheorie*, Frankfurt, 1973, pp. 164–71; P. Bischoff et al., 'Produktive und unproduktive Arbeit als Kategorien der Klassen-

intertwined with differences in judging the so-called service industries – which, to take one example, are not included in Soviet and East European accounting as contributing to national income, on the basis of a particular interpretation of Marx's theory of productive labour.[45] How then shall we unravel the problem?

A preliminary distinction which we need to draw goes to the heart of the matter. When Marx classifies certain forms of labour as productive and others as unproductive, he is not passing moral judgement or employing criteria of social (or human) usefulness. Nor does he even present this classification as an objective or a-historical one. The object of his analysis is the *capitalist mode of production*, and he simply determines what is productive and what is unproductive for the functioning, the *rationale* of that system, and that system alone. In terms of social usefulness or need, a doctor provides labour which is indispensable for the survival of any human society. His labour is thus eminently useful. Nevertheless, it is unproductive labour from the point of view of the production or expansion of *capital*. By contrast, the production of dum-dum bullets, hard drugs or pornographic magazines is useless and harmful to the overall interests of human society. But as such commodities find ready customers, the surplus-value embodied in them is realized, and capital is reproduced and expanded. The labour expended on them is thus productive labour.

In the framework of this socially determined and historically relativized concept, productive labour may then be defined as *all labour which*

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analyse', in *Sozialistische Politik*, June 1970; Altvater and Huisken, 'Produktive und unproduktive Arbeit als Kampfbegriffe', in ibid., September 1970; Rudi Schmiede, *Zentrale Probleme der Marxschen Akkumulations- und Krisentheorie*, Diploma thesis, Frankfurt, 1972; I. Hashimoto, 'The Productive Nature of Service Labour', in *The Kyoto University Economic Review*, October 1966; K. Nishikawa, 'Productive and Unproductive Labour from the Point of View of National Income', in *Osaka City University Economic Review*, No. 1, 1965; K. Nishikawa, 'A Polemic on the Economic Character of Transport Labour', in ibid., No. 2, 1966. See also the article by Elisaburo Koga, Catherine Colliot-Thélème, Pierre Salama and Hugues Lagrange in *Critiques de l'économie politique*, Nos. 10 and 11/12 (January–March and April–September 1973); those by J. Morris and J. Blake in *Science and Society*, Nos. 22 (1958) and 24 (1960); and those by Fine, Harrison, Gough, Howell and others in the *Bulletin of the Conference of Socialist Economists*, 1973–5. There are numerous books on Marxist economic theory which deal with the same subject in passing.

45. See, for example, Jean Marchal and Jacques Lecaillon, *La Répartition du revenu national: Les modèles*, Vol. III, *Le modèle classique. Le modèle marxiste*, Paris, 1958, pp. 82–5; Bronislaw Minc, op. cit., pp. 159–65, and many others.

is exchanged against capital and not against revenue, i.e. all labour which enriches one or several capitalists, enabling them to appropriate a portion of the total mass of surplus-value produced by the total mass of value-producing wage-labour.[46] We could call it 'labour productive from the point of view of the individual capitalist(s)'. All wage-labour engaged by capitalist enterprise – as opposed to labour functioning for private households, for consumption needs – falls into that category. This is the level at which *Theories of Surplus-Value* stops.

But when he returns to the same problem in *Capital* Volume 2, from the point of view of the capitalist mode of production in its totality, and especially from that of the growth or accumulation of capital, Marx now distinguishes *labour productive for capital as a whole* from labour productive for the individual capitalist. For capital as a whole, only that labour is productive which *increases* the *total mass* of surplus-value. All wage-labour which enables an individual capitalist to appropriate a fraction of the total mass of surplus-value, without adding to that mass, may be 'productive' for the commercial, financial or service-sector capitalist whom it allows to participate in the general sharing of the cake. But from the point of view of capital as a whole it is unproductive, because it does not augment the total size of the cake.

Only commodity production makes possible the creation of value and surplus-value. Only within the realm of commodity production, then, is productive labour performed. No new surplus-value can be added in the sphere of circulation and exchange, not to speak of the stock exchange or the bank counter; all that happens there is the redistribution or reapportionment of previously created surplus-value. This point is made clear in *Capital* Volumes 2 and 3.[47] Most of the relevant passages from Volume 2 were drawn by Engels from Manuscripts II and IV. In other words, they were written in 1870 or between 1867 and 1870, some time after the *Theories of Surplus-Value* of 1861–3 (and even after the rough manuscript of Volume 3), and may therefore be considered to express Marx's definitive views on the question. Contrary to what is said in the *Theories*, they imply that wage-earning commercial clerks or travellers do not perform productive labour, at least not from the standpoint of capital as a whole. However, even when this basic principle is established, four additional problems remain to be solved.

First, there is the question of so-called 'immaterial goods': concerts, circus acts, prostitution, teaching, etc. In *Theories of Surplus-Value*,

46. See *Theories of Surplus-Value*, Part 1, op. cit., Chapter IV, 3.
47. See below, pp. 209–11; and *Capital* Volume 3, Chapters 16 and 17.

Marx tends to classify these as commodities, in so far as they are produced by wage-earners for capitalist entrepreneurs. Although in Volume 2 he does not explicitly contradict this, he insists strongly and repeatedly on the correlation between use-values embodied in commodities through a labour process which acts upon and transforms nature, and the production of value and surplus-value.[48] Moreover, he provides a general formula which implies the exclusion of wage-labour engaged in 'personal service industries' from the realm of productive labour: 'If we have a function which, although in and for itself unproductive, is nevertheless a necessary moment of reproduction, then when this is transformed, through the division of labour, from the secondary activity of many into the exclusive activity of a few, into their special business, this does not change the character of the function itself.'[49] If this is true of commercial travellers or book-keepers, it obviously applies all the more to teachers or cleaning services.

The definition of productive labour as *commodity-producing labour, combining concrete and abstract labour* (i.e. combining creation of use-values and production of exchange-values) logically excludes 'non-material goods' from the sphere of value production. Furthermore, this conclusion is intimately bound up with a basic thesis of *Capital*: production is, for humanity, the necessary mediation between nature and society; there can be no production without (concrete) labour, no concrete labour without appropriation and transformation of material objects.[50]

48. See below, Chapter 6. Of the more systematic analyses of this problem, those of Nagels and Bischoff (see note 44 above) adopt a similar position to our own. Gough supports the opposite view, basing himself especially on a passage of *Capital* Volume 1 (op. cit., p. 644), in which Marx explicitly includes wage-earners working for private capital (such as teachers) in the realm of productive labour. In our opinion, this passage, like several in *Theories of Surplus-Value*, only indicates that Marx had not yet completed his articulation of the contradictory determinants of 'productive labour' – on the one hand, exchange against capital rather than revenue, and on the other, participation in the process of commodity production (which involves the unity-and-contradiction of the labour process and the valorization process, use-value and exchange-value, concrete and abstract labour). What is the 'immaterial good' produced by a wage-earning teacher which could be conceptually contrasted with the 'immaterial service' produced by a wage-earning cleaner (working for a capitalist cleaning firm) or by a wage-earning clerk of a department store?

49. See below, p. 209.

50. See *Capital* Volume 1, op. cit., pp. 283ff. Jacques Gouverneur attempts, mistakenly in our opinion, to transcend this limitation. In order to be able to include the production of 'immaterial goods' by wage-labour in the category of

This becomes evident when Marx sets forth in *Capital* Volume 2 his reasons for classifying the transport industry in the realm of the production of value and surplus-value, rather than in that of circulation. The argument is clearly summarized in the following passage: 'The quantity of products is not increased by their transport. The change in their natural properties that may be effected by transport is also, certain exceptions apart, not an intended useful effect, but rather an unavoidable evil. But the use-value of things is only realized in their consumption, and their consumption may make a change of location necessary, and thus, in addition, the additional production process of the transport industry. The productive capital invested in this industry thus adds value to the products transported.'[51]

Now it is obvious that none of these arguments is applicable to the carrying of persons. Passenger transport is not an indispensable condition of the realization of use-values and adds no new value to any commodity. It is rather a personal service on which individuals (whether capitalists or workers) spend their own revenue. Thus, whether it is organized on the basis of wage-labour or not, the passenger transport industry can no more be considered as increasing the total mass of social value and surplus-value than can wage-labour employed in the fields of commerce, banking or insurance.

In striking contrast to the above passage is Marx's argument in Chapter 6, 3, of Volume 2. While explicitly stating that transportation of persons by capitalist enterprise does *not* create commodities or use-values of any kind, he notes that it is nevertheless a 'productive branch', even though the 'useful effect' (*Nutzeffekt*) is only consumable during the production process itself.[52]

Ranging this question under the broader heading of so-called service industries, we may say that, as a general rule, all forms of wage-labour which exteriorize themselves in and thus add value to a product (materials) are creative of surplus-value and hence productive for capitalism as a whole. This applies not only to manufacturing and mining industries, but also to transportation of goods,[53] 'public service' industries such as the production and transport of water or any form of

'productive labour', he extends Marx's formulation referred to above into 'transformation of nature *or the world*', where 'or the world' means 'or society'. Since wage-earning teachers 'transform society' without 'transforming nature', the implications are obvious. (Jacques Gouverneur, *Le Travail 'productif' en régime capitaliste*, Louvain, 1975, pp. 41ff.)

51. See below, pp. 226–7. 52. See below, pp. 134–5. 53. See below, Chapter 6.

energy (e.g. gas and electricity), the selling of meals in restaurants, the building and sale of houses and offices as well as provision of the material for constructing them, and of course agriculture. Many sectors which are often included under the heading 'service industries' are, therefore, parts of material production and employ productive labour. By contrast, the *letting* of apartment or hotel rooms, the service of transporting persons in buses, underground systems or trains, the performance of medical, educational or recreational wage-labour which is not objectivized outside the worker (the sale of specific forms of labour rather than of commodities), the work of commercial or banking clerks and of the employees of insurance companies or market research firms – these do not add to the sum total of social value and surplus-value produced, and cannot therefore be categorized as forms of productive labour.

An interesting illustration is provided by television. The production of television sets or *films* (including copies of such films) is obviously a form of commodity production, and wage-labour engaged in it is productive labour. But the hiring-out of completed films or the renting of a single television set to successive customers does not have the characteristics of productive labour. Similarly, wage-labour employed in making advertising films is productive, whereas the cajoling of potential clients to purchase or order such films is as unproductive as the labour of commercial representatives in general.

The second problem is to draw a precise demarcation between the spheres of production and circulation in capitalist society as a whole. Volume 2 of *Capital* leaves no room for doubt about Marx's view: only that labour which either adds to or is indispensable for the realization and conservation of a commodity's *use-value* adds to the total amount of abstract social labour embodied in that commodity (is productive of value).[54] Like the rest of Volume 2, the passages dealing with this question are but successive unfoldings of the basic analysis of the commodity – of its irreducible duality and the contradictions flowing therefrom.

Thirdly, we have to consider the different kinds of labour performed within the production process itself. Here Marx takes a much less simplistic attitude than some of his latter-day disciples. His fundamental doctrine is that of the 'collective labourer', as developed in 'Results of the Immediate Process of Production'.[55] Productive labour,

54. See below, pp. 225–6.

55. This text is included as an appendix in *Capital* Volume 1, op. cit. See our introduction to this appendix, as well as Chapter 14 of *Capital* Volume 1 itself.

as labour expended in the realm of production of commodities, is *all* wage-labour indispensable for that production process; that is to say, not only manual labour, but also that of engineers, people working in laboratories, overseers, and even managers and stock clerks, in so far as the physical production of a commodity would be impossible without that labour. But wage-labour which is indifferent to the specific use-value of a commodity and which is performed only to extort the maximum surplus-value from the work-force (e.g. the wage-labour of timekeepers) or to assure the defence of private property (security guards in and around a factory); labour linked to the particular *social and juridical forms* of capitalist production (lawyers employed as salaried staff by manufacturing firms); financial book-keepers; *additional* stock-checkers made necessary by the tendency to overproduction – none of these is productive labour for capital. It does not add value to the commodities produced (although it may be essential to the overall functioning of the capitalist system, or of bourgeois society as a whole).

The final case to be examined is that of petty commodity producers, independent peasants and handicraftsmen. While producing commodities and thus both use-values and exchange-values, these strata do not directly create surplus-value (except in marginal cases), although they may contribute indirectly to the mass of social surplus-value – for example, by depressing the value of food through their cheap labour. We believe that on this point Marx maintained the position put forward in *Theories of Surplus-Value*: such strata perform labour which is neither productive nor unproductive from the point of view of the capitalist mode of production, because they operate outside its framework.[56]

7. ARE UNPRODUCTIVE LABOURERS PART OF THE PROLETARIAT?

A precise definition of productive labour under capitalism is not only of theoretical importance. It also has major implications for social book-keeping (calculation *in value terms* of the national income)[57] and significantly affects our analysis of social classes and the political conclusions we draw from it.

56. *Theories of Surplus-Value*, Part 1, op cit., pp. 407–8.

57. It should be added that, for both analytical and practical reasons, it is quite legitimate for Marxists to introduce into calculations of national income a category such as 'total money incomes of all households and enterprises taken together', provided that it is clearly differentiated from the value of the annual product and incomes generated by annual production.

The narrowest position, which seeks to reduce the proletariat to the group of manual industrial workers, is in complete contradiction with Marx's explicit definition of productive labour, and we need not dwell on it here. At the other extreme, it is obviously absurd to extend the concept of the proletariat to all wage and salary earners without limitation (including army generals and managers earning 100,000 dollars a year). The defining structural characteristic of the proletariat in Marx's analysis of capitalism is the *socio-economic compulsion to sell one's labour-power*. Included in the proletariat, then, are not only manual industrial workers, but all unproductive wage-labourers who are subject to the same fundamental constraints: non-ownership of means of production; lack of direct access to the means of livelihood (the land is by no means freely accessible!); insufficient money to purchase the means of livelihood without more or less continuous sale of labour-power. Thus, all those strata whose salary levels *permit* accumulation of capital in addition to a 'normal' standard of living are excluded from the proletariat. Whether such accumulation actually takes place is in itself irrelevant (although monographs and statistics tend to confirm that, to a modest or sizeable degree, this social group does engage in it; this is the case especially of the so-called managers, who – notwithstanding a platitude which continues to circulate in spite of all evidence to the contrary – are part and parcel of the capitalist class, if not necessarily of its top layer of billionaires).

This definition of the proletariat, which includes the mass of unproductive wage-earners (not only commercial clerks and lower government employees, but domestic servants as well), and which considers productive workers in industry as the proletarian vanguard only in the broadest sense of the word, has been challenged recently by several authors.[58] It was, however, undoubtedly the one advanced by Marx and Engels and their most 'orthodox' followers: the mature (not the

58. Gillman groups 'the advertising managers, the directors of public relations, the legal counsel, the tax experts, the "sales engineers", the legislative lobbyists, their clerical assistants' together with 'the rest (!) of the growing host of white-collar workers' in the general category of 'third party consumers'. Although he does not explicitly say so, he thereby tends to exclude them from the proletariat (*The Falling Rate of Profit*, London, 1957, pp. 93 and 131). This view clearly influenced Paul Baran's analyses in *The Political Economy of Growth* (New York, 1957) and those of Baran and Paul Sweezy in *Monopoly Capital* (New York, 1966). Boccara et al. (*Le Capitalisme monopoliste d'état*, Paris, 1971) explicitly exclude the 'intermediate salaried layers' from the proletariat, reducing the latter to the sole group of productive workers (workers producing surplus-value). (See pp. 213 and 236ff.)

senile) Kautsky, Plekhanov, Lenin, Trotsky, Luxemburg et al.[59] But it raises a weighty objection. If only productive labour produces value and thereby reproduces the equivalent of its own wages (besides creating surplus-value),[60] does this not imply that the wages of unproductive labour are paid out of surplus-value produced by productive labour? And in that case, does there not arise a major conflict of interests between productive and unproductive labour, the first seeking to reduce surplus-value to a minimum, the second wishing it to be increased? How can such a basic conflict of interest be reconciled with the inclusion of both sectors in the same social class? Furthermore, should the industrial workers not be opposed to any expansion of state expenditure, even in

59. The sources are too numerous to be listed exhaustively. The following are particularly worthy of note: *Capital* Volume 1, op. cit., p. 798, where the unemployed sick, disabled, mutilated, widowed, elderly, etc., are designated as the 'pauperized sections [*Lazarusschichte*] of the working class'; *Capital* Volume 2 (see below, p. 516), where Marx defines the class of wage-labourers as those who are under constant (continuous) compulsion to sell their labour-power (on p. 561 servants – *die Bedientenklasse* – are also characterized as wage-labourers). Rosa Luxemburg (*Einführung in die Nazionalökonomie*, Berlin, 1925, pp. 263–4 and 277–8) similarly includes casually and occasionally employed workers, as well as paupers, the sick and unemployed and so on as members of the working class. Trotsky (*1905*, London, 1972, p. 43) groups domestic servants under the same heading, and Kautsky (*The Class Struggle: Erfurt Program*, New York, 1971, pp. 35–43) explicitly includes in the ranks of the proletariat commercial and industrial wage-earners. In his draft programme of the Russian Social Democratic Labour Party, Plekhanov defines the proletariat as those who are forced to sell their labour-power (see Lenin, *Collected Works*, Vol. 6, p. 19), later extending it to 'persons who possess no means of production and of circulation . . . All these persons are forced by their economic position to sell their labour-power constantly or periodically' (pp. 61–3). While Lenin contested the introduction of the words 'and of circulation', he raised no essential objection to the formulation.

60. An interesting borderline case is that of the so-called semi-proletariat – i.e. the layer which retains partial ownership of its own means of production. Its income, which is derived from agricultural and handicraft commodities privately produced at a productivity of labour far below the social average, barely exceeds its costs of production, and is therefore insufficient to secure the barest livelihood. The semi-proletariat is thus forced to work part of the time as wage-labour. But precisely because it sells its labour-power *only temporarily*, its wages can be driven far below the prevailing social minimum. Its social existence is characterized by a striking contradiction: while it is in no way involved in the extraction or consumption of surplus-value, both its immediate and its historic interests stand in a certain limited opposition to those of the proletariat proper. That is why the semi-proletariat, unlike unproductive workers and other straightforward wage-earners, cannot be regarded as a fraction of the proletariat; it represents rather a transitional phenomenon, with one foot in the petty bourgeoisie and another in the proletariat.

the realm of 'social services', since this is financed in the last analysis through an increase in surplus-value extracted from them?

This objection can be countered at two levels. To begin with, it is not true that all unproductive labour is paid out of currently produced surplus-value. An important part of that labour (e.g. commercial employees, workers in the financial sector and those in unproductive service industries) is paid not out of currently produced surplus-value, but out of that portion of *social capital* which is invested in these sectors. Only the *profits* of these capitals form part of currently produced surplus-value. It is true that social capital is the result of *past* extortion of surplus-value. But this applies also to variable capital, i.e. to wages currently paid out to productive workers. The important point here is that, since wages and salaries in all these sectors are not drawn from *currently produced* surplus-value, *their payment in no way reduces the currently paid wages* of productive workers.[61]

Part of the wages bill of unproductive labour, however, is financed out of currently produced surplus-value. This concerns essentially the wages and salaries of state employees in public services and administration (not, of course, the state industries, where autonomous commodity production and therefore value production occur). But in order to conclude from this that a reduction of state expenditure entails a reduction of surplus-value and an increase in real wages (or, which amounts to the same thing, that the rise in state expenditure has occurred through an increase in surplus-value and a reduction in real wages), it would be necessary to undertake a very detailed analysis of the trend of the rate of exploitation and of workers' living standards and needs since the 'explosion' of state expenditure. Such an examination is clearly beyond the scope of this introduction, but two crucial points should be made.

First, the concept of 'gross wages' (i.e. wages before tax) has no meaning in Marxist economic theory. Wages are means of reconstituting the

61. These wages increase the total mass of social capital among which the *given* quantity of surplus-value has had to be divided (in other words, they lower the average rate of profit). But as far as the industrialists are concerned, this is a lesser evil. If there were no autonomous commercial capital and commercial wage-earners, their own capital outlays to cover the costs of circulation would be significantly higher, and the rate of profit still lower (see *Capital* Volume 3, Chapter 17). Since this only concerns the distribution of a given mass of surplus-value between different forms of capital, with no *direct* bearing on the division of newly created value between wages and surplus-value (i.e. on the rate of exploitation of productive labour), there arises no conflict of interest between productive and commercial wage-earners.

worker's labour-power through the purchase of commodities and services. Thus money deducted from the worker's 'gross wage' to help the state buy aeroplanes has nothing at all to do with wages. It is from the outset part of social surplus-value. (Of course, if fresh taxes actually lower previously attained levels of real wages, they may indeed be said to have increased the rate of surplus-value. But again this will be measured by comparing successive amounts of net – real – wages, and not 'gross wages'.)

Similarly, it would be absurd to construe state medical, educational or transport services which help reconstitute the worker's labour-power (or maintain his family under normal living conditions) as derived from surplus-value; they represent rather *a socialized portion of the wage*, regardless of whether it passes through the form of 'state revenue', and regardless of whether it 'originated' in 'gross wages' (taxes paid by the worker), 'gross profits' (taxes paid by the capitalist), or the 'gross income' of independent middle classes.[62]

It thus proves meaningful after all to examine the impact of a rise or fall in state expenditure on *average working-class living standards*, independently of its servicing (mediation) by unproductive state employees. Where these living standards decline, the conclusion is obvious: the total price of labour-power (individual plus 'socialized' wages) has been reduced. Where they rise, however, no sophism can prove that this entails an increase in social surplus-value. (To be sure, it could be *accompanied* by such an increase, but then so could a rise in real direct wages. 'Accompanied by' is not synonymous with 'caused by', except for people with faulty logic.)

As Marxist economic theory rejects the notion of a rigid 'wages fund',

62. It has been objected that unemployment compensation can by no means be considered as the equivalent of the 'price' or 'value' of a commodity called 'labour-power', for by definition the unemployed do not sell their labour-power. However, this argument is based on a somewhat mechanistic reduction of the category 'socialized wages'. Nobody could assert that, if a worker places 10 per cent of his current wages in a chocolate box or a bank account in order to provide for the portion of his 'active adult life' during which he expects to be unemployed, that amount of money thereby ceases to be part of his wages. There is no fundamental difference between this and the situation where all workers use a collective chocolate box or bank account called the National Institute of Unemployment Insurance or National Institute of Social Security, and where the sums of money do not pass through the workers' pay packets but are transferred directly from the capitalists' accounts to these institutes. Only if this analysis is accepted, by the way, is it legitimate to demand that such funds be exclusively administered by the unions (for neither the employers nor the state should have any say in how the workers spend their own money!).

any analysis of the effects of varying levels of state expenditure upon the rate of exploitation would have to be aggregate and dynamic. Nothing flows automatically from either the expansion or contraction of state expenditure. Thus, for it to be shown that it was rising at the expense of the working class, it would have to be proved that, under the given economic, social and political conditions, a reduction in expenditure would lead to higher real wages rather than higher profits for the capitalist class. Without such detailed proof, the thesis would remain doubtful, to say the least. The analysis would have to take into account the probable dynamic of the political and social class struggle (a function of, among other things, the great historical shifts in the economic correlation of class forces within a given bourgeois society) and its precise impact upon the structure of both state revenue and state expenditure.

We seem to have strayed considerably from the problem of productive and unproductive labour, and its relation to the definition of the proletariat. But in reality, we have only now arrived at the heart of the problem. For the correct Marxist classification of the proletariat – the class which is forced by socio-economic compulsion to sell its labour-power to the capitalist owners of the means of production – implies that both variations in the level of the reserve army of labour, and the variegated relations between the 'purely physiological' and 'moral-historical' components of the value of labour-power,[63] are of decisive importance for the proletarian's immediate destiny.

Once we understand this, we can see the significance of the growth of unproductive wage-labour, which accompanies the absolute and relative increase in the size of the proletariat in contemporary capitalist countries.[64] Far from reflecting increased exploitation of productive labour or a

63. See my introduction to *Capital* Volume 1, op. cit., pp. 66–72, and *Late Capitalism*, op. cit., pp. 149–58.

64. *Wage earners (incl. unemployed) as % of total active population*

	1930s	*1974*
Belgium	65·2% (1930)	83·7%
Canada	66·7% (1941)	89·2%
France	57·2% (1936)	81·3%
Germany	69·7% (1939)	84·5% (West Germany)
Italy	51·6% (1936)	72·6%
Japan	41·0% (1936)	69·1%
Sweden	70·1% (1940)	91·0%
U.K.	88·1% (1931)	92·3%
U.S.A.	78·2% (1939)	91·5%

Sources: For the 1930s, *Annuaire des statistiques du travail*, 1945–6, Bureau International du Travail, Montreal, 1947; for 1974, *Office statistique des communautés européennes: statistiques de base, 1976.*

sharp rise in the rate of exploitation, it has rather established a ceiling above which the rate of exploitation can hardly climb under 'normal' political circumstances (excluding, that is, fascist or fascist-type régimes). For, despite the rapid replacement of living labour by dead labour (semi-automated machinery), it is this growth of unproductive wage-labour which, in many capitalist countries, has reduced the reserve army of labour for a whole historical period. Moreover, the services provided by a significant sector of unproductive wage-labour have been a major factor in developing the needs and living conditions of the proletariat far beyond the purely physiological bedrock. The new minimum standard which has arisen is, at least in the imperialist countries (and in some of the most developed semi-colonial countries with a powerful labour movement, like Argentina), much higher than the one existing in Marx's time.

This acquisition should obviously not be taken for granted or regarded as unassailable. It is nothing but a conquest made by the working class under favourable conditions on the labour market (long-term decline of structural unemployment) and rendered objectively possible by the long post-war period of accelerated economic growth. Since the early seventies, as was foreseeable, this basic economic situation has been reversed.[65] Massive structural unemployment has reappeared, together with savage attacks in many 'rich' countries on the real wages of the working class, be they aimed at 'direct' or 'socialized' wages or at both. Correctly, the workers have reacted strongly against massive cuts in social state expenditure, thereby showing that their class instinct is clearer than the 'science' of those theoreticians who persist in calling all state expenditure 'surplus-value' (the logical consequence of which would be indifference to, or even approval of the cut-backs).

8. LUXURY PRODUCTION, SURPLUS-VALUE AND ACCUMULATION OF CAPITAL

Also related to the integration of Marx's labour theory of value with his theory of reproduction is the question of the exact nature of the labour which produces luxury goods, as well as its function in reproduction. This problem is important not so much because of the role of luxury consumption as such, but because of the obvious analogy between luxury products and another sector which has played an ominously

65. See Chapter 4 of *Late Capitalism*, op. cit.

growing role in capitalist economy ever since Marx wrote *Capital.* We are referring, of course, to *arms production.*

Controversy over the exact function of the arms sector under capitalism has been raging since the end of the nineteenth century, when the Russian populist V. Vorontsov raised for the first time the possibility of avoiding crises of over-production through 'absorption' of part of surplus-value by increased arms production.[66] In the thirties and forties, a long debate among Marxists took up the role of rearmament in overcoming the long-term stagnation of the international capitalist economy during the inter-war period. Since the war, the Vance–Cliff–Kidron school has assigned a crucial position to the 'permanent arms economy' in the explanation of the long economic 'boom'; and arms production occupies a central place in the process of 'surplus absorption' presented in Baran and Sweezy's *Monopoly Capital.*[67] More recently still, a new controversy has arisen between the author of this introduction and various other Marxist economists, centring on the specific relation of arms production to the evolution of the mass and rate of profit under late capitalism.[68]

Marx's theory sees the essence of value in abstract social labour, irrespective of the specific use-value of the commodity it produces. The existence of some kind of use-value is a precondition of the realization of exchange-value only in the immediate and obvious sense that nobody buys a good which has absolutely no use for him. But the social fact of purchase is sufficient proof of the use-value of a commodity, that is, of its usefulness to its buyer. Hence only *unsold* commodities do not embody socially necessary labour and thus have no value; those which are sold are by definition the product of socially necessary labour and increase through their production the mass of socially produced value. Under capitalism, also by definition, the production of all sold commodities created by wage-labour increases the total mass of surplus-

66. Quoted in Luxemburg, *The Accumulation of Capital*, op. cit., p. 282.

67. Here again, the list of books is too long to be reproduced in full. Leaving aside older works, the following deserve mention: Nathalia Moszkowska, *Zur Dynamik des Spätkapitalismus*, Zurich/New York, 1943; T. N. Vance, *The Permanent War Economy*, Berkeley, 1970; Adolf Kozlik, *Der Vergeudungskapitalismus*, Vienna, 1966; Baran and Sweezy, *Monopoly Capital*, op. cit.; Fritz Vilmar, *Rüstung und Abrüstung im Spätkapitalismus*, Frankfurt, 1965; Michael Kidron, *Western Capitalism since the War*, London, 1968. Of less direct relevance is Gillman, *The Falling Rate of Profit*, op. cit.

68. See my arguments in *Late Capitalism*, op. cit., Chapter 9, and those of Cogoy, *Werttheorie und Staatsausgaben*, op. cit., pp. 165–6. See also Paul Mattick, *Kritik der Neomarxisten*, Frankfurt, 1974.

value produced and realized (unless they are sold at a price so far below their cost of production that society does not recognize any part of the surplus labour contained in them).

In Volume 2, Marx clearly distinguishes production and realization of surplus-value (and, by implication, profit) from expanded reproduction of capital, i.e. capital accumulation. Not all commodities produced contribute to the process of expanded reproduction. But Marx states quite explicitly that all commodities produced and sold contribute to the increase of total surplus-value appropriated by the capitalists and their retainers.[69] By contrast, under conditions of simple reproduction, there would be no surplus-value and no profit whatsoever, since *all* surplus-value would be unproductively consumed without entering into the reproduction process.

The production of luxury consumer goods, purchased out of the portion of surplus-value which is not accumulated, remains within the sphere of the production of value and surplus-value, that is to say, it enlarges the mass of profit accruing to the capitalist class. By the same token, the production of arms or space equipment is a form of commodity production; the fact that the sole purchaser is here the state, whereas luxury products are exchanged for revenue of the bourgeoisie, makes no essential difference. In order to determine whether arms production depresses or raises the average rate of profit, the same questions have to be answered as for any other 'sub-department' of capitalist production. Is the organic composition of capital in that particular department equal, superior or inferior to the average organic composition in other departments? And does its rise (or fall) influence the average social rate of surplus-value?[70]

It is not as easy to define the contribution of armaments production to the accumulation of capital as it is to decide whether it constitutes a form of production of value and surplus-value which influences the oscillations of the rate of profit. Two basic situations have to be distinguished.

69. See below, pp. 146–9, 178, 508–9 etc.

70. This follows automatically from the commodity nature of the arms produced, that is to say, from the fact that capital invested in that sector is engaged in the production of commodities and the corresponding labour employed in the production of surplus-value. Thus, as in the case of the production of luxury goods, differences between the rate of profit within that branch and the rate outside it (due, for instance, to variations in the organic composition of capital) will lower or increase accordingly the social average rate of profit. In *Theories of Surplus-Value*, Marx explicitly defends this position against Ricardo.

In a situation of 'full employment of capital' (which can be, and often has been, accompanied by structural unemployment of wage-labour), the production of weapons, like the production of luxury goods not entering into the reproduction of labour-power, evidently does not contribute to the accumulation of capital. This is true in a double sense. Weapons, like luxury products, do not provide the objective material elements of expanded (re-)production. They furnish neither additional raw materials, machines or sources of energy, nor consumer goods capable of feeding an expanded work force. Nevertheless, that part of the national income which buys weapons could not have been spent on additional means of production or wages for additional productive workers. Thus, both because of their specific use-value, and because they are exchanged against the non-accumulated part of surplus-value, weapons do not contribute to expanded reproduction, to capital accumulation, under conditions of 'full employment' of social capital.

This does not necessarily imply that weapons production *reduces* capital accumulation, except in the most general sense that *all* forms of unproductive expenditure of surplus-value do so. For it to be shown that the appearance or expansion of an arms sector *has actually reduced* expanded reproduction, it would have to be demonstrated that it has appeared (or expanded) *at the expense* of the sector of means of production. If it has simply replaced luxury production, then, all other things being equal, neither the scope nor the potential rhythm of capital accumulation will have been changed.

But what if the weapons sector has appeared (or expanded) at the expense of the sector producing consumer goods for the workers, still assuming 'full employment' of capital? There are again two distinct possibilities to be considered. Where this substitution leads to a decline in the physical or moral working capacity of the labour force, the rate of capital accumulation will fall in consequence, perhaps even, after a certain time, to the extent of contracted reproduction.[71] But where this substitution leaves unchanged the capacity or willingness of the workers to accept the current 'norm' of social labour in the process of production, such a shift of resources from department II to department III would imply a rise in the average social rate of surplus-value. The same value product would then be produced with the same labour-power, but at the cost of less variable capital. The working class would simply receive a smaller share of the existing national income. Whether this would leave

71. See Ernest Mandel, *Marxist Economic Theory*, London, 1968, pp. 332–5, on the war economy.

the rate of accumulation unaltered, or whether it would actually lead to a higher level of capital accumulation or expanded reproduction, would then depend on the way in which this rise in the rate and mass of surplus-value influenced the division of surplus-value between the unproductively consumed portion (in which is included the weapons sector) and the accumulated part.[72]

At this point, we must abandon the initial supposition of 'full employment of capital' and examine the actual function of expanding arms production under conditions of long-term *plethora* of capital. The situation is by no means artificial or introduced purely for the sake of argument. On the contrary, it was already prevalent during the first massive arms drive in the history of capitalism, which took place during the two decades preceding the First World War.[73] It was even more marked in the thirties, during the second period of massive rearmament, starting with Japan's 'Manchurian Incident' and German policy after Hitler came to power, and becoming generalized after 1936. Such *plethora* of capital remained more than ever the rule in the phase of permanent arming which has lasted now for more than thirty years and shows no signs of coming to an end – quite the contrary.[74] It is thus entirely appropriate to investigate the effect upon capital accumulation of an armaments sector developing under conditions of large-scale *plethora* of capital.

Over-production of capital signifies, on the value side, the emergence of large sums of capital which have to be hoarded in savings accounts,

72. In *The Accumulation of Capital* (op. cit., pp. 455–7 and 461ff.), Luxemburg correctly stresses the circumstances under which increased military expenditure financed at the expense of the working class (for example, through indirect taxation of consumer goods) may lead to an increase both in the rate of surplus-value and in capital accumulation.

73. It is sufficient to refer here to Chapter 8 of Lenin's *Imperialism*.

74. On the controversy between those who see a current 'scarcity' of capital and those who argue that, on the contrary, there exists a plethora of capital, see 'Capital Shortage: Fact and Fancy' by the editors of *Monthly Review*, in Volume 27, No. 11, April 1976. In my own article, 'Waiting for the Upturn' (*Inprecor*, Nos. 40/41, December 1975), I put forward the same position as that of *Monthly Review*. It should be stressed that there is no contradiction between the appearance of a plethora of capital and an actual decline in the rate of profit (i.e. relative scarcity of the mass of surplus-value). Indeed, the latter *determines* the former. This appears paradoxical only to those who, ignoring one of the main lessons of Volume 2, evacuate the 'time' factor from the analysis of 'capital in general' and mistakenly identify capital with *currently produced* surplus-value. The problem disappears once capital is understood as the accumulation of quantities of surplus-value produced in a series of *past* operations.

or used for purchasing bonds and government securities, where they beget only the average rate of interest rather than the average rate of profit. On the use-value side, it is expressed in sizeable stocks of unused raw materials and productive capacity in plant, as well as in large reserves of unemployed workers. If, as a result of the appearance and expansion of a significant arms sector in the economy, money (or quasi-money) capital is productively reinvested, then the production of value and surplus-value increases. We know already that the manufacture of arms is productive of value and surplus-value. Hence, in the immediate sense, capital grows richer because more workers are exploited in the production of greater surplus-value.

Since department II does not contribute to the creation of the material elements of expanded reproduction, its expansion cannot *directly* ensure a higher level of capital accumulation, But it can do so indirectly. For as additional workers are employed, the wages bill increases, leading to rising output and sale of consumer goods. Similarly, the consumption of additional raw materials in the weapons industry stimulates the production of mines and other centres of department I which had previously contracted their output. Material production will rise in all sectors of the economy, thereby augmenting the material elements of expanded reproduction, *provided that reserves of 'productive factors' are available* (which follows from the initial hypothesis of 'under-employment of capital') and/or provided that at least *part* of the additional surplus-value is not absorbed by the armaments sector or other unproductive departments, but remains available for capital accumulation.

These conditions apply with even greater force if the processes described are accompanied by a changed distribution of the national income between wages and surplus-value, that is to say, if rearmament is financed to some extent at the expense of the working class through a rise in the rate of surplus-value. The resultant combination would then be 'ideal' for the accumulation of capital: at one and the same time, there would occur an expansion of the mass of workers employed and exploited (i.e. an expansion of the value product, the mass of surplus-value, *and* market demand); an increase in the rate of surplus-value and (probably) the rate of profit; and a rise in the rate of accumulation (i.e. an increase of investment in the productive sector, over and above the growth in arms spending).[75]

75. This explains the important difference between Hitler's war economy and the post-war 'boom'. In the former case, as opposed to the latter, increased investment was by and large confined to the armaments sector; there occurred no real cumulative growth, involving expansion of the 'final consumers' market'.

Needless to say, this provides no 'long-term solution' to the problems of capitalist equilibrium, since the very 'success' of the operation inevitably reproduces the initial contradictions. Increased capital accumulation leads to a rise in the organic composition of capital, which in turn begins to depress the rate of profit. The higher level of employment (made possible by the absorption of part of the unemployed in the army or the state apparatus – a normal feature of a substantial rise in military spending) reduces the industrial reserve army of labour and thereby, except under a fascist-type dictatorship, tends to make it more difficult to neutralize the effects of the rising organic composition of capital by driving up further the rate of surplus-value. A decline in the rate of profit depresses productive investment and leads to both a crisis of over-production and a fall in the rate of capital accumulation; when that rate actually becomes 'negative', a process of devalorization of capital begins, which is the normal function of a crisis of over-production.

To counter this new crisis of capital accumulation through an intensification of armaments production, where a sizeable sector already exists in the economy, would modify the basic proportions both of the division of surplus-value between its accumulated and consumed portions, and of the allocation of productive resources between departments I and II, on the one hand, and department III, on the other. Whatever effect upon the process of expanded reproduction was initially obtained would be increasingly neutralized. Moreover, such a high rate of taxation of profits and wages would be necessary that, except under very special political conditions, the basic social classes (although not that sector of capitalists directly engaged in weapons production and procurement) would revolt against further development of the arms industry. Such an expansion is thus no cure-all for the ills of capitalist over-accumulation and over-production. But it can trigger off shorter or longer periods of economic upturn as long as those preconditions indicated above are satisfied.

9. HOW CAN COMMERCIAL AND FINANCIAL CAPITAL PARTICIPATE IN THE DISTRIBUTION OF SOCIAL SURPLUS-VALUE?

The distinction between productive and unproductive labour partially dovetails with the distinction between two general sectors of capital: capital invested in commodity *production* (be it in industry, agriculture, transport or productive branches of the so-called service industries) and capital invested elsewhere (i.e. between 'productive capital' and 'unproductive capital'). The latter category involves essentially commercial capital, banking and insurance capital, and capital invested in the 'unproductive' branches of service industries. We have seen before that, while wage-labour hired by these capitalists enables them to appropriate a fraction of the sum total of surplus-value accruing to the entire capitalist class, it does not itself add to that total. The question may, therefore, be posed: why do the industrial capitalists, or more precisely all those who invest in the 'productive' sectors, accept that a portion of the surplus-value produced by 'their' workers should be appropriated by capitalists whose capital does not contribute to the production of surplus-value?

This problem is dealt with at length in *Capital* Volume 3; but since a section of Volume 2 is devoted to it, we should briefly touch on it here. The answer becomes clear once we realize that, although capital invested outside the sphere of material production does not directly augment the mass of surplus-value, *it does contribute indirectly to its increase.* In other words, industrial and farming capitalists abandon a share of 'their' surplus-value to traders and bankers not out of the goodness of their hearts, but because these gentlemen help them to raise the mass of that surplus-value.

In order to demonstrate that this is so, Marx again introduces into his analysis that 'time dimension' which plays such a key role throughout Volume 2, and which in a certain sense structures the whole process of circulation and turnover of capital. Whereas the total turnover time of fixed capital stretches over many years, and is not basically affected by small shifts in the length of the period during which capital takes the form of commodity capital (i.e. during which commodities remain unsold in the sphere of circulation), the situation is entirely different in the case of circulating capital. If it takes three months to produce a given mass of commodities, and three months to sell them, circulating productive capital will turn over only twice a year unless it receives assistance. That part of it which is exchanged for labour-power, and thus makes possible the creation of surplus-value, would then remain sterile for six months of the year. If, however, commercial capital buys up a large proportion of the commodities as soon as they leave the factory, or if banking capital advances the money to pay the raw materials bill immediately after the commodities are produced and before they are sold, then, owing to the assistance of these sectors of the capitalist class, productive circulating capital can be reinvested as soon as a production cycle is completed. Consequently, variable capital will never remain idle. It will set workers to produce surplus-value twelve months, and not six months a year – as a result of which, all other things being equal, the total annual mass of surplus-value will be twice as great as it would otherwise have been. It naturally pays industrial capital to give a discount to wholesale traders, or to pay interest to bankers, if these rescue operations allow an overall increase in the production of surplus-value.

What this implies, however, is that only a fraction of total social capital is continuously engaged in production. An important segment remains constantly outside the realm of production. We have already noted why part of social capital necessarily takes the form of money capital. We now see that another portion has to take the form of transportation and banking capital, in order to shorten the circulation time of commodities. From the point of view of the capitalist class as a whole (and this is the one adopted by Marx in Volume 2; only in Volume 3 does he consider these different sectors as competing with one another for fractions of social surplus-value), this may be regarded as a *functional division of labour within that class.* Instead of each industrialist and capitalist farmer acting as his own treasurer, his own money changer, his own transporter, his own seller of commodities on the home and world markets, and his own advancer of additional money capital, all these various functions are socially centralized by sectors of the bourgeoisie specializing in different fields. This division of labour carries with it a considerable rationalization: the costs of overall social circulation, transportation and banking are lower than they would have been if each capitalist firm had had to accomplish these tasks itself. The overhead costs of production are thereby reduced, and the total mass of surplus-value is increased through continuous production. It is thus profitable for the bourgeoisie as a whole to maintain (and even expand, as the record of the 'service industries' demonstrates!) this functional division of labour.

What is the source of capital invested outside the realm of material production? Since all capital derives in the last analysis from surplus-value, and since, under the capitalist mode of production, all surplus-value is created by 'productive capital' (that is, by wage-labour engaged in material production), it may appear that all commercial and banking capital ultimately derives from industrial and agricultural 'productive' capital. This is partially true. In *Capital* Volume 2, Marx points out how money capital is periodically 'expelled' from the process of value production, thereby becoming temporarily available for other purposes. The best example of this is the depreciation fund of fixed capital. Reinvested only at certain intervals, rather than piecemeal after each production cycle, it serves for a time as an important source of money capital employed in credit and other operations.

However, such a view should not be generalized. Capital, after all, is older than the capitalist mode of production. Before surplus-value was produced in the process of production, vast wealth was accumulated through the plunder of peasants, the fleecing of feudal lords (for example, by over-pricing exotic merchandise), robbery of merchants (through piracy) and tribal communities (through the capture of slaves). Merchant, commercial and banking capital existed long before 'productive' capital was born in manufactures, not to speak of the industrial revolution. Thus, industrial capital not only reproduces commercial and banking capital by paying over fragments of the surplus-value created by 'its own' workers; it also finds these other forms of capital present at the moment of its own birth, and indeed as a condition of this. Commercial and banking capital, then, reproduce themselves both by continuing their former practices (i.e. appropriation of part of the social product originating *outside* the realm of *capitalist* relations of production, and transformation of it into surplus-value and money capital) and by appropriating part of the surplus-value created *within* the capitalist process of production proper. The interpenetration of pre-capitalist, semi-capitalist and capitalist relations of production, imposed upon colonies and semi-colonies by the power of capital on the world market and the violence of foreign political and military domination, has been an extremely important factor in the historical development of these twin sources of money capital accumulation. Through the operations of merchant, commercial, usury and banking capital, they have continued till this very day to play a key role in world-wide capitalist expansion, especially within the so-called third-world countries. Thus primitive accumulation of capital and 'productive' accumulation of capital (through the creation of surplus-value in commodity *production*) are not only successive historical stages, but also simultaneous and combined phenomena. Nor does primitive accumulation automatically lead to a commensurate spread of 'productive' capital and industrialization; it may instead simply condense into a 'one-sided' expansion of the above-mentioned forms of 'unproductive' capital. This circumstance, together with the impact of foreign imperialist domination, clarifies one of the mysteries of underdevelopment under capitalism.

10. LUXEMBURG'S CRITIQUE OF MARX'S REPRODUCTION SCHEMAS

In the history of Marxist thought and the international labour movement, the most important controversy to have arisen in connection with Volume 2 was sparked off by Luxemburg's critique of Marx's reproduction schemas in her *The Accumulation of Capital*. Involved in the debate have been truly formidable questions: Marx's theory of crisis; the historical limits of the capitalist mode of production (the so-called 'breakdown theory' or *Zusammenbruchstheorie*); and the origins and functions of imperialism, colonialism, militarism and wars in the imperialist epoch.[76] We shall confine ourselves, in this introduction, to that part of Luxemburg's contribution which is directly related to the subject-matter of *Capital* Volume 2 – the circulation, turnover and reproduction of the total social capital.

Luxemburg's critique is essentially centred on a single theme: how can that part of the value of commodities which corresponds to the accumulated portion of surplus-value be realized? What purchasing power is available for its realization? Why do capitalists expand production, if not because they are assured of, or expect to have, additional customers? Who are these new customers? She first rejects the idea that they could be workers, since the purchasing power of the latter originates with capital, and expansion of production merely to satisfy the new needs of an enlarged work-force would be inconceivable for the capitalist class *in its totality*. (Of course, this is not true of capitalists taken individually, for whom all workers *except their own* are potential customers; but, as Luxemburg flatly states, for the capitalist class as a whole, *all* workers are 'their own workers', and it makes no sense to treat them as a source of increased sales.[77]) She also dismisses the notion that these additional customers could be other capitalists. For how could the capitalist class *in its totality* enrich itself if the money to buy the

76. The main contributions to the discussion on Luxemburg's *The Accumulation of Capital* were the reviews by Otto Bauer (in *Die Neue Zeit*, No. 24, 1913), Anton Pannekoek (in *Bremer Bürgerzeitung*, 29 January 1913) and G. Eckstein (in *Vorwärts*, 16 February 1913), and the book by Bukharin, *Imperialism and the Accumulation of Capital*, op. cit. Henryk Grossmann (*Das Akkumulations- und Zusammenbruchsgesetz des kapitalistischen Systems*, Leipzig, 1929) deals in a number of places with Luxemburg's theory. See also the recent discussion in Arghiri Emmanuel, *Le Profit et les crises*, Paris, 1975, and Joan Robinson's introduction to the English translation of *The Accumulation of Capital* (ed. cit.).

77. Luxemburg, *The Accumulation of Capital*, op. cit., pp. 289–90.

surplus product came out of its own pocket?[78] Nor could they be so-called third persons, who are essentially the cronies, hangers-on and servants of the capitalist class (or of landowners appropriating ground-rent). For, in the last analysis, the revenue of all these social layers is derived from surplus-value. If surplus-value were the only source of purchasing power available for buying up the increased mass and value of commodities, it would mean that capitalists become richer by spending their own money.

For Luxemburg, then, the conclusion is inescapable. The additional purchasing power which has to be sucked into the process of capitalist circulation can only come from *outside* capitalist relations of production properly called, through forcing non-capitalist social classes (essentially peasants and pre-capitalist landowners) ruinously to spend their revenue on capitalist commodities. Only in this way can expanded production and reproduction, capital accumulation and capitalist economic growth in general take place. The end result of the argument is equally obvious. By destroying the non-capitalist milieu on which its expansion is based, capitalism undermines the conditions of its own growth. The disappearance of this non-capitalist (pre-capitalist) environment thus marks the absolute limit of capitalist development.[79]

While the main thrust of Luxemburg's argument is clear and simple, much of the controversy surrounding *The Accumulation of Capital* has been diverted away from her central thesis, largely because she herself combined it with a series of further criticisms of Marx's reproduction schemas which are much easier to answer. Thus, when she asserts that Marx confuses the function of money as means of circulation with the role of income (purchasing power) as necessary prerequisite of the realization of commodity-value, she is quite evidently mistaken.[80] And when she implies that the reproduction schemas do not correspond to the reality of the capitalist mode of production, she mixes up levels of abstraction which are clearly differentiated in Marx's method. She is no less misguided when she surmises that, because Marx's figures do not incorporate the 'laws of motion' of capital (they allow for no increase in the organic composition of capital), they *could not* incorporate these

78. ibid., pp. 127–33.

79. The notion that a non-capitalist milieu is necessary for expanded reproduction and accumulation was first advanced by Heinrich Cunow ('Die Zusammenbruchs-theorie', in *Die Neue Zeit*, No. 1, 1898) and later defended by Karl Kautsky ('Krisentheorien', in *Die Neue Zeit*, No. 2, 1902) and Louis B. Boudin (*The Theoretical System of Karl Marx*, Chicago, 1907, especially pp. 163–9 and 241–53).

80. Luxemburg, op. cit., pp. 143–5. Cf. below, pp. 442–4.

laws. Similarly, it does not follow at all from the evident truth that department I is the *primum movens* of the accumulation process, that department II is somehow 'sacrificed to' or 'dependent upon' department I, in contradiction to the laws of private property and competition.[81] And so on and so forth. On all these secondary issues, controversy has been raging fiercely, generally at Luxemburg's expense. But although it still erupts from time to time, it has little relevance to the principal question that she raised.

Luxemburg's main argument has to be answered at three successive levels of abstraction. First, and most abstractly, she committed a methodological error by situating within the framework of 'capital in its totality' a problem that can only be considered in relation to the 'competition of many capitals'.[82] It is impossible to conduct an analysis simultaneously at these two distinct levels, since capital in its totality *abstracts by definition* from many capitals, from competition. Thus the argument that the capitalist class cannot enrich itself by purchasing its own surplus product overlooks the fact that, under a system of private property, the surplus product can *never* be owned by 'a single total capital'. Capitalist competition implies that capitalists can indeed grow richer by buying one another's 'surplus product'. Marx himself explicitly states that 'the *surplus-value* created at one point requires the creation of surplus-value at another point, for which it may be exchanged'.[83] He also indicates that, in the absence of competition, growth would actually disappear.[84]

In short, for Marx, growth is possible in a 'purely' capitalist milieu (i.e. where no part of the social surplus product can find 'non-capitalist' customers) provided that the interests and growth rates of all capitalists are assumed to be not identical, but on the contrary *rooted in competition.* The realization question *does not*, and *cannot*, arise within the realm of 'capital in general'; it appears, together with the theory of crises and the trade cycle, only within the sphere of 'many capitals'. This Marx repeatedly stated himself.[85]

It follows that reproduction schemas which imply competition should

81. Schemas incorporating these laws of motion have been worked out by Bauer, Grossmann, Léon Sartre, Glombowski, Hosea Jaffe and many others. Whether they assure long-term equilibrium conditions is, of course, quite a different question.

82. This point was first made by Rosdolsky (op. cit., pp. 63–72).

83. *Grundrisse*, op. cit., p. 407.

84. *Capital* Volume 3, Chapter 15, 3.

85. *Theories of Surplus-Value*, op. cit., Part II, pp. 532–4.

assume *as a rule* the existence of *different, rather than equal* rates of accumulation in the two departments, only occasionally leading to equalization of the rate of profit. This corresponds to the real *modus operandi* of the capitalist system. It also points the way to a solution of the technical problem seen by Luxemburg in the fact that the 'unsaleable' portion of commodities of department II embodies part of the surplus-value created in that department. As a matter of fact, Luxemburg dismissed out of hand Marx's convincing solution, which was later developed at length by Otto Bauer.[86] Part of the surplus-value produced in department II *is* periodically transferred to department I, precisely when (and because) department I exhibits, over a considerable length of time, a higher organic composition of capital than that of department II.

At this most abstract level of reasoning, the problem has been posed as one of quasi-static equilibrium. But at a second level which, while still abstract, is a step nearer to the historical reality of the capitalist mode of production, accumulation of capital must be examined as *a discontinuous process* with a view to understanding its actual dynamics. The first question I posed was the following: can customers be found for those commodities which embody the accumulated part of surplus-value, if we assume that all purchasing power originates as either wages or surplus-value within the capitalist process of production itself? Marx's simple answer is: yes, so long as we do not take surplus-value to be a single mass, owned by a solitary capitalist (who would then obviously be condemned to 'buy' his own goods). The second question may now be re-posed as follows: what is the effect upon the realization of the value of commodities embodying the accumulated part of surplus-value, if and when (1) the organic composition of capital rises in both departments; (2) department I grows at a faster rate than II (which is the unavoidable result of the rising organic composition of capital); and (3) the rate of profit declines (i.e. the growth in the rate of surplus-value is insufficient to compensate for the rising organic composition of capital)? In other words, is full realization of surplus-value possible when the laws of motion of the capitalist mode of production assert themselves?

This second question requires a more complex answer than the previous one. Theoretically, full realization of surplus-value *is* possible, and several ingenious mathematical models have been constructed – by, among others, O. Benedikt, Shinzaburo Koshimura, Oskar Lange, J.

86. Luxemburg, op. cit., pp. 294–5.

Caridad Mateo and Hosea Jaffe[87] – in order to show that it is. By contesting this. Luxemburg denied that 'pure' capitalism was possible, thus taking a position exactly opposite to the one which Marx tried to demonstrate with his reproduction schemas. It should be immediately added, however, that the real *socio-economic conditions* expressed by these algebraic formulas have to be precisely defined.[88] Furthermore, those of her critics who replied that the schemas 'prove' by themselves the possibility of unlimited, smooth progress of reproduction [89] forgot one small point: capitalism has been generating periodic crises of over-production for more than 150 years, and continues to do so with the regularity of a 'natural law'. We can reject out of hand the hypothesis that each successive crisis has been due entirely to 'specific' causes, unrelated to the inner logic of the capitalist mode of production, and extraneous to the inter-relation of the growth rates of c, v, s/v, accumulated s/total s, both within and between the two departments. The very periodicity of these crises is enough to refute the 'harmony theorists' and the view that capital accumulation can go on for ever 'on the basis of the schemas'. In this respect, the superiority of Luxemburg over certain of her critics is obvious.[90]

Nevertheless, did she succeed in proving her case in a technically satisfactory manner? We do not believe so; for she narrowed down the problem to an excessively monocausal one. In order to prove that, under capitalism, equilibrium *must* beget disequilibrium, that expanded

87. O. Benedikt, 'Die Akkumulation des Kapitals bei wachsender organischer Zusammensetzung', in *Unter dem Banner des Marxismus*, No. 3, 1929; Koshimura, op. cit.; J. Caridad Mateo, *Reproducción del capital social*, Mexico, 1974; Hosea Jaffe, *Processo capitalista e teoria dell'accumulazione*, Milan, 1973, and in a personal communication to myself.

88. Let us take a single example. In order to reconcile equilibrium with a rising organic composition of capital and a falling rate of profit, Koshimura has to modify the initial relations between the three departments and to increase considerably the organic composition of department III (which makes little sense from a historical point of view). Next, he has to lower the total price of production of department II (workers' wages) to the extent of an absolute decline. 'Offsetting' the falling rate of profit by a rising *rate* of surplus-value (which is plausible), Koshimura arrives at an absolute decrease in workers', and even capitalists' consumption (which is not only implausible but contrary to both Marx's basic assumption in *Capital* Volume 2, and to the existing empirical data). (See Koshimura, op. cit., pp. 122–4 and 124–6.)

89. See the above-mentioned critique by Eckstein and the article by Helene Deutsch (in *Der Kampf*, 1913, the theoretical journal of Austrian Social Democracy). This is also partially true of the critiques by Bauer and Emmanuel.

90. See especially her 'Anti-Critique', in Luxemburg and Bukharin, *Imperialism and the Accumulation of Capital*, op. cit.

reproduction *must* generate over-production, and that accumulation of capital *must* lead to devalorization of capital it is necessary to bring all the inter-related variables of the reproduction schemas into play. And this she does not do. Thus, while *The Accumulation of Capital* raises the correct problems, it does not provide acceptable solutions to them.[91]

Synthetically, we may say that the equilibrium formula of expanded reproduction: $I_v+I_{s_\alpha}+I_{s_\gamma} = II_c+II_{s_\beta}$, implies an identity of the rate of growth of demand for consumer goods generated by department I, and the rate of growth of constant capital in department II. Now, the rise in the organic composition of capital entails that the demand for consumer goods generated in department I will normally grow more slowly than constant capital in that sector (unless the slower rate of growth of variable capital is compensated by a rate of growth of unproductively consumed surplus-value higher than that of constant capital, which is extremely unlikely in the long run). The precondition of equilibrium is consequently a rate of growth of constant capital in department II lower than the one in department I. If the rates in the two departments are equal, the conditions of equilibrium will be upset.

However, a rate of growth of constant capital in department II which is *permanently* lower than that in department I is incompatible with private property and competition. There is no reason why capitalists engaged in the production of consumer goods should forever abstain from trying to incorporate all existing technology, all means of reducing costs of production, all potentially useable machinery. Therefore, $II_c+II_{s_\beta}$ will from time to time be greater than $I_v+I_{s_\alpha}+I_{s_\gamma}$, just as, *periodically*, under conditions of rising organic composition of capital (biased development of labour-saving technology), $A[II_c+II_{s_\beta}]$ will be equal to $A[I_c+I_{s_\beta}]$, and $A[I_c+I_{s_\beta}]$ will be greater than $A[I_v+I_{s_\alpha}+I_{s_\gamma}]$. It

91. Nor can it be accepted that Grossmann (op. cit.) provides these solutions. His own standpoint – a denial that at the bottom of the crisis are problems of realization of surplus-value and of disproportionality between production and consumption – is fundamentally unsound. By converting the decline of the rate of profit into the sole cause of the final breakdown of capitalism, he overlooks the fact that this *tendency* is offset by periodical devalorization of capital. Whereas he seeks to establish a mechanical unity between the theory of crises of over-production and that of the breakdown of capitalism, the real, dialectical link between the two embodies the following contradiction: crises of over-production are the precise mechanism which allows the decline in the rate of profit to be periodically *overcome* – both through devalorization of the total mass of social capital and through a rise in the rate of surplus-value.

therefore seems impossible to avoid periodic over-production of consumer goods, as well as a decline in the rate of profit and of the ratio *acc. sv/sv*, entailing an abrupt halt to the accumulation of capital.

Donald Harris has concluded from Marx's 'assumptions' that equilibrium obtains only if (in a value system) there is proportional hiring of labour in the two departments, or if (in a prices of production system) there is an equal ratio of investment – accumulation – of surplus-value.[92] However, all these calculations are based upon a misunderstanding of Marx's method. While Marx does assume an equal rate of exploitation in both departments (an assumption based on the concept of an average national *value of labour-power*, for which quite strong empirical evidence exists under developed capitalism), he does not 'assume' either that the organic composition of capital will remain equal or that the rate of surplus-value will stay the same. His method of successive approximation to the 'appearances' of day-to-day capitalist economy led him to *abstract*, at a given stage of the inquiry, from a number of additional *variables*, in order to clarify certain preliminary problems. This has nothing to with 'assuming' historical trends.

Finally, on the third level, that of the *actual historical process* of capital accumulation, Luxemburg seems fundamentally correct. Capitalism was born essentially in a non-capitalist milieu; it has immensely enriched itself by plundering that milieu; and the same value-transferring metabolism has continued to this very day. 'Pure' capitalism has never existed in real life and, as Engels rightly predicted, it never will exist, because 'we shall not let it come to that'. The Russian October Revolution, and the subsequent expansion of a post-capitalist sector of world economy, indicates that Engels's instinct was a sure one in that respect. Luxemburg's analysis of the ways and means whereby capitalism sucks wealth and value from pre-capitalist communities and classes was an impressive first contribution to three-quarters of a century of anti-colonialist and anti-imperialist world literature. It has still to be equalled in either theoretical insight or economic lucidity.[93]

The final balance-sheet of Luxemburg's critique, then, must be a nuanced one. We cannot say baldly that she is right or that she is wrong. While many of her partial theses, as well as her final answer, are inadequate, she certainly poses relevant questions and puts her finger on real problems which Volume 2 does not and cannot answer. In particular,

92. Donald J. Harris, 'On Marx's Scheme of Reproduction and Accumulation', in *Journal of Political Economy*, Vol. 80, 1972, pp. 505ff.

93. See especially *The Accumulation of Capital*, Chapters 27–30.

the contradictory character of capitalist growth, discussion of which was stimulated by her seminal *The Accumulation of Capital*, cannot be simply subsumed under the formulas 'anarchy of production' and 'disproportionality'.[94] The specific place which unavoidable disproportions between production and mass consumption occupy in the dynamics of capitalism has to be integrated into any overall explanation of capitalist disequilibrium and crisis.

II. VOLUME 2 OF CAPITAL AND MARX'S EXPLANATION OF CAPITALIST CRISES OF OVER-PRODUCTION

Our discussion of Luxemburg's critique of Marx's reproduction schemas leads logically on to an examination of his theory of crises, as it appears in Volume 2 of *Capital*. It is well known that the four volumes of *Capital* which Marx left behind contain no systematic analysis of that key aspect of the capitalist mode of production: the inevitable periodic occurrence of such crises. In his original plan, Marx had reserved a full treatment of the question for a sixth volume dealing with the world market and crises.[95] But partial considerations are interspersed through the text, especially in Volume 4 (*Theories of Surplus-Value*) and Volumes 2 and 3. It is on these that we wish to touch briefly here.

In Volume 2, Marx makes a number of crucial points about capitalist crises of over-production. First, he insists upon the fact that the role of commercial capital as intermediary between industrial capitalist and

94. The 'neo-harmonicist' versions of the Austro-Marxists Hilferding and Bauer were clearly inspired by Tugan-Baranowski's book *Studien zur Theorie* (op. cit.). Although both polemicized against Tugan-Baranowski, they fell under the spell of his mathematical 'juggling' with the reproduction schemas. Hilferding's statement in his *magnum opus* of 1909, *Finanzkapital*, is especially striking: 'A general cartel regulating total social production and thereby overcoming crises is, in principle, economically imaginable, even if such a social and political state of affairs is an impossibility' (op. cit., p. 372). Bukharin was influenced by the same trend of thought, as clearly emerges from the assertion in *Imperialism and the Accumulation of Capital* (op. cit., p. 226) that under state capitalism, where anarchy of production has been overcome, there could be no crises of over-production. Drawing on these arguments, Tony Cliff and his disciples have attempted to justify their use of the term 'state capitalism' to define the Soviet economy – an economy which has witnessed no crisis of over-production for more than half a century. (See Cliff, *Russia: A Marxist Analysis*, London, 1964, pp. 167–75). For a thorough critique of the neo-harmonicist interpretation of *Capital* Volume 2, see Rosdolsky, op. cit., pp. 569–80 and pp. 586–94.

95. See my introduction to *Capital* Volume 1, op. cit., pp. 28–31.

'final consumer', while helping to shorten the circulation time of commodities and hasten the turnover of productive circulating capital, at the same time *masks* the growing disproportion between expanding production and lagging final demand.[96] More precisely, Marx adds: 'The periods in which capitalist production exerts all its forces regularly show themselves to be periods of over-production; because the limit to the application of the productive powers is not simply the production of value, but also its realization. However, the sale of commodities, *the realization of commodity capital, and thus of surplus-value, is restricted not by the consumer needs of society in general, but by the consumer needs of a particular society in which the great majority are always poor and must always remain poor. This however belongs rather to the next part.*'[97] This is but an echo of the famous passage in Volume 3, in which Marx summarizes his theory of crises, ending with the following words: 'The ultimate reason for all real crises always remains the poverty and restricted consumption of the masses, in the face of the drive of capitalist production to develop the productive forces as if only the absolute consumption power of society set a limit to them.[98]

However, Marx states no less categorically in Volume 2: 'It is a pure tautology to say that crises are provoked by a lack of effective demand or effective consumption. The capitalist system does not recognize any forms of consumer other than those who can pay, if we exclude the consumption of paupers and swindlers. The fact that commodities are unsaleable means no more than that no effective buyers have been found for them, i.e. no consumers (no matter whether the commodities are ultimately sold to meet the needs of productive or individual consumption). If the attempt is made to give this tautology the semblance of greater profundity, by the statement that the working class receives too small a portion of its own product, and that the evil would be remedied if it received a bigger share, i.e. if its wages rose, we need only note that crises are always prepared by a period in which wages generally rise, and the working class actually does receive a greater share in the part of the annual product destined for consumption. From the standpoint of these advocates of sound and 'simple' (!) common sense, such periods should rather avert the crisis. It thus appears that capitalist production involves certain conditions, independent of people's good or bad intentions, which permit the relative prosperity of the working class only temporarily, and moreover always as a harbinger of crisis.'[99] Is there a

96. See below, pp. 155–6.
97. See below, p. 391, note. Our emphasis.
98. *Capital* Volume 3, Chapter 30.
99. See below, pp. 486–7.

contradiction between these two explanations? What lies behind the frenetic accusations of 'under-consumptionism', referred to as some grave 'deviation' or shameful disease, and levelled by some of Marx's followers against others?

In our opinion, there is no contradiction whatsoever between the above two sets of comments made by Marx on capitalist crises of over-production. What he rejects is the common-or-garden reformist or 'liberal' platitude, according to which crises could be avoided if, in the period immediately preceding or coinciding with the onset of over-production, the purchasing power in the hands of the masses were to be significantly increased. This simplistic view overlooks two facts. Under capitalism, not all commodities are consumer goods; an important fraction of the total 'commodity mountain', namely, all means of production, cannot be, and are not intended to be, bought by workers. Therefore, an increase in sales of consumer goods, in and of itself, tells us nothing of the course of sales of equipment and raw materials. It does not lead automatically to greater productive investment. Indeed, a redistribution of the national income at the expense of profits (which would be the outcome of a sudden large rise in wages) would result in a collapse of investment, i.e. of sales of means of production. If this succeeded a period of actual decline in the rate of profit, then capital accumulation would contract very violently indeed and the crisis would remain unavoidable. Inasmuch as they forget this basic correlation of the trade cycle with medium-term fluctuations of the rate of profit, all economists (whether Marxist or non-Marxist) who explain the crisis exclusively or mainly in terms of the relation between the purchasing power of consumers and the national income are truly guilty of 'under-consumptionism', that is to say, of a one-sided and therefore erroneous theory of over-production and the trade cycle.[100]

But the same is true of the opposite theory, which concentrates exclusively or mainly on the 'disproportion' between the two departments, explaining crises by the anarchy of production and the difficulty (impossibility) of establishing the 'right proportions' spontaneously (as if 'organized capitalism' or a 'general cartel' *could* avoid crisis!).[101]

100. The most noteworthy Marxist author of this type is Nathalia Moszkowska (*Zur Kritik moderner Krisentheorien*, Prague, 1935), but Fritz Sternburg and Paul Sweezy should also be mentioned in this context. The list of non-Marxist economists is very long indeed, running from Simonde de Sismondi and Malthus to Lederer and Keynes.

101. See note 94 above.

Overlooked in such a thesis is the fact, which Marx himself pointed out,[102] that the 'disproportion' between the tendency of unlimited development of the productive forces and the narrow constraints placed upon consumption by the bourgeois mode of distribution, is itself a specific source of disequilibrium, autonomous from the disturbance of 'equilibrium relations' between the two departments. Supporters of this view also forget, like Tugan-Baranowski, the father of pure 'disproportionism', that unlimited growth of department I leads to ever faster growth of the *productive capaity* of department II (although not necessarily in the same proportion); in other words, that under capitalist *commodity relations* production can never fully emancipate itself from sales to the final consumer.[103] Thus theories of 'pure disproportionism' are as wrong as ones of 'pure under-consumptionism'. The basic causes of periodic crises of over-production are, at one and the same time, the inevitable periodic decline of the rate of profit, the capitalist anarchy of production, and the impossibility under capitalism of developing mass consumption in correlation with the growth of the productive forces.

As we have explained elsewhere,[104] the basic curse of capitalism – the fact that surplus-value embodied in commodities can only be realized if they are *sold at their value* – implies the presence of an insoluble contradiction at a given point of expanded reproduction. Any measure which tries suddenly to reverse the decline of the rate of profit provokes a shrinking of the market of 'final consumers'. And any attempt suddenly to reverse that shrinking accentuates the decline of the rate of profit. Capitalist growth and prosperity require *both* a rising rate of profit (of currently realized as well as anticipated profits) *and* an expanding market (as present reality and future trend). But the coincidence of these conditions can never be permanent, for the very forces which bring it into being at a given point in the trade cycle work towards its undoing at a subsequent stage.[105] In that sense, crises of over-production are

102. *Grundrisse*, op. cit., pp. 420–42; *Theories of Surplus-Value*, op. cit., Part III, pp. 120–21. See also *Grundrisse*, p. 155.

103. 'It is quite the same with the demand created by production itself for raw material, semi-finished goods, machinery, means of communication, and for the auxiliary materials consumed in production, such as dyes, coal, grease, soap, etc. This effective, exchange-value-positing demand is adequate and sufficient as long as the producers exchange among themselves. Its inadequacy shows itself as soon as the final product encounters its limit in direct and final consumption' (*Grundrisse*, p. 421).

104. Mandel, *Marxist Economic Theory*, op. cit., p. 370.

105. Among these should be included not only 'purely' economic factors, but also the interwining of the trade cycle with the partially autonomous cycle of the class struggle.

unavoidable under capitalism. According to even the most optimistic hypothesis, 'anti-cyclical policies' can only reduce their scope temporarily; they cannot prevent the very 'moderation' obtained during one period from leading, in the long run, to more explosive side-effects (such as the cumulative movement of inflation, or the precipitate growth of the burden of company debt).[106]

The objective logic of crises of over-production, connected with the operation of the law of value, is clarified by an important remark made by Marx in *Capital* Volume 2.[107] Equlibrium of the process of expanded reproduction presupposes that commodities are sold at their value, or more precisely, *at the value they had at the moment of their production.* However, the very dynamic of expanded reproduction involves regular revolutions in technology, unceasing attempts by industrialists to win the competitive struggle by reducing their costs of production and growing substitution of machines for manual labour. All these phenomena, which are translated into regular increases in the average labour productivity of most branches of production, imply *a tendency for the value of each commodity to decline.* Seen in this light, crises of overproduction are nothing other than objective mechanisms through which the adjustment of market prices to declining commodity-values is achieved.[108] Capital thereby incurs important losses (i.e. devalorizations of capital), whether directly, through the reduction in value of commodity capital, or indirectly, through the bankruptcy and closure of the least efficient firms.

Marx further stresses in *Capital* Volume 2 that there exists a nexus between the trade cycle and the turnover cycle of fixed capital which is distinct from the usually mentioned one of determination *grosso modo* of the length of the former by that of the latter. Fixed capital expenditure is discontinuous in a double sense. Machines are replaced not piecemeal (except, of course, so far as current repairs are concerned) but *in toto*, say once every seven or ten years. Their replacement tends to occur at the same time in numerous, inter-connected key branches of industry, precisely because the process is not only, or even essentially, a function of physical wear and tear,[109] but rather a response to financial incentives

106. On the roots, functions and consequences of permanent inflation in contemporary capitalism, see Chapter 13 of my *Late Capitalism*, op. cit.

107. See below, p. 153.

108. Declining value expressed in gold prices and not, of course, in inflated paper currency.

109. 'Moral' wearing-out of equipment (obsolescence) generally predates 'physical' breakdown under capitalism, given the pressure of competition and accelerated technical progress.

to introduce more advanced technology. (The principal criteria of profit calculation are here: availability of sufficient money capital reserves; rising rate of profit and profit expectations; and the existence and/or anticipation of a sudden market expansion.) These incentives coincide only at a certain point in the trade cycle; but when this occurs, there follows a massive investment in the renewal of fixed capital. This in turn sets up a dynamic of accelerated capital accumulation and economic growth, together with rapid expansion of markets, which leads finally to an increase in the organic composition of capital, a declining trend of the rate of profit and a tendency to slow down investment and renewal of fixed capital.

Discontinuous renewal of fixed capital is, therefore, one of the key determinants of the trade cycle. The difficulty is compounded by the fact that the productive capacity of the sub-branch of department I which produces means of production for the production of means of production, must normally be geared to the *general demand for the renewal* of fixed capital (at least in its social average). Thus while this sub-branch may be overtaken by peak demand at the moment of 'overheating', it will suffer from unused capacity during a considerable part of the trade cycle.[110]

12. MONEY CIRCULATION, MONEY CAPITAL AND MONEY HOARDING

One of the most 'modern' aspects of Marx's analysis is the treatment in Volume 2 of the 'commodity–money' dialectic, and its correlation with problems relating to the reproduction of social capital and the trade cycle. Here, Marx fundamentally anticipates the Keynesian problematic of money hoarding, that is, withdrawal of money from the process of productive circulation (i.e. circulation geared to the realization and reproduction of surplus-value). Marx starts from the assumption that, in order for the process of reproduction to flow smoothly, all income generated in the production process must be spent on the commodities produced. Any additional purchasing power injected into the reproduction process at a given point must be expelled at another point, if the process is to continue in a balanced way.

Now, it so happens that the very functioning of the capitalist mode of production leads to periodic hoarding of money capital. We have already

110. See below, pp. 542–5. Of course, academic economic theory later took over this essentially Marxist contribution to the theory of the trade cycle.

encountered this problem with regard to discontinous renewal of fixed capital. Marx points out that successive expansions and contractions of the circulation time of commodities – related to phases of the trade cycle – result in periodic expansions and contractions of money capital as compared with productive capital. In the same way, the shortening or lengthening of the production process itself (for instance, increase or reduction of the weight within the total product-mix of commodities requiring a lengthy production time) gives rise to contraction or expansion of the volume of money capital in circulation. The shorter the production time, the quicker will be the turnover of productive capital itself, and the smaller will be the money reserves which the capitalists have to throw into circulation, in order to cover the wages bill and their own consumption needs until the commodities worked upon in their factories are finished and sold. Conversely, a lengthening of the production time will result in a lengthening of the turnover time of capital, and an increase in the reserves of money capital and money revenue that have to be injected into the circulation process to maintain consumption until the production and sale of the commodities is completed.[111]

More generally, the harmonious flow of expanded reproduction is constantly threatened (not permanently upset, of course), because there are always capitalists who buy without selling, and others who sell without buying. Money is continually being withdrawn from circulation, and additional money is forever being injected. Only if these movements roughly cancel each other out will the partially *autonomous* character of the money flow not conflict with the need to realize the total value of commodities produced. While the banking system objectively strives to achieve that balance (and thus represents a force of social accounting and centralization far superior to anything private ownership could accomplish in the realm of production), it does not have the means to ensure automatic and continual balancing. Here there appears a further cause of discontinuity or interruption of expanded production – a cause which, though derived from monetary phenomena, is of course essentially rooted in the contradictory nature of the commodity and of the production of value and surplus-value.

It follows that a series of proportions, additional to those which emerge *prima facie* from the reproduction schemas, play an important role in *amplifying*, if not triggering off, the trade cycle. The way in which the total money stock is divided between circulating money and hoarded

111. See below, pp. 358–9, 364–6.

money[112]; the way in which circulating money is divided between circulating money capital and circulating revenue; the way in which hoarded money is divided between *latent (potential) productive capital* (i.e. money capital which will tend to contribute to increased production of surplus-value) and capital which is more or less permanently hoarded (i.e. withdrawn from both the sphere of production and the sphere of circulation *of commodities*) – all these proportions significantly influence the volume and rhythm of capital accumulation.[113]

Keynes was correct when he discarded the assumption of more or less permanent full employment of manpower and capital (or at least, the hypothesis that it could be achieved automatically through the operation of market forces). He was also right to point out that capital or revenue *not spent* (i.e. hoarded) is an important source of disequilibrium and under-employment of productive resources in an economy based upon generalized commodity production. In fact, Marx had argued as much sixty-five years earlier, in *Capital* Volume 2. But the latter's understanding of the fundamental mechanisms of the capitalist mode of production proved more profound than that of Keynes. For Marx went a step further by distinguishing between *productive* investment (i.e. investment leading to increased production of surplus-value) and unproductive 'investment' (which cannot directly augment the total social wealth and real income, but only contribute indirectly to re-allocation and redeployment of existing resources). After all, building pyramids and digging canals in order to fill them up again does not have the same effect upon economic growth, capital accumulation and expanded reproduction as building new factories and opening up new oil fields. Buying government bonds in order to finance the building of pyramids is evidently not the same kind of activity as the investment of productive capital.[114]

112. See below, pp. 260–61.

113. In his latest book, Emmanuel correctly stresses the role of hoarding in Marx's theory of crises. He uses the expression *vouloir d'achat* (purchasing desire) as opposed to *pouvoir d'achat* (purchasing power) (op. cit., pp. 61ff.).

114. Paul Mattick (*Marx and Keynes*, London, 1969) does not make the matter any clearer by a confused use of the concept 'waste production'. 'Waste', in the sense of products not entering into the reproduction process, and 'waste' in the sense of unsellable products, are not at all identical concepts. Luxury products are – like arms – commodities, and they find buyers. Public works and other infrastructural outlays are not carried out for the purpose of sale, but in order to accelerate the turnover of capital and thereby indirectly to increase the production of surplus-value. However, pyramids or canals which are dug and then filled up again are pure waste – they are neither commodities to be sold nor means of hastening the turnover of capital.

From the elements of monetary analysis dispersed throughout Volume 2, it is possible to identify, within the framework of Marxist economic theory, four distinct *causes of rising commodity prices*. These causes are the following.

(a) *A fall in the average productivity of labour in a given branch of output* (for example, in certain agricultural or mining branches, where a decline in natural fertility is not completely offset by technological progress); prices would then rise as the result of an increase in value of particular commodities (i.e. in the quantity of social labour necessary for their production).

(b) *A sudden increase of labour productivity in the gold-mining industry* (and thus a decline in the value of gold); all other things remaining equal, the same mass of commodities would then be exchanged for a greater amount of gold (produced by the same quantity of labour as before). In other words, the gold price of commodities would rise.

(c) *An upward trend of market price-fluctuations* around an *unchanged* axis of values. This may occur, even when the gold currency remains stable and when there is no paper money inflation, at that precise stage of the trade cycle marked by the periodic contraction of the hoarded part of money as compared to the circulating part.

(d) *An inflationary movement of money signs.* In this case, a constant amount of gold, which exchanges against the same amount of commodities as before on the basis of an unaltered quantity of socially necessary labour, becomes represented by a greater sum of paper money signs (or of bank money, credit money).[115]

13. GROWTH AND CRISIS

The central 'message' of Volume 2, like that of Volume 1, refers to a terrifyingly dynamic process. Volume 1 indicates why capital, by its very essence, is value in perpetual search of additional value, produced by the workers in the process of production. The unquenchable thirst for surplus-value is the fundamental motor of economic growth, technological revolution, 'research and development' spending, improvement of communications, 'third-world aid', the sales drive and market research. A corresponding quest for individual enrichment appears at the core of every level of bourgeois society, together with increasing

115. Karl Marx, *A Contribution to the Critique of Political Economy*, Moscow, 1971, pp. 118–20. See also *Grundrisse*, op. cit., pp. 121–2 and 212–13.

alienation of workers and all human beings, and a growing threat that the forces of production will be transformed into forces of destruction. Paradoxically, mankind increasingly loses control over its own products and productive endeavour at the very moment when its mastery of nature and natural forces seems to be developing by leaps and bounds.[116]

In Volume 2 of *Capital*, we follow the commodities, containing the surplus-value produced by the workers, on their travels outside the factory. A 'spiralling movement' of growth is unleashed – a veritable avalanche.[117] The sale of commodities at their value enables profit to be realized and additional capital to be accumulated. More capital begets more surplus-value, which in turn begets more capital. Obstacles on the road of self-expansion – such as the enforced lingering of commodities in the sphere of circulation, or the protracted character of the production process itself – are swept away by the avalanche, thanks to social division of labour within the capitalist class; the appearance of commercial and banking capital; and the constant striving to accelerate the transport of commodities, build up a world-wide system of communications and reduce the length of the circulation process to a minimum. An immense mountain of commodities is distributed with lightning speed around the globe, so that a steadily growing stream of value (money capital) may be concentrated in the hands of an ever smaller percentage (if not necessarily a shrinking absolute number) of the world's active population. Today's real masters are to be found in probably no more than 1,000 or 2,000 firms the world over.[118]

116. This domination of nature increasingly takes the form of the destruction (*Raubbau*) of nature, as is shown by the threats to ecological equilibrium.

117. Marx and Luxemburg borrowed the image of the spiral as an expression of the form of capitalist development from Simonde de Sismondi.

118. This does not mean, of course, that the hundreds of thousands of smaller capitalist entrepreneurs, and the several million capitalist *rentier* families, are not part of the world bourgeoisie, but simply that they no longer command the decisive means of production or take the key investment decisions. Bourgeois society has the form of a pyramid in which the summit of monopolists could not survive without the support of different strata of large and medium bourgeois and their retainers (as well as the, at least partial, support of sections of the petty bourgeoisie). The notion that capitalism could be abolished by eliminating the monopolists alone does not take account of the fact that capitalism inevitably grows out of even petty commodity production where conditions of money circulation and widespread private ownership of the means of production prevail. If a significant sector of medium-sized capitalist firms is retained (and some of the 'non-monopolist' capitalists are rather large-scale ones!) then capitalism would not only survive, but flourish and open up the road leading to the formation of new monopolies.

This frenetic search for additional wealth in order to create even more wealth becomes increasingly divorced from basic human needs and interests, increasingly opposed to the 'production of a rich individuality' and the 'rich development of social relations' encompassing all human beings. But the process cannot continue smoothly and uninterruptedly: capital is powerless to overcome the basic contradictions of the commodity and private property. From both sides, the contradictions of production for its own sake (i.e. production in order to augment the profits of those who own the major means of production) must lead to periodic discharge in huge social and economic convulsions.

Following the social explosion initiated in the Western world by May '68 in France, the severe generalized recession of 1974–5[119] has confirmed Marx's basic analysis. Capitalist growth cannot but be uneven, disproportionate and unharmonious. Expanded reproduction necessarily gives rise to contracted reproduction. Prosperity inexorably leads to over-production. The search for the philosopher's stone which would enable market economy (i.e. private property, i.e. competition) to coincide with balanced growth, and mass consumption to develop apace with productive capacity (despite the capitalists' drive to force up the rate of exploitation) – this search will go on as long as the system survives. But it will be no more crowned with success than that which has already been conducted for more than 150 years. The only possible remedy for economic crises of over-production and social crises of class struggle is the elimination of capitalism and class society. No other solution will be found, either in theory or in practice. This awe-inspiring prediction made by Marx has been borne out by empirical evidence ever since *Capital* was written. There is no sign that it will be contradicted by current or future developments.

ERNEST MANDEL

119. See the last chapter of *Late Capitalism* (op. cit.), and my articles on the generalized recession of the international capitalist economy in *Inprecor* (16 January 1975, 5 June 1975, 18 December 1975 and 15 September 1976).

Introduction

If the first volume of *Capital* is the most famous and widely read, and if the second is the unknown one, the third is the most controversial. The disputes started before it was even published, as Frederick Engels indicates in his Preface. They continued after the latter brought it out in 1894, most notably in the form of a critique of Marx's economic doctrines by the Austrian economist Eugen von Böhm-Bawerk two years later.[1] They have been going on ever since. Hardly a year passes without some new attempt to refute one or other of Volume 3's main theses, or to indicate their alleged inconsistency with Volume 1.[2]

The reason for these insistent polemics is not hard to discover. Volume 1 concentrates on the factory, the *production* of surplus-value, and the capitalists' need constantly to increase this production. Volume 2 concentrates on the market-place and examines the reciprocal flows of commodities and money (purchasing power) which, as they realize their values, allow the economy to reproduce and grow (while requiring a proportional division both of commodities into different categories of specific use-value and of money flows into purchasing power for specific commodities[3]). While these volumes contain a tremendous amount of intellectual and moral dynamite aimed at bourgeois society and its prevailing

1. Eugen von Böhm-Bawerk, *Karl Marx and the End of his System*, New York, 1949.

2. Some recent examples: Ian Steedman, *Marx after Sraffa*, London, 1977; Anthony Cutler, Barry Hindess, Paul Hirst and Athar Hussein, *Marx's 'Capital' and Capitalism Today*, Vols. 1 and 2, London, 1977 and 1978; Leszek Kolakowski, *Main Currents of Marxism*, Volume 1, Oxford, 1978.

3. The term 'money flows' is adopted, since these include, in addition to 'revenues', money capital intended to reconstitute constant capital, to reconstitute variable capital (which is spent as revenue by workers, but must return in the form of money capital to the industrialists) and to expand both *c* and *v*.

ideology – with all that these entail for human beings, and above all for workers – they give no precise indication of the way in which the system's inner contradictions prepare the ground for its final and inevitable downfall.

Volume 1 shows us only that capitalism produces its own grave-digger in the form of the modern proletariat, and that social contradictions intensify inside the system. Volume 2 indicates that capitalism cannot achieve continuously enlarged reproduction; that its growth takes the form of the industrial cycle; that its equilibrium is only a product of constantly reappearing disequilibria; that periodic crises of overproduction are inevitable. But the precise way in which these contradictions (and many others) are interrelated, so that the basic laws of motion of the capitalist mode of production lead to explosive crises and its ultimate collapse, is not worked out in detail in these first volumes. They are initial stages in an analysis whose final aim is to explain how the system concretely operates – in 'essence' as in 'appearance'.

Such an explanation of the capitalist economy *in its totality* is precisely the object of Volume 3. However, it is not completed here. In the first place, Marx did not leave a finished manuscript of the volume, so that important sections are lacking. It is certain that the unfinished Part Seven, which ends with the barely initiated Chapter 52 on social classes, would have provided a vital link between the economic *content* of the class struggle between capital and labour, as developed at length in Volume 1, and its overall economic *outcome*, partially sketched in Chapters 11 and 15 of Volume 3.[4] In the second place, Volume 3 is subtitled 'The Process of Capitalist *Production* in its Totality'. But as we already know from Volume 2, the totality of the capitalist *system* includes circulation as well as production. In order to complete an examination of the capitalist system in its totality, *Capital* would have had to include supplementary volumes dealing, among other matters, with the world market, competition, the industrial cycle and the state. All this was contained in Marx's plan for *Capital*, and there is no indication that he abandoned it;[5] on the contrary, there are

4. See Marx's letter to Engels on 30 April 1868, in Marx/Engels, *Selected Correspondence*, Moscow, n.d., p. 250, where he indicates his plan for Volume 3: '... in conclusion, the class struggle, in which the movement and decomposition of the whole mess are resolved' (translation amended).

5. On Marx's initial plan for *Capital*, see Ernest Mandel, Introduction to Volume 1 of *Capital*, Pelican Marx Library, London, 1976, pp. 25–32.

passages here which confirm that he postponed detailed examination of these problems to later volumes, alas unwritten.[6] Volume 3 provides valuable indications of how Marx would have set about the integration of these questions into an overall view of the capitalist system. But it does not contain a fully developed theory of the world market, of (national and international) competition, or especially of industrial crisis. Many of the controversies centring around the third volume of *Capital* are precisely due to the incomplete nature – for the reasons just indicated – of some of the theories contained in it.

But the basic reason for the amplitude and duration of these polemics lies in the fact that Volume 3 aims to answer the question: 'Whither capitalism?' It seeks to show that the system is intrinsically ('immanently') crisis-ridden: that neither the efforts of individual capitalists nor those of public authorities can prevent crises from breaking out. It seeks to show that inherent mechanisms, which cannot be overcome without abolishing private property, competition, profit and commodity production (the market economy), must lead to a final collapse. That this judgement is unpalatable to capitalists and their hangers-on hardly needs emphasizing. That it is equally unwelcome to 'neutral' economists who, in spite of their claims to be value-free, in reality assume the permanence and preferability of commodity production and the market economy – as determined by human nature and corresponding to the interests of mankind – can also be taken for granted. Finally, that it poses formidable problems for philanthropists and social reformers who, though sharing Marx's indignation at the mass poverty and destitution provoked by the spontaneous workings of the system, believe that these can be overcome without getting rid of the system itself, has been confirmed repeatedly in theoretical discussions and political struggles within and around the labour movement since the end of the nineteenth century. So there are indeed compelling social reasons why Volume 3 should have created the furore it undoubtedly has.

THE PLAN OF VOLUME 3

Volume 3 is constructed with the same logical rigour as its predecessors. The substantive problem which Marx seeks to elucidate here is not that of the *origin* of the two basic categories of revenue:

6. See below, pp. 205, 298, 426, etc.

wages and profits. That problem was solved in Volume 1. What he wants to show here is how specific sectors of the ruling class participate in the distribution of the total mass of surplus-value produced by productive wage-labour, and how these specific economic categories are regulated. His inquiry deals fundamentally with four such ruling-class groups: industrial capitalists; commercial capitalists; bankers; capitalist landowners.[7] Five categories of revenue, therefore, appear in Volume 3: wages; industrial profits; commercial (and banking) profits; interest; land rent. These are further regrouped by Marx into three basic categories: wages, profits and land rent.

But in order to analyse the different parts into which the total mass of surplus-value is divided, a whole series of intermediate steps have to be taken. The *rate of profit* has to be distinguished – as a separate analytical category – from the rate of surplus-value, and the various factors which influence that rate of profit identified. The *tendency towards an equalization of the rate of profit* between all capitals, independently of the amount of surplus-value produced by their 'own' variable capital, i.e. by the productive wage-labourers whom they productively employ, has to be discovered. And from these two conceptual innovations is deduced the centre-piece of the entire volume: the *tendency of the average rate of profit to decline* – in the absence of countervailing tendencies. Having deduced profit in general from surplus-value in general, Marx goes on to show how profit itself becomes divided into entrepreneurial profit (be it in industry, transport or trade) and interest, i.e. that part of surplus-value which accrues to capitalists who own-money capital and limit themselves to lending it to entrepreneurs. Finally, the total mass of surplus-value which is divided among *all* entrepreneurs and money-lenders is reduced by introducing the category of surplus profit (surplus-value which does not participate in the general movement of equalization of the rate of profit). The reasons why such surplus profit can arise are studied in detail for one special case, that of land rent. But Marx makes it clear, especially in Chapters 10 and 14, that land rent is only a special case of a more general phenomenon. Therefore, we are justified in saying that what Part Six of Volume 3 is

7. Capitalist landowners, as distinct from feudal and semi-feudal ones: i.e. landowners who limit themselves to renting out land to capitalist or independent farmers for money income, without involving any form of feudal or semi-feudal bondage or service.

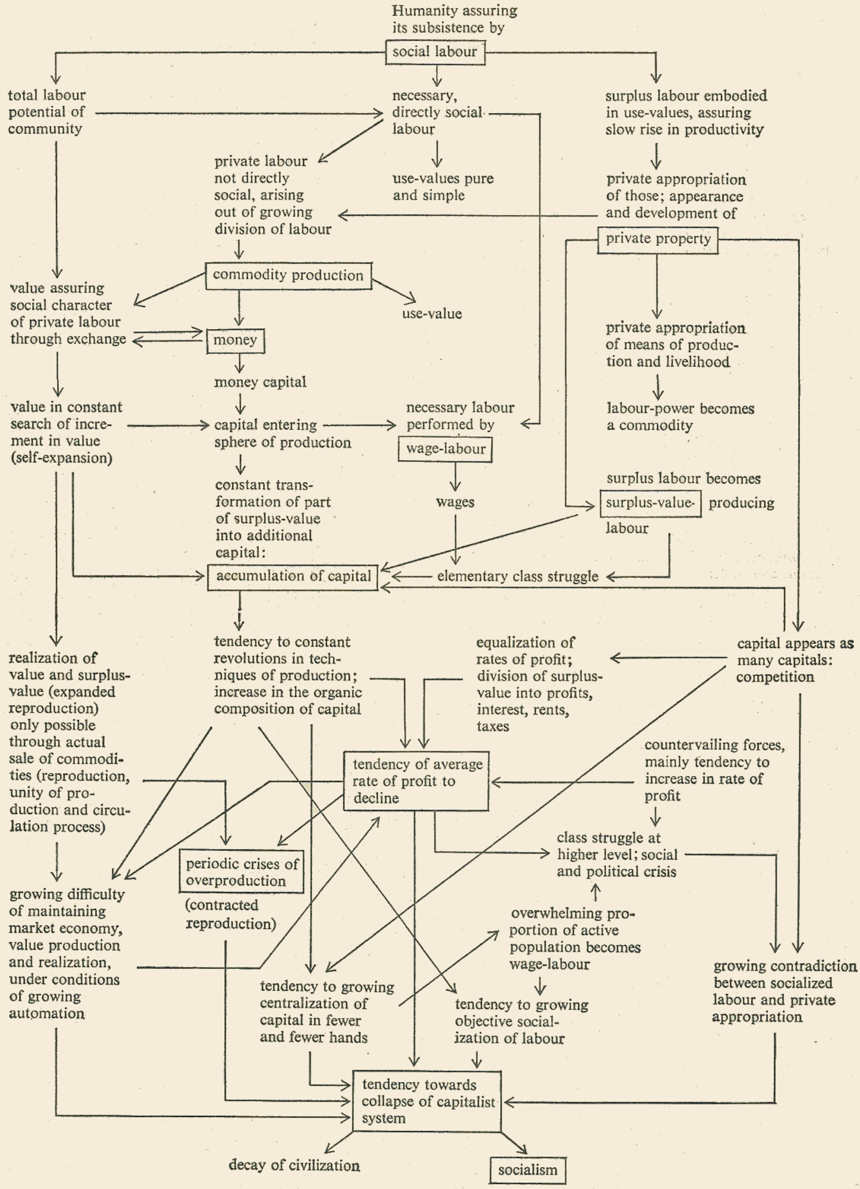
really all about is the more general problem of *monopoly* giving rise to surplus profit. In his theory of surplus profit, Marx anticipates the whole contemporary theory of monopoly prices and profits, while being much clearer as to their origins than are most of the academic economists who, throughout the twentieth century, have been trying to elucidate the mysteries of monopoly.[8]

The fundamental logic of Marx's *Capital* unfolds in all its majesty once we integrate the structure of Volume 3 into that of Volumes 1 and 2. The diagram on pages 14–15 gives a schematic representation of their overall contents and global cohesion.

THE EQUALIZATION OF THE RATE OF PROFIT

In Volume 1, Marx showed that surplus-value is only produced by living labour: from the capitalist's point of view, by that fraction of capital which is spent on purchasing labour-power, and not by that spent on buying buildings, machinery, raw materials, energy, etc. For this reason, Marx called the former fraction of capital *variable* and the latter *constant*. It would at first seem to follow that the greater the proportion of capital which each industrial branch spends on wages, the higher its rate of profit (the relation between the surplus-value produced and the total amount of capital invested, or spent in annual production). However, such a situation would contradict the basic logic of the capitalist mode of production, which consists of expansion, growth, enlarged reproduction, through a substitution of living by dead labour: through an increase in the organic composition of capital, with a growing part of total capital expenditure occurring in the form of expenditure for equipment, raw material and energy, as against expenditure for wages. This basic logic results both from capitalist competition (the reduction of cost price being, at least in the long run, a function of more and more efficient machinery, i.e. of technical progress which is essentially labour-saving) and from the class struggle (since again, in the long run, the only way in which the growth of capital accumulation can prevent labour shortage and hence a constant increase in the level of real wages, which

8. Among academic economists dealing with monopolies and oligopolies from the point of view of the search for surplus profits, see for example Joe Bain, *Barriers to New Competition*, Cambridge, Mass., 1956; Paolo Sylos-Labini, *Oligopolio e progresso tecnico*, Turin, 1964; Robert Dorfman, *Prices and Markets*, New York, 1967.


Humanity assuring its subsistence by
social labour
total labour potential of community
necessary, directly social labour
surplus labour embodied in use-values, assuring slow rise in productivity
private labour not directly social, arising out of growing division of labour
use-values pure and simple
private appropriation of those; appearance and development of
private property
commodity production
value assuring social character of private labour through exchange
use-value
money
private appropriation of means of production and livelihood
money capital
value in constant search of increment in value (self-expansion)
capital entering sphere of production
necessary labour performed by
wage-labour
labour-power becomes a commodity
constant transformation of part of surplus-value into additional capital:
wages
surplus labour becomes
surplus-value-
producing
labour
accumulation of capital
elementary class struggle
realization of value and surplus-value (expanded reproduction) only possible through actual sale of commodities (reproduction, unity of production and circulation process)
tendency to constant revolutions in techniques of production; increase in the organic composition of capital
equalization of rates of profit; division of surplus-value into profits, interest, rents, taxes
capital appears as many capitals: competition
tendency of average rate of profit to decline
countervailing forces, mainly tendency to increase in rate of profit
periodic crises of overproduction
(contracted reproduction)
class struggle at higher level; social and political crisis
growing difficulty of maintaining market economy, value production and realization, under conditions of growing automation
overwhelming proportion of active population becomes wage-labour
growing contradiction between socialized labour and private appropriation
tendency to growing centralization of capital in fewer and fewer hands
tendency to growing objective socialization of labour
tendency towards collapse of capitalist system
decay of civilization
socialism

would end by sharply reducing the rate of surplus-value, is by accumulating a larger and larger part of capital in the form of fixed constant capital – i.e. substituting machinery for living labour). Moreover, empirical evidence overwhelmingly confirms that branches of production which are more labour-intensive than others do not normally realize a higher rate of profit.

So the conclusion Marx draws is the following: in a fully developed and normally functioning capitalist mode of production, each industrial branch does not receive directly the surplus-value produced by the wage-labour it employs. It only receives a fraction of all surplus-value produced, proportional to the fraction it represents of all capital expended. Surplus-value in a given bourgeois society (country) as a whole is *redistributed.* This results in an average rate of profit more or less applicable to each branch of capital. Branches of production which have an organic composition of capital *below* the social average (i.e. which employ more labour, spend more variable capital, in relation to total capital spent) do not realize part of the surplus-value produced by 'their' wage-labourers. This part of surplus-value is transferred to those branches of industry where the organic composition of capital is *above* the social average (i.e. which spend a larger proportion of total capital on equipment and raw material, a smaller proportion on wages, than the social average). Only those branches of industry whose individual organic composition of capital is identical to the social average realize all the surplus-value produced by the wage-labour they employ, without transferring any portion of it to other branches or receiving any fraction of surplus-value produced in other branches. As a result, each capital receives a part of the total surplus-value produced by productive labour which is proportional to its own part in total social capital. This is the material basis of the common interest of *all* owners of capital in the exploitation of labour – which thereby takes the form of a *collective class exploitation* (competition between many capitals only deciding the way in which this total mass is redistributed between the capitalists).

This *process* of equalization of the rate of profit raises three series of problems. What is its relation to the labour theory of value in general? What are the concrete mechanisms which allow equalization of the rate of profit to occur in real life? What is the 'technical' solution to the problem of transformation of values into prices of production (capital outlays, i.e. production costs, going into the output of each commodity + average profit multiplied by these outlays)? The first two problems have provoked relatively less controversy than the third, probably because of their more 'abstract' character. They are, however, of the highest importance for the inner cohesion of Marxist economic theory. Marx's treatment of them, moreover, shows his dialectical method at its most mature.

Briefly, with respect to the first, Marx argues that as value in the last analysis is a *social* not an individual category, those branches of industry which have an organic composition of capital below the social average objectively waste social labour from the point of view of capitalist society as a whole (i.e. from the point of view of 'equality' of commodity-owners).[9] Therefore, the market does not return to their owners all the value effectively created during the process of production in these branches. Inversely, those branches of industry which have an above-average organic composition of capital, i.e. an above-average social productivity of labour, objectively economize socially necessary labour. Their owners are rewarded for this by the market, which attributes to them a higher proportion of all surplus-value produced than that which is directly produced by the wage-labourers they employ.

Various objections have been raised to this solution. Is productivity of labour comparable in different branches of output, inasmuch as these do not produce goods that are interchangeable? This difficulty can be resolved dynamically, i.e. by comparing the different *rates of increase* in productivity of labour in different branches of output *over time*. More generally, the specific organic composition of capital in each branch of production, which constantly changes as a result of these different changes in the productivity of labour, can be considered as a general *index*, a means of measurement, of social productivity of labour.[10] In a *capitalist* market economy, with its constant revolutions in the techniques of production, its constant shifts in demand from one commodity to another, its constant flux of capital investment from one branch

9. See below, pp. 228–9, 893.

10. See below, p. 318: 'This progressive decline in the variable capital in relation to the constant capital, and hence in relation to the total capital as well, is identical with the progressively rising organic composition, on average, of the social capital as a whole. It is just another expression for the progressive development of the social productivity of labour . . .'

to another, this assumption is both theoretically tenable and empirically verifiable.

But is there not a basic contradiction between considering all labour effectively expended in the process of production of each branch of production as value-producing, and at the same time explaining the transfers of value (surplus-value) between different branches as a function of objective waste or economy of social labour?[11] I do not believe so. What we have here, on the contrary, is a demonstration of the unique way in which social labour and private labour are combined and interrelated under capitalism, i.e. under generalized commodity production.

For Marx, the problem of value as an embodiment of abstract human labour is not a problem of measurement, of *numéraire*, but a problem of essence.[12] Each community has at its disposal a given total labour capacity (a total number of producers effectively engaged in productive labour, multiplied by the socially accepted average of annual work-days and daily work-hours). This potential is an objective category, in a given country and for a given stretch of time (for purposes of simplification, we can take the work-year as the basic time-framework). From it flows the total value produced during a year (in so far as part of this labour potential has not been idle, for reasons independent of its will). Again, this is an objective social category: the total number of labour-hours effectively produced in the course of the process of production. The category of 'socially *necessary* labour', which treats some of these labour-hours as 'wasted' and hence not accounted for from a social point of view, only implies redistribution of value inside each branch of production, except in cases of monopoly.[13]

If we extend the same reasoning to the economy as a whole, nothing changes. All labour actually expended in the process of production has been value-producing. It cannot be made larger or smaller by anything which occurs outside the actual sphere of production. *The problem of compensation on the market for labour expenditure is one of distribution, not one of production.* Thus it is

11. See, for example, Joan Robinson, *An Essay on Marxian Economics*, London, 1966, pp. ix–x, 14–16.

12. Even Maurice Dobb, who should have known better, dealt with labour as a *numéraire* in *Storia del Marxismo*, Vol. 1, Turin, 1979, pp. 99–103.

13. Isaac Rubin, *Essays on Marx's Theory of Value*, Detroit, 1972, pp. 174–6.

perfectly possible that actually expended private labour in a given branch, at the average rate of productivity of that branch, is socially necessary labour and has really produced value, while at the same time the owners of the commodities in which it is embodied do not receive full compensation on the market for all that embodied value, or receive a counter-value higher than the amount of value embodied in their commodities.

This dialectical unity-and-contradiction between, on the one hand, private labour effectively expended in production and effectively value-producing and, on the other hand, socially compensated value is mediated through the understanding that total value is equal to total prices of production (i.e. represents an equal sum of labour-hours, or labour-weeks, or labour-years: an equal total labour potential). What is modified on the market, i.e. what the Volume 3 notions of 'objective waste' and 'objective economy' of social labour represent when different branches of production are compared (in contrast to the notions of 'waste' and 'economy' of quantities of social labour *inside* each separate branch of industry, studied in Volume 1), is exclusively a problem of (re)distribution of value, not one of production of value.

The second question regarding equalization of the rate of profit between different branches of industry is how this operates in practice. In order to understand this, we should start from the assumption that this equalization is always a *tendency*, never a permanent reality. If we start from the actual realization of the total mass of surplus-value produced in each branch of production by the capitalists operating in that branch, a much higher rate of profit will occur in those branches of production which have a lower organic composition of capital and spend a larger proportion of capital outlays on wages than in those which have a higher organic composition of capital and spend a larger proportion of total capital outlays on equipment and raw materials. All things remaining equal (which means, above all, not assuming for the moment any changes in the distribution of total demand for different use-values produced by different branches of output), such an above-average rate of profit will attract additional capital in these branches. This will increase production (supply) above social demand, which will precipitate a decline in prices, which will precipitate a decline in the rate of profit. Inversely, in those branches of production where the average organic composition of capital is above-average, hence the 'initial' rate of profit below average, capital will be withdrawn; production will decline, till it falls below social demand; prices will rise; profits will rise, until they reach the socially average rate of profit.

In other words, it is the flux and reflux of capital between different branches of production, from those with lower rates of profit to those with higher rates of profit, which is the driving force behind equalization of the rate of profit. This flux and reflux of capital between different branches of production is indeed the main way in which capital accumulation (growth) occurs in actual life, i.e. as an *uneven process*, all branches *never* growing at exactly the same rhythm and over the same span of time. Equalization of the rates of profit indeed presupposes their relative *inequality*. It is a process which constantly realizes itself by negating itself. Anybody who studies the real history of capitalist branches of industry, mining and transport may easily confirm this view.

This uneven process does not necessarily presuppose that it starts with great unevenness in the rates of profit between various branches, nor that higher rates of profit each time coincide with greater labour intensity in given branches of industry. Indeed, it would be sufficient to assume a single initial situation of that kind to make the process perfectly logical and coherent with the given analysis.[14] In fact, very early in the history of modern industrial capitalism, the average rate of profit is a *known* entity (bank credit and the stock exchange playing a not unimportant role in establishing this).[15] The *real* process is, therefore, not so much one of capital flowing from branches with below-average to branches with above-average rates of profit. *The real process is usually one of firms looking for surplus profits over and above the known average rate of profit*, essentially through revolutionary innovations (which might imply creating completely new branches of industry). The average rate of profit is constantly shaken and re-established by the reactions which this constant revolution in the technique of production and the organization of labour provokes. Each firm trying to maximize its own rate of profit contributes, independently of its wishes and designs, to the tendential equalization of the rate of profit.

14. One could, for instance, make the case that the first capitalist firms engaged in canal-building, mining, etc. had a higher rate of profit than the initial textile mills, at the time of the industrial revolution, owing to their lower organic composition of capital.

15. See below, p. 311.

If we abandon the initial simplifying assumption of a stable structure of demand in a given time-span, we only have to introduce additional mediations; the result remains substantially the same. If, in regard to branches of industry with below-average organic composition of capital, there is additionally an above-average increase in social demand for their output, prices will decline less rapidly in spite of the influx of additional capital and the ensuing increase of production.[16] But this will only attract even more additional capital, until equalization of the rate of profit finally occurs. Inversely (and this occurs more often), if branches of industry with below-average organic composition are relatively 'older' branches suffering from relative decline of total demand, the influx of additional capital and the ensuing increase of output will lead more rapidly to a decline of prices and profits, and to the final equalization of the rate of profit. It is not necessary to repeat, for those branches which witness an outflow of capital because of initially lower rates of profit, the reasoning for the combination of fluctuations in final demand with the process of equalization of the rate of profit. It is an obvious counterpart of the analysis just developed.

It is the third category of problems raised by the equalization of the rates of profit between different branches of production which has provoked most argument: that concerning the 'technical' problem of the transformation of values into prices of production for each specific commodity (or group of commodities), i.e. the problem of how one can 'technically' prove the operation of the law of value under conditions of competition of capitals between different branches of output. This can be divided into two main bodies of argument, which I shall refer to as the feedback controversy and the monetary confusion.

TRANSFORMATION PROBLEM: THE FEEDBACK CONTROVERSY

The feedback controversy arises from the fact that, in the way in which Marx solves the transformation of values into prices of

16. Marx makes an additional point about the *relative weight* of firms operating at above-average, average and below-average levels of productivity in each branch of industry. This can lead to situations in which, temporarily, it is not the average level of productivity which determines the value of the commodity. But competition will rapidly do away with such situations, in the absence of structural scarcity or monopoly.

production in Chapter 9 of Volume 3, apparently only the values of currently produced commodities (outputs) are being 'transformed' and not the values of 'input-commodities'. Ever since the Prussian statistician Ladislaus von Bortkiewicz first raised this objection,[17] a constant stream of authors – some claiming to be Marxists, others obviously adhering to other economic doctrines or at any rate other theories of value – have repeated this assertion about a basic flaw in Marx's reasoning.[18]

This 'flaw' seems, at first sight, all the more evident in that Marx himself appeared to be aware of it. Again and again, the following passage from Chapter 9 has been quoted: 'The development given above also involves a modification in the determination of a commodity's cost price. It was originally assumed that the cost price of a commodity equalled the *value* of the commodities consumed in its production. But for the buyer of a commodity, it is the price of production that constitutes its cost price, and can thus enter into forming the price of another commodity. As the price of production of a commodity can diverge from its value, so the cost price of a commodity, in which the price of production of other commodities is involved, can also stand above or below the portion of its total value that is formed by the value of the means of production going into it. It is necessary to bear in mind this modified significance of the cost price, and therefore to bear in mind too that if the cost price of a commodity is equated with the value of the means of production used up in producing it, it is always possible to go wrong.'[19]

However, this quotation from Marx should not be made to say more than it does. It says only that *if one uses value calculations in inputs and prices-of-production calculations in outputs*, then one is likely to arrive at numerically erroneous conclusions. This is rather obvious, since the whole analysis precisely concerns the *deviation* of prices of production from values. But the extract

17. See Ladislaus von Bortkiewicz, 'Value and Price in the Marxian System', *International Economic Papers*, 1952.

18. It is impossible to give a full list of these authors. The most important sources are quoted in footnote 22 below. Three works less well known in the English-speaking world may be mentioned here: Gilbert Abraham-Frois and Edmond Berrebi, *Théorie de la valeur, des prix et de l'accumulation*, Paris, 1976; C. C. von Weiszäcker, 'Notizen zur Marx'schen Wertlehre', in Nutzinger and Wolfstetter, *Die Marx'sche Theorie und ihre Kritik*, Frankfurt, 1974; Gilles Dostaler, *Valeur et prix, histoire d'un débat*, Paris, 1978.

19. See below, pp. 264–5.

cited does not imply that prices of production of inputs should be calculated *within the same time-span* as prices of production of outputs. Such an interpretation is even explicitly rejected in a passage which immediately follows that quoted by von Bortkiewicz and so many others: 'Our present investigation does not require us to go into further detail on this point. It still remains correct that the cost price of commodities is always smaller than their value. For even if a commodity's cost price may diverge from the value of the means of production consumed in it, this error in the past is a matter of indifference to the capitalist. *The cost price of the commodity is a given precondition, independent of his, the capitalist's, production*, while the result of his production is a commodity that contains surplus-value, and therefore an excess value over and above its cost price'[20] (my italics).

And even more clearly: 'For all the great changes that constantly occur in the actual rates of profit in particular spheres of production (as we shall later show), a genuine change in the general rate of profit, one not simply brought about by exceptional economic events, is *the final outcome of a whole series of protracted oscillations*, which require a good deal of time before they are consolidated and balanced out to produce a change in the general rate. In all periods shorter than this, therefore, and even then leaving aside fluctuations in market prices, a change in prices of production is always to be explained *prima facie* by an actual change in commodity values, i.e. by a change in the total sum of labour-time needed to produce the commodities'[21] (my italics).

In other words, inputs in current cycles of production are *data*, which are given at the start of that cycle, and *do not have* a feedback effect on the equalization of the rates of profit in various branches of production during that cycle. It is sufficient to assume that they are likewise calculated in prices of production and not in values, but that these prices of production result from equalization of rates of profit during the *previous* cycle of production, for any inconsistency to disappear.

Such an assumption eliminates the logical inconsistency of which von Bortkiewicz and his followers accuse Marx, between supposedly calculating inputs in the form of values and outputs in the form of prices of production. But is it compatible with what

20. See below, p. 265.
21. See below, p. 266.

we know about the actual operation of capital movements in a given time-span (a year, for example)? Could it not, for instance, be argued that raw-material prices fluctuate constantly, changing many times during one year: hence one may assume that, where this is the case, feedback effects do indeed occur; and that the final equalization of the rate of profit is not only a function of redistribution of surplus-value between branches of production whose commodities can be considered only as industrial outputs, but should include, at least with regard to raw materials, part of the inputs as participating in the current (annual) redistribution of surplus-value between various branches?

This objection, however, is not a valid one. I repeat, prices of production of raw materials, like all other inputs bought by capitalists currently occupied in production, are *unchangeable data.* They cannot vary through ups or downs of current production of surplus-value, or current changes in the organic composition of capital occurring during a given year. The capitalists have to pay a *given* price for them, which does not change *a posteriori* as a function of what is occurring during a given year in the field of final surplus-value redistribution. They are results of the equalization of the rate of profit which occurred during the previous period. Even if one were to assume that capitalists buy their raw materials currently and not only at the beginning of the year, and even if one were to eliminate all existing stocks of previously produced raw materials to explain the origin of these current purchases, the argument would still hold.

The formation of prices of production, i.e. the calculation of the average rate of profit, is not a constantly moving process. It is linked to the *overall* realization of surplus-value of *all* (most) of the commodities currently produced. That is why a minimum time-span must be assumed before one may speak of a new average rate of profit replacing a previous one. Even the assumption of such an annual change is probably an exaggeration, rather than an underestimate. Therefore, one has to assume that currently purchased raw materials on a quarterly or even monthly basis do not fundamentally change the prices of production (average rate of profit), as resulting from the capital movements which had occurred during the previous year. One should, of course, not confuse the formation of prices of production – which result from a redistribution of the total surplus-value produced for society as a whole – with current fluctuations of market prices, which Marx explicitly *excludes* from the study of prices of production, as is clearly stated in the passage cited above.

The reason for this relative rigidity of prices of production (of average rates of profit in a given country) is linked to the very nature of the processes of which the equalization of rates of profit is a result: the determination of the total mass of surplus-value (surplus labour) produced; and the fluxes and refluxes of capital (large-scale capital movements) between various branches of production, determining changes and differences in the organic composition of capital both of productive sectors as a whole and of each productive sector taken separately. It is clear that such *overall social movements* cannot vary from quarter to quarter, let alone from month to month. The relative indivisibility of fixed capital alone is a formidable obstacle to such broad movements under advanced capitalist conditions, except in the case of radical devalorization of capital under conditions of severe crisis. Therefore, not only is Marx theoretically consistent when he assumes prices of production of inputs resulting from equalization movements in different time-spans (during different years) from prices of production of outputs. This also corresponds much more closely to the real, empirically verifiable operation of the capitalist system as we know it than does the opposite assumption of von Bortkiewicz and his followers.

Numerous attempts have been made both to extend von Bortkiewicz's critique of Marx's solution to the transformation problem, and to provide an alternative solution to that proposed by von Bortkiewicz himself. J. Winternitz sought to formulate one in which total prices of production would still equal total value. More recently, Anwar Shaikh has proposed yet another solution, using the 'iterative method' rather than that of simultaneous equations.[22] However, mathematical models cannot, in and of

22. J. Winternitz, 'Values and Prices: A Solution of the So-Called "Transformation Problem" ', in *The Economic Journal*, June 1948; F. Seton, 'The "Transformation Problem" ', in *Review of Economic Studies*, Vol. 24, 1957; C. C. von Weiszäcker and Paul Samuelson, 'A New Labor Theory of Value for Rational Planning, through Use of the Bourgeois Profit Rate', in *Proceedings of the National Academy of Sciences, U.S.A.*, Vol. 68, No. 6, June 1971; A. Medio, 'Profit and Surplus-Value: Appearance and Reality in Capitalist Production', in E. K. Hunt and Jesse Schwartz (eds.), *A Critique of Economic Theory*, London, 1972; Elmar Wolfstetter, 'Surplus Labour, Synchronized Labour Costs and Marx's Labour Theory of Value', in *The Economic Journal*, Vol. 83, September 1973; Anwar Shaikh, 'Marx's Theory

themselves, 'solve' theoretical problems. They can only formalize interrelations previously understood as such, whose nature and implications have to be grasped before a meaningful formalization can take place. Unfortunately, many authors of such models operate by silently assuming correlations which have not been previously proved or empirically tested. Their equations lead to conclusions which are, of course, mathematically consistent, but may nevertheless be theoretically wrong: i.e. which do not correspond to a meaningful representation of the problem supposedly to be solved.

In the 'Okishio theorem', for instance, the author puts fixed capital between brackets altogether, in order to arrive at conclusions regarding the trend of the rate of profit. But if one postulates that precisely the growth of fixed capital is one of the main – if not the main – determinant of the tendency of the rate of profit to decline, then this theorem does not prove anything.[23] Similarly, in the von Bortkiewicz 'solution' of the transformation problem (accepted by Paul Sweezy, Piero Sraffa, F. Seton and many others), besides uniform profits for all products (not all branches of industry or even firms, which is quite another story), it is assumed that only those equations are needed for a solution which involve commodities entering into the production of other commodities. It is logical that, under these circumstances, the organic composition of department III (whose commodities do not enter the reproduction process) does not influence the average rate of profit.[24] But this tells us nothing either about department III in Marx's analysis, where such a distinction is explicitly excluded, or especially about what happens in the really functioning capitalist economy, i.e. in real life. To say that the organic com-

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of Value and the "Transformation Problem" ', in Jesse Schwartz (ed.), *The Subtle Anatomy of Capitalism*, Santa Monica, 1977; Ira Gerstein, 'Production, Circulation and Value', in *Economy and Society*, Vol. 5, 1976; etc. A good summary of the bibliography on the subject is included in Carlo Benetti, Claude Berthomieu and Jean Cartelier, *Économie classique, économie vulgaire*, Paris, 1975.

23. N. Okishio, 'Technical Changes and the Rate of Profit', in *Kobe University Economic Review*, Vol. 7, 1961, pp. 85–90; N. Okishio, 'A Mathematical Note on Marxian Theorems', in *Weltwirtschaftliches Archiv*, Vol. 91 (1963 II), pp. 287–99.

24. I owe this observation to Emmanuel Farjoun, of the Hebrew University of Jerusalem.

position of the armaments industry, including its size, is immaterial to the real rate of profit of a real capitalist economy is quite untenable – especially if one takes a look at the size of that department in, say, 1943 in Germany or 1944 in the U.S.A.

TRANSFORMATION PROBLEM: THE MONETARY CONFUSION

A second line of attack on Marx's solution of the transformation problem has involved a confusion between prices of production and market prices, and more generally the introduction into the problem of questions concerning the expression of values as prices, i.e. money. Sweezy, in particular, has been guilty of such a confusion, in the way he has taken over von Bortkiewicz's critique.[25] Others, like Ian Steedman recently, have followed in his footsteps.[26]

Marx himself, however, makes crystal clear that prices of production *do not* concern market prices, i.e. values (or prices of production) expressed in money terms. The very title of Chapter 9 specifies this, referring as it does to the transformation of *values* of commodities into prices of production. Values are quantities of labour, and have nothing to do with money prices as such. The equalization of the rate of profit between different branches of production occurs through the transfer of *quantities of surplus-value* from one branch to another. Again, quantities of surplus-value are quantities of labour (surplus labour) and not quantities of money. At the end of the last passage cited from Volume 3, there follows a sentence which I deliberately omitted but will now quote – a sentence which again eliminates all doubt as to the non-inclusion of monetary questions in the transformation problem: 'We are not referring here, of course, to a mere change in the monetary expression of these values.'[27] If the problem does not concern changes in the monetary expression of values, it *ipso facto* does not concern changes in the monetary expression of prices of production either.

In Chapter 10, immediately following that in which he gives his solution to the transformation problem, Marx does indeed introduce market prices, and the influence of competition, etc. upon

25. Paul Sweezy, *The Theory of Capitalist Development*, New York, 1942, pp. 117–18.

26. Steedman, op. cit., pp. 45–7.

27. See below, p. 266.

them. But he there clearly and explicitly distinguishes fluctuations of market prices and of monetary expressions of value (prices of production) from fluctuations in the average rate of profit which determine fluctuations of prices of production.[28]

Behind this confusion, there lies an insufficient understanding of the nature of Marx's theory of money. Marx considers money (gold) as a *special commodity having its own 'intrinsic' value*. It is only for this reason that it can serve as a general equivalent for the exchange-value of all other commodities. It immediately follows that fluctuations of market prices (monetary prices, expressions of value in money) may always be the result of a *dual movement*: the changes in the value of a commodity and the changes in the value of the money-commodity, gold. But changes in the intrinsic value of the money-commodity have identical effects on the market prices of all other commodities, i.e. *cannot* change their mutual exchange relations (their mutual 'relative prices'). Paper money does not alter anything in this respect. Inflation of paper money only means that an increasing amount of paper dollars, paper pounds, etc. represents the same quantity (e.g. one ounce) of the money-commodity, gold. What is true for the money expression of value is likewise true for the money expression of prices of production, as they concern only a redistribution of quantities of surplus-value between different branches of production.

The 'inputs' in the reproduction tables could only be treated as inputs in really occurring capitalist production (i.e. in real life) if they were expressed in market prices, and not in prices of production: for capitalists obviously buy raw materials, machines, buildings, etc. at market prices. So the problem would be how to 'transform' values, not into prices of production, but into market prices; or, in two successive stages of transformation, values into prices of production and the latter into market prices. This final stage, of course, would have to involve real monetary problems: specifically, the interrelationship between the average value of commodities and the average value of gold. What is really involved in this controversy is whether the 'transformation problem' concerns the *immediate* move from essence to appearance, in other

28. Engels explicitly envisages the case where the total sum of money profits – resulting from market prices – is lower than the total sum of surplus-value produced, because in the meantime value has declined as a result of the rise in productivity of labour. See his letter to Conrad Schmidt of 12 March 1895, in *Selected Correspondence*, op. cit., pp. 564–5.

words to the process of production and circulation in day-to-day reality, or whether – as I would strongly maintain – it is only a *mediating link in the process of cognition*, which does not yet deal with immediately verifiable, empirical data, i.e. market prices.

The diagram on page 30 will help to elucidate the relations between Marx's various concepts of value, market value, price of production and market price, which are often rather confusing.

An excellent overall critique of the von Bortkiewicz/Sraffa 'corrections' of the way Marx deals with the relation between prices of production and values has been furnished by Pierre Salama.[29] It has, among other qualities, the merit of revealing a series of underlying theoretical assumptions of which the authors themselves are not always aware. It shows that a further disaggregation of the von Bortkiewicz system – in other words, the application to von Bortkiewicz of some of the criticisms he himself directs at Marx (for example, it is evident that in the aggregate of department I, those means of production which are exclusively used for the production of commodities in department III will have a different status) – leads unavoidably to the elimination of *all* value calculations and, therefore, of exploitation itself from the system. I do not want to imply that Salama, Farjoun and others have definitively resolved all the difficulties raised by the 'transformation problem': there is clearly still room for further discussion and research. But neither have von Bortkiewicz, Seton and Sraffa 'definitively' proved Marx wrong.

THE DECLINING RATE OF PROFIT CONTROVERSY

From his definition of the average rate of profit as the sum total of surplus-value produced during the process of production divided by the sum total of capital, Marx derives the central 'law of motion' of the capitalist mode of production. Since that part of capital which alone leads to the production of surplus-value (variable capital, used to buy labour-power) tends to become a smaller and smaller part of total capital, because of the fundamentally labour-saving tendency of technical progress – the gradual substitution of dead labour (machinery) for living labour – and because of the gradual increase of the value of raw materials in that of total output: since, in other words, the organic composition

29. Pierre Salama, *Sur la valeur*, Paris, 1975, pp. 164 ff.

specific commodity	money-commodity (gold)
individual value (quantity of labour contained in it)	*individual value* (quantity of labour contained in the product of each specific gold mine)
market value (socially average – necessary – quantity of labour contained in it)	*market value* (quantity of labour contained in gold actually produced under the lowest conditions of productivity)
price of production (socially necessary quantity of labour modified by equalization of rates of profit between different branches = average costs of production in each branch + average profit of all branches)	*price of production* (total costs of production in all gold mines plus average profit, divided by total output: there is obviously no 'market price' of gold, as this would mean the value of gold expressed in gold)

'intrinsic' market prices of commodities
(prices of production of a given commodity expressed in quantities of gold, of money)

'fluctuating' market prices of commodities
(prices of production of a given commodity expressed in quantities of gold – of money – and modified under very short-term fluctuations of supply and demand, i.e. fluctuating around the 'axis' of 'intrinsic' market prices, i.e. of prices of production, i.e. of values)

↑

operation of the law of value under capitalism
(fluctuations of 'intrinsic' market prices, other than very short-term ones, are determined by relative value movements – relative increases or decreases of productivity of labour – in the output of a given commodity and in the output of gold, mediated through deviations from the average rate of profit)

of capital in its value expression tends to increase, there is an inbuilt tendency for the average rate of profit to decline in the capitalist system.[30]

To be sure, Marx explicitly speaks about a *tendency*, not an uninterrupted linear development. He stresses that there are powerful countervailing forces at work under capitalism, to neutralize or even reverse the operation of the tendency of the average rate of profit to decline. Other forces tend, at least partially, to slow down the operation of this tendency.

The most important countervailing force is the possibility for the capitalist system to increase the rate of surplus-value. Indeed, from a purely 'technical' point of view, it might appear that the increase in the rate of surplus-value could indefinitely compensate for the increase in the organic composition of capital. If we change the determination of the rate of profit $\frac{s}{c+v}$ by dividing both the numerator and the denominator by v, we get the formula $pr' = \frac{\frac{s}{v}}{\frac{c}{v}+1}$. In other words, the rate of profit is directly proportional to the rate of surplus-value $\frac{s}{v}$ and inversely proportional to the organic composition of capital $\frac{c}{v}$. If the rate of surplus-value increased in the same proportion as the organic composition of capital, the rate of profit would cease to decline.

However, a moment's reflection will show that such a proportional increase in the rate of surplus-value and the organic composition of capital is impossible in the long run. Theoretically, the organic composition of capital can rise to infinity. That is what it would be in fully automated production, from which living labour would be totally excluded.[31] But the rate of surplus-value

30. Georgios Stamatis has demonstrated exhaustively that in Chapter 13 of *Capital* Volume 3, Marx already develops the law of the tendency of the average rate of profit to decline under conditions of an *increase in the rate of surplus-value* – an increase caused by the same forces which lead to the increase in the organic composition of capital. The countervailing forces studied in Chapter 14 concern forms of increase in the rate of surplus-value which are *not* the result of an increase in the productivity of labour in department II, i.e. not a result of the declining value of wage-goods while real wages remain stable. See *Die 'spezifisch kapitalistischen' Produktionsmethoden und der tendenzielle Fall der allgemeinen Profitrate bei Karl Marx*, Berlin, 1977, pp. 116 ff.

31. Already today, labour costs have gone down to less than 0.1 per cent of total production costs in certain petro-chemical works: see Charles Levinson, *Capital, Inflation and the Multinationals*, London, 1971, pp. 228–9.

cannot rise to infinity. As long as living wage-labour is employed, no level of productivity (including that of fully automated factories) is imaginable in which workers reproduce the equivalent of all the consumer goods they need to reconstitute their labour-power in a couple of minutes' or even a couple of seconds' work. Indeed, the higher the existing level of productivity of labour and the higher the socially recognized average wage (real wage), the harder it becomes to increase the rate of surplus-value substantially, without seriously lowering real wages – which, besides provoking a sharp social and political crisis, would create a tremendous problem of overproduction (for the mass of use-values, including in the wage-goods department, increases even more quickly than productivity of labour and accumulation of capital).[32]

Furthermore, once we near complete automation, s – which is not a proportion but an absolute mass – starts to decline rapidly together with v, as the number of wage-earners and the total number of labour-hours diminish steeply. Indeed, in a fully automated economy, surplus-value would *disappear* altogether, as living-labour inputs in the process of production would have disappeared. So it would be absurd to consider formally a 'rate of surplus-value' $\frac{0}{0}$, when surplus-value itself would no longer exist.

Other countervailing forces enumerated by Marx include: the cheapening of elements of constant capital (both raw materials and machinery) which obviously, by slowing down the growth of $\frac{c}{v}$, simultaneously slows down the decline of the rate of profit; the quickened turnover of capital, since the annual mass of profit is a function of the number of production cycles which an identical circulating money capital can perform (this turnover is, in turn, a function both of a quickened circulation process – i.e. more rapid transport and sale of commodities – and of a shortened production process, a quicker pace of production, etc.); foreign trade, with the outflow of capital towards countries with a lower organic composition of capital; and, in general, the extension of capital investment into hitherto non-capitalistically organized branches of output, where initially the organic composition of capital is considerably lower than in traditional industry.[33] A lowering of real wages, by raising the rate of surplus-value over

32. See below, pp. 339–48, and Karl Marx, *Grundrisse*, Pelican Marx Library, London, 1973, pp. 244–6.

33. For example, many so-called 'service industries' under late capitalism.

and above the increase which normally results from a growth of productivity of labour in the wage-goods industry (which is – or can be – accompanied by stable and even rising real wages), will likewise put a brake upon the decline of the rate of profit.

Finally, Marx does not mention in Chapter 15 of Volume 3 what he had stressed in Chapter 14: that the decline in the *rate* of surplus-value can be (and normally is) accompanied by a rise in the *mass* of surplus-value – and, therefore, in the mass of profit. While this is not, in and of itself, a countervailing factor with respect to the tendency of the rate of profit to decline, it is clearly a countervailing factor with respect to some of the economic *consequences* of that tendency. It is obvious that the capitalist class will not significantly lower its investments (let alone close up shop altogether) when its profits rise from \$100 to \$200 billion, just because these \$200 billion now represent 'only' a 5 instead of an 11 per cent return on total capital. It will look for many ways to redress this regrettable evolution, but it will definitely not be overtaken by panic or despair.

Traditionally, Marxists (and academic economists specializing in the theory of the industrial cycle) have considered Marx's theory of the tendency of the average rate of profit to decline within two specific – and very different – time-spans: inside the industrial (or business) cycle itself; and over the 'secular' time-span of the overall historical existence of the capitalist mode of production (for whose capacity or otherwise for indefinite survival it is a vital question). The 'theory of collapse' (*Zusammenbruchstheorie*), which relates to the latter time-span, will be dealt with at the end of this Introduction. As for the correlation between the ups and downs of the rate of profit and the business cycle, there is a wide consensus today between Marxists and academic economists specializing in business-cycle studies.[34] There remains, however, a third, intermediary, time-span to which hitherto too little attention has been paid: that of the 'long waves' of capitalist development, i.e. the successive periods of quicker and slower growth of the capitalist economy as a whole.

There is overwhelming evidence that on at least three occasions – after the revolutions of 1848; around 1893; and at the beginning of the Second World War in the United States, at the end of the forties in Western Europe and Japan – there was a significant

34. See, for example, W. C. Mitchell, *Business Cycles and their Causes*, Berkeley, 1941.

increase in the average rate of growth of capitalist production. Such an increase in the rate of growth is synonymous, from a Marxist point of view, with a stepped-up tempo of capital accumulation. And a long-term increase in the rate of capital accumulation is inconceivable, within the framework of Marxist economic theory, without a sudden and sustained upsurge instead of decline in the average rate of profit.

In order to make this real history of the capitalist mode of production comprehensible, against the background of Marx's tendency of the rate of profit to decline, we must examine the conditions which prevailed immediately prior to these three turning-points and at the start of the 'expansionary long waves'. In this way, we shall be able to ascertain to what extent the 'counteracting factors' enumerated by Marx *combined* in a particular way to neutralize, or even reverse, for a longer period than normally occurs at a certain stage of the industrial cycle, the tendency of the rate of profit to decline. I have sought elsewhere to demonstrate empirically that this was really the case.[35] It is not necessary to repeat that demonstration, but sufficient to state that such temporary neutralization of the law (which Marx also alludes to[36]) in no way contradicts its general validity. For the 'expansionary long waves' are regularly followed by 'depressive long waves', in which the tendency of the rate of profit to decline manifests itself in a yet stronger and more durable way than it does during the normal industrial cycle. Its actions can be delayed by countervailing factors, but only for it to reassert itself with a vengeance. That, at least, is the historical evidence to date, and it fully confirms Marx's analysis. The only additional conclusion to be drawn is that different time-spans have to be articulated with each other, if the concrete operation over time of the tendential law is to be fully grasped.

The very operation of the law (its truth content[37]) has been

35. See Ernest Mandel, *Late Capitalism*, London, 1975, Chapter 4; Ernest Mandel, *The Long Waves of Capitalist Development*, Cambridge, 1980.

36. See below, pp. 363 and 372.

37. This truth content cannot, of course, be defended by the absurd argument that the law manifests itself exclusively, or mainly, through its negation. This was the position adopted by several Soviet authors, before (unexpectedly for them) the 'second slump' broke out: e.g. S. L. Wygodski (*Der gegenwärtige Kapitalismus*, Cologne, 1972, p. 232), who saw the law as being confirmed by a tendency towards a rising rate of profit!

increasingly challenged during the last decades by a whole series of authors. This has partially been due to the fact that long-term stepped-up economic growth after the Second World War seemed somehow incompatible – in Marxist terms themselves – with a declining rate of profit. Hence the efforts of Gillman and others to discover new categories like 'realization expenses' (presumably to be deducted from surplus-value, which is thus reduced only to 'surplus-value appropriated by productive capital') or 'surplus', whose supposed growth would explain why the rate of profit as conceived by Marx stops falling, while it continues to fall if conceived otherwise.[38] In the meantime, however, events since 1974–5 have caught up with this type of argument, showing that the law more than ever retains its force.

More systematic have been the efforts of the neo-Ricardian school to challenge the law's validity, on both theoretical and empirical grounds. The main theoretical argument is the so-called Okishio theorem.[39] As every capitalist will introduce machinery only if this increases his rate of profit, how can increased profits for every capitalist lead to a decrease in the rate of profit for capitalists taken together?

There are, however, two flaws in this reasoning. In the first place, it is not true that every capitalist will introduce new machinery only if this increases his *rate* of profit. As Marx himself points out, this is certainly his *voluntary* inclination, but he may be *forced* to introduce new machinery, in order to keep his market share or even to save his firm from bankruptcy, i.e. in order to cut his cost price under the pressure of competition, in spite of the effect this decision has upon his rate of profit. In fact, it would be much more correct to say that capitalists will hesitate to introduce new machinery which cuts the *amount* of profit; but then, the amount (mass) of profit and the rate of profit are two quite different categories. The former may go up while the latter goes down.[40]

38. For example Joseph Gillman, *The Falling Rate of Profit*, London, 1957. Paul Baran and Paul Sweezy likewise counterpose a supposed tendency of the 'surplus' to rise, to the tendency of the rate of profit to decline, which according to these authors only applies in a 'competitive system': see *Monopoly Capital*, London, 1968, p. 80.

39. Okishio, 'Technical Changes', op. cit.

40. Georgios Stamatis has drawn attention to the decisive difference between an increase in unit *profit margins* (i.e. the difference between cost price and sale price per unit produced) and the Marxist concept of the *rate of*

In the second place, the argument shows an astonishing misunderstanding of the very nature of the capitalist 'laws of motion' of which the tendency for the average rate of profit to fall is so outstanding an example. These laws operate independently from, and in spite of, conscious decisions by individual capitalist firms. In fact, they can be said to be the objective and unforeseen *effects* of conscious decisions by these firms. No capitalist knows in advance what the real result of his decision to buy new machinery will be. Only when the commodities produced with the help of this new machinery have been sold, and several successive annual balance-sheets have been drawn up, will these results become known. It is, therefore, perfectly possible – indeed inevitable – that the purchase of more machinery by 'every capitalist' is *intended* to increase both his mass and his rate of profit, but that the final end-result of all these decisions will be a situation where the average rate of profit of all is actually reduced.[41]

As for the main empirical argument put forward by the neo-Ricardians, it states that the organic composition of capital is not rising at all over time but remaining more or less even. In other words, technical progress in the long run is neither essentially labour-saving nor essentially 'capital-saving', but neutral.[42] The index of this alleged stability of the organic composition of capital is an alleged stability of the capital/output ratio over time.

Now the capital/output ratio is definitely not identical (or

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profit, in which the *total value of fixed capital* used to achieve this increase in profit margins has to be taken into account (op. cit., pp. 183 ff.). It is precisely the 'tragedy' for capital (expressed in the law of rising organic composition of capital) that the same capitalist methods of systematic mechanization, which lead to lower unit costs and rising unit profit margins, in the end result in an above-average increase in total fixed capital investment – which is one of the forces triggering off a rise in the organic composition of capital in a higher proportion than the rise in the rate of surplus-value, thereby causing the rate of profit to decline. Stamatis's book is amazingly schizophrenic. While the entire first part extols, in a painstaking and extremely detailed fashion, the relevance of Marx's theory of the tendency of the average rate of profit to fall, by a breathtaking *salto mortale*, the author then concludes that this very law no longer applies today, since capitalism no longer applies 'specific capitalist methods of production'!

41. Anwar Shaikh, 'Political Economy and Capitalism: Notes on Dobb's Theory of Crisis', *Cambridge Journal of Economics*, June 1978.

42. In fact, Roy Harrod is the main source for the notion of so-called 'neutral' technical progress.

parallel) to the organic composition of capital. Nor is the allegedly stable 'wage part' in the national income parallel (or identical) to a stable rate of surplus-value. In the case of the capital/output ratio, constant capital is mistakenly identified with fixed capital: i.e. the weight of the value of raw materials, which tends to become a growing part of the value of constant capital (and total capital), is completely eliminated from the reasoning. As for the 'wage bill', it mixes together variable capital, which is the payment of productive labour, with the payment of unproductive labour, which comes at least partially out of surplus-value.[43] Especially given the steady growth of unproductive labour in the history of late capitalism, the distinction is statistically decisive. In addition to this, Shaikh has demonstrated that the so-called stable capital/output ratio itself should be seriously challenged, from a statistical point of view, and that it corresponds to a large extent to an imprecise or wrong use of statistical categories by bourgeois statisticians.[44] Initial detailed studies have strikingly confirmed this judgement.[45]

There remains the fact that, as a result of the lack of transparency of real-value relations measured by current market prices, an empirical demonstration of the rising organic composition of capital is not easy to provide on a macro-economic basis, i.e. starting from national-income and gross-national-product statistics. But a close corollary of the organic composition of capital is the part of labour costs in total annual production costs.[46] Here we

43. See, on this subject, Anwar Shaikh, 'An Introduction to the History of Crisis Theories', in the U.R.P.E. anthology, *Capitalism in Crisis*, New York, 1977.

44. ibid., p. 235. Shaikh refers to an empirical study by Victor Perlo, 'Capital-Output Ratios in Manufacturing', *Quarterly Review of Economics and Business*, Vol. 8, No. 3, Autumn 1966.

45. See R. J. Gordon, 'A Rare Event', *Survey of Current Business*, July 1971, Vol. 51, No. 7, part 2; and the same author's articles in *American Economic Review*, June 1969, and *Review of Economics and Statistics*, November 1968. André Granou, Yves Baron and Bernard Billandot, in their *Croissance et Crises*, Paris, 1980 (pp. 102–4), defend the thesis that the capital/output ratio fell between the Great Depression and the immediate post-war period, rose between 1948 and 1958, declined again (or remained stable) between 1958 and 1968, but rose rapidly after 1968. The way in which they calculate this ratio, however, makes it to some extent the reciprocal of the rate of profit, since it incorporates the rate of surplus-value which rose strongly in the post-war period.

46. Corollary, but not identical. See the remarks by Engels on pp. 334–5 below.

are on much more solid statistical ground, since numerous monographs allow us to examine this relation for separate branches of production over time. One would have a hard time discovering a *single* branch of production in which labour costs constitute a larger part of total current (annual) production costs today than they did on the eve of the Second World War, or at the beginning of the twentieth century – let alone a century or century-and-a-half ago.[47] In spite of all the evident tendencies to cheapen the production of machinery and raw materials, which are as inherent in capitalism as is the tendency to cheapen the production of wage-goods, the *basic* trend of long-term capitalist growth and technical progress has indeed been a labour-saving one. What would the terms 'mechanization' and 'growing automation' express otherwise, if not precisely this basic trend? One of Marx's great theoretical achievements consisted in stressing this trend at a time when it was scarcely recognized as historically decisive for the capitalist mode of production.

MARXIST THEORIES OF CRISIS

As I said earlier, Marx did not leave us a completed, fully worked-out theory of crisis. His observations on the industrial cycle and capitalist crises of overproduction are dispersed among several of his major books and a whole number of articles and letters.[48] Yet it is tempting to see the tendency of the average rate of profit to fall as Marx's main contribution to an explanation of crises of overproduction, and several contemporary Marxist authors have indeed taken this view.[49] Is it correct?

47. See the numerous monographs on specific branches of industry which I cited in *Late Capitalism*, op. cit., pp. 199–204.

48. Apart from Volumes 2 and 3 of *Capital*, Marx's main contributions to crisis theory are to be found in *Theories of Surplus-Value*, London, 1969–72, and in his articles on current economic crises: see, for example, 'The State of Trade' (*Neue Rheinische Zeitung*, 7 March 1849), in Marx/Engels, *Collected Works*, Vol. 9, pp. 3–8; or various articles written in 1853 and 1856–7 for the *New York Daily Tribune* (*Collected Works*, Vols. 11, 12, 14, 15). Marx's correspondence with Engels also contains numerous comments on current crises.

49. See, for example, David Yaffe, 'The Marxian Theory of Crisis, Capital and the State', in *Economy and Society*, Vol. 2, No. 2, May 1973; Paul Mattick, 'Krisen und Krisentheorien', in a collection of articles by various authors with the same title, Frankfurt, 1974.

My answer would be: yes and no. There can be no doubt about the fact that, within the framework of the industrial cycle, the ups and downs of the rate of profit are closely correlated with the ups and downs of production. But this statement, in and of itself, is not sufficient to provide a *causal explanation* of the crisis. It can be (and has been) misunderstood in the mechanical sense that crises are 'caused' by insufficient surplus-value production[50] – which does not enable capital to become sufficiently valorized; which leads to a cut-down of current investment; which leads to a reduction of employment; which in turn leads to a new and cumulative reduction of income, sales, investment, employment, etc. This process continues till the fall in employment and devalorization of capital have led to a sufficient increase in the rate of surplus-value, and sufficient decrease of the mass of capital, to enable the rate of profit to go up again – which then enables investment, employment, production, income, sales, etc. cumulatively to grow again.

In this vulgar sense, explanation of overproduction crises by the decline in the rate of profit alone is both wrong and dangerous. It is wrong, because it confuses the impossibility of valorizing *additionally* accumulated capital with the impossibility of valorizing all *previously invested* capital;[51] because it identifies fluctuations in the *investment decisions* of capitalist firms with the fluctuations of current surplus-value production. The former, however, may continue to grow when the latter is already declining, and vice versa. The explanation's main weakness is its concentration on the sphere of production alone, which, in the last analysis, is founded on a confusion about the very nature of the commodity

50. See Mattick, op. cit., p. 111: 'The accumulation of capital thus does not depend upon the realization of surplus-value, but the realization of surplus-value depends upon the accumulation of capital'; and ibid., p. 115: 'When surplus-value is not sufficient to continue the accumulation process in a profitable way, it can also not be realized through accumulation; it becomes unrealized surplus-value or over-production.' First over-accumulation is posited in an absolute way: there is not enough surplus-value to valorize all accumulated capital. Then the argument shifts to a relative one: there is still additional surplus-value, but it does not become accumulated, because it would give additional capital 0 per cent profit. But how is this to be seen independently from the market prices of the additionally produced commodities? Does a fall of market prices leading to 0 per cent profit not reflect a previously existing glut, i.e. overproduction of commodities besides the over-accumulation of capital?

51. See below, pp. 360–61.

and of commodity production. In the same way as Jean-Baptiste Say's famous *loi des débouchés,* it assumes tacitly that there is no specific problem of value realization, only one of surplus-value production. This in turn assumes that what we have under capitalism is production for barter, not production for sale; and that somehow, at least at a macro-economic level, all value produced is automatically realized.

Marx himself explicitly refuted any such assumption. 'But this production of surplus-value is only the first act in the capitalist production process, and its completion only brings to an end the immediate production process itself. Capital has absorbed a given amount of unpaid labour. With the development of this process as expressed in the fall in the profit rate, the mass of surplus-value thus produced swells to monstrous proportions. Now comes the second act in the process. The total mass of commodities, the total product, must be sold, both that portion which replaces constant and variable capital, and that which represents surplus-value. If this does not happen, or happens only partly, or only at prices that are less than the price of production, then although the worker is certainly exploited, his exploitation is not realized as such for the capitalist, and may even not involve any realization of the surplus-value extracted, or only a partial realization; indeed, it may even mean a partial or complete loss of his capital. *The conditions for immediate exploitation and for the realization of that exploitation are not identical.* Not only are they separate in time and space, they are also separate in theory. *The former is restricted only by the society's productive forces, the latter by the proportionality between the different branches of production, and by the society's power of consumption.* And this is determined neither by the absolute power of production nor by the absolute power of consumption but rather by the power of consumption within a given framework of antagonistic conditions of distribution, which reduce the consumption of the vast majority of society to a minimum level, only capable of varying within more or less narrow limits. It is further restricted by the drive for accumulation, the drive to expand capital and produce surplus-value on a larger scale'[52] (my italics).

Furthermore, this vulgar theory of crises as caused by 'insufficient production of surplus-value' is obviously dangerous, from

52. See below, pp. 352–3.

the point of view of defending the working class against the capitalist onslaught which always coincides with a crisis of overproduction. For the conclusion which might be drawn from such an explanation is that the crisis could be overcome and employment rise again, if only real wages were to be cut and surplus-value (profits) thereby automatically increased.[53] The working class in general, and the trade unions in particular, are thereby confronted with an agonizing choice between defending real wages and fighting unemployment: i.e. they are made responsible for the loss of jobs. Needless to say, reformist proponents of class collaboration are only too ready to come forward with arguments of this kind, calling upon the workers to make the necessary sacrifices in order to 'save jobs' or 'restore full employment'. Experience, however, has shown time and again that this is not borne out empirically by the real course of the industrial cycle.[54] It represents an ideological weapon designed to impose the burden of the crisis on the working class and assist an increase in the rate of surplus-value, which is one of capital's main goals during and after a crisis. 'Profit squeeze' theories involve a similar danger of misuse by the capitalist side in the class struggle.[55]

Many extreme proponents of the decline-in-the-rate-of-profit explanation for capitalist crisis will answer indignantly that their

53. Arthur Pigou, the father of welfare economics, actually advocated a cut in wages to solve the great crisis of 1929–32. He forgot that, for the accumulation process to begin to rise again, it is not enough for profits (quantities of surplus-value) to be increased (this is evidently achieved by a cut in wages): capitalists must also expect the commodities produced by additional capital investment to be sold, which is unlikely when wage-cuts coincide with huge stocks of unsold commodities and huge unused capacities of existing equipment.

54. The great wage restraint imposed, for instance, on West German workers in 1976–7 and on Spanish workers in 1978–9 by their class-collaborationist trade-union leaderships did not lead to any significant decline of unemployment, although profits and investments rose. But investments were nearly exclusively rationalization investments, reducing rather than increasing employment.

55. See, for example, Andrew Glyn and Bob Sutcliffe, *British Capitalism and the Profit Squeeze*, London, 1972. In his *Political Economy and Capitalism*, London, 1938, Maurice Dobb postulates that capitalists introduce new machinery only when wages rise, i.e. that essentially the rise in the organic composition of capital is a function of a given level of wages. This is not the same as the 'profit squeeze' theory, but it is not far from it. Shaikh has correctly criticized these assumptions in 'Political Economy and Capitalism', op. cit.

analysis contains a built-in reply to employers' arguments: the decline of the rate of profit is a function of the rising organic composition of capital, which leads to over-accumulation, and not of a decline in the rate of surplus-value. Indeed, they often insist upon the fact that the rate of surplus-value continues to rise until the very eve of the crisis, but just cannot rise enough to offset the effects of the rising organic composition of capital.[56] They forget, however, that the rate of profit is a function both of the organic composition of capital and of the rate of surplus-value; that, except in the case of starvation wages, i.e. where any cut in real wages would bring them below the physiological minimum (a situation which no longer exists in any industrialized country), a cut in real wages *always* implies a rise in surplus-value produced, hence a higher rate of profit than existed before the cut.[57] We are thus back at square one: to argue that the crisis is *exclusively* caused by insufficient surplus-value production is to assist the employers' argument that it can, at least partially, be overcome by a cut in real wages.

This critique of the mechanical and one-sided explanation of crises of overproduction by the falling rate of profit alone can be extended, in a more general way, into a critique of *any* mono-causal explanation of crises. In the framework of Marxist economic theory, crises of overproduction are *simultaneously crises of over-accumulation of capital and crises of overproduction of commodities*. The former cannot be explained without pointing to the latter; the latter cannot be understood without referring to the former. This means that the crisis can be overcome only if there occurs simultaneously a rise in the rate of profit and an expansion of the market, a fact which disarms both the employers' and the reformists' arguments.

There are three main variants of mono-causal interpretation of Marx's theory of crisis:[58]

1. The pure *disproportionality* theory. This sees as the basic cause of the industrial cycle and the ensuing crisis, capitalist anarchy of

56. See, for example, Yaffe, op. cit.

57. See below, pp. 355–6.

58. The possible fourth variant of a mono-causal theory of crisis – the demographic one – is treated below as a sub-variant of the pure 'over-accumulation theory'.

production: the fact that, under conditions of capitalist market economy, capitalist investment decisions cannot spontaneously lead to 'equilibrium conditions' – the correct proportion of value fractions produced and money flows generated in department I and department II, which Marx defined in Volume 2 of *Capital*. Hence the unavoidable breakdown of equilibrium and the crisis.

The main proponents of this disproportionality theory of crisis were the Russian 'legal' Marxist Mikhail Tugan-Baranovsky and the Austro-Marxist Rudolf Hilferding. Nikolai Bukharin was strongly influenced by similar ideas.[59] The conclusions of the theory are obvious. If, through the growth of monopolies (a 'general cartel', as Hilferding called it), capitalists could 'organize' investment among themselves, there would be no crises of overproduction. There would, indeed, be capitalism without crises.[60] As Roman Rosdolsky has pointed out, however, these theoreticians overlook the fact that the disproportion between production and consumption – the tendency of capitalism to develop productive forces in an unrestricted way, while it imposes strict limits upon consumption by the mass of people[61] – is inherent to capitalism, and independent from the disproportional development of department I and department II due to capitalist competition and anarchy of production (i.e. of investment decisions).[62]

The grotesque consequences to which mono-causal disproportionality explanations of capitalist crises may lead are best exemplified by Tugan-Baranovsky himself, who seriously argued – and demonstrated 'mathematically' – that department I could develop completely independently from department II, to the point where the output of consumer goods would tend to fall

59. Mikhail Tugan-Baranovsky, *Studien zur Geschichte und Theorie der Handelskrisen in England*, Jena, 1901; Rudolf Hilferding, *Das Finanzkapital*, Vienna, 1910; Nikolai Bukharin, *Imperialism and the Accumulation of Capital*, London, 1972. It is true that Bukharin is a bit more cautious than Hilferding, and takes into account the restricting force of limited mass consumption on capitalism's 'limitless' capacity for growth.

60. Tony Cliff, who shares this conviction, can easily imagine a capitalist economy without crises of overproduction – provided anarchy of production is overcome through planning. See *Russia: a Marxist Analysis*, London, 1970, p. 174.

61. See below, p. 615.

62. Roman Rosdolsky, *The Making of Marx's 'Capital'*, London, 1977, pp. 489–90, 496, etc.

towards zero, without such a development causing any crisis whatsoever.[63]

2. The pure *under-consumption by the masses* theory of crisis. This sees in the gap between output (or productive capacity) and mass consumption (workers' real wages or purchasing power) the essential cause of capitalist crises of overproduction, which essentially take the form of overproduction of commodities in department II. Over-accumulation (the decline of investment) and overproduction (or over-capacity) in department I appear as a result of this overproduction (over-capacity) in the consumer goods sector.

While this theory has many non-Marxist ancestors (Thomas Malthus, Sismonde de Sismondi, the Russian Narodniks), its main proponents among Marxists have been Karl Kautsky, Rosa Luxemburg, Nathalia Moszkowska, Fritz Sternberg and Paul Sweezy.[64] Its weakness lies in its basic assumption (not always clearly understood, but at least clearly expressed, by Sweezy) that somehow there is a *fixed proportion* between the development of department I and the development of the productive capacity of department II. Since, simultaneously, the growth in the organic composition of capital and in the rate of surplus-value increase the purchasing power for means of production more strongly than they do the purchasing power for consumer goods, the conclusion is obvious: there will be an unsaleable residue of consumer goods.

But not only is this assumption logically unproven. It is contrary to the very nature of capitalist growth, as characterized by growing mechanization or (to borrow a correct formula from the bourgeois economist von Böhm-Bawerk) 'roundaboutness' of production. Capitalist growth *does* imply that a larger proportion of total output takes the form of means of production, although this cannot be accompanied by an absolute decline in the produc-

63. Mikhail Tugan-Baranovsky, *Theoretische Grundlagen des Marxismus*, Leipzig, 1905.

64. Rosa Luxemburg, *The Accumulation of Capital*, London, 1963; Fritz Sternberg, *Der Imperialismus*, Berlin, 1926; Nathalia Moszkowska, *Das Marxsche System, ein Beitrag zu dessen Aufbau*, Berlin, 1929, and *Zur Kritik moderner Krisentheorien*, Prague, 1935; Léon Sartre, *Esquisse d'une théorie marxiste des crises périodiques*, Paris, 1937; Paul Sweezy, *The Theory of Capitalist Development*, op. cit.; as for Karl Kautsky, the reference is especially to his article in *Die Neue Zeit*, Vol. XX, No. 2, 1901–2, which is his longest contribution on the crisis problem.

tion of consumer goods or a stagnation in the productive capacity of department II. Once this is understood, neither the growth of $\frac{c}{v}$ nor the growth of $\frac{s}{v}$ need automatically lead to an overproduction of consumer goods. They will do so only if the fraction

$$\frac{\text{output I}}{\text{output II}}$$

grows *more slowly* than the fraction

$$\frac{\text{demand for means of production}}{\text{demand for consumer goods}}$$

But that such a development is inherent in the capitalist mode of production cannot be mathematically or logically demonstrated.

The danger in under-consumption theories (which, of course, Luxemburg completely avoided) is that they can lead to reformist conclusions, not dissimilar to the 'harmonicist' implications of disproportionality theories. The latter state that capitalism could avoid crisis if it 'organized' investment. The former tend to think that capitalism could avoid crisis if real wages were larger, or if the government distributed additional 'purchasing power' in the form of social security and unemployment disbursements – i.e. 'redistributed' national income in favour of the workers, 're-transformed' a part of surplus-value into additional indirect wages.[65]

What these 'solutions' overlook is the simple fact that capitalist production is not only a production of commodities which must be sold before surplus-value can be realized and capital accumulated. It is a production *for profit*. Any sizable redistribution of the national income in favour of workers' income, on the eve or in the early stages of a crisis, when the rate of profit has already been declining, means a further decline in that rate of profit through a reduction of the rate of surplus-value (this is, after all, what the 'redistribution of national income' is all about). Under these conditions, capitalists will not increase investment, even if sales of previously produced stocks of consumer goods go up. The depression will continue.

65. This is especially true for neo-Keynesian economists (some of them quite influential within the labour movement), in countries like Britain, France and West Germany. See, for example, *Alternative Wirtschaftspolitik* (Special issue of *Das Argument*), Berlin, 1979.

3. The pure *over-accumulation* theory, which sees the main reason for the crisis in the insufficient mass of surplus-value produced, compared to the total amount of accumulated capital. We have already dealt above with the weakness of this theory, and its dangerous implications from the point of view of the proletarian class struggle.

There is also, however, a specific demographic variant of the theory, which stresses the fact that, after long periods of capitalist prosperity, the reserve army of labour tends to disappear, and as a result real wages go up to a point where they cause a sharp decline in the rate of surplus-value and hence in the rate of profit.[66] While this eventuality, the border case of what Marx calls in Chapter 15 of Volume 3 'absolute over-accumulation of capital',[67] cannot be excluded from a general theoretical point of view, in the real history of capitalism – under conditions of extensive international mobility (migrations) of labour and of an even vaster potential for future migrations which exists in underdeveloped countries – any such 'population pressure' on capitalism seems centuries removed from us.[68] It likewise greatly underestimates capitalism's capacity rapidly to reconstruct a reserve army of labour, by concentrating on rationalization investments which are macro-economically employment-reducing (i.e. by a medium-term increase in the average rate of growth of productivity of labour higher than the average rate of economic growth). This has been strikingly confirmed throughout the 1970s, when the total mass of unemployed in the imperialist (O.E.C.D.) countries, leaving firmly behind the 'near full-employment' conditions of the sixties, doubled from ten million in 1970 to twenty million in 1980,

66. See in particular Makatoh Itoh, 'Marxian Crisis Theories', in *Bulletin of the Conference of Socialist Economists*, Vol. IV, No. 1, February 1975. The first Marxist theoretician to attempt a demographic explanation of economic crisis was Otto Bauer, 'Die Akkumulation des Kapitals', in *Die Neue Zeit*, Vol. XXXI, No. 1, 1913.

67. See below, pp. 360–61.

68. Just to give an idea of such 'reserves', at present there are one million illegal immigrants a year from Mexico and Central America to the United States, a significant fraction of whom are promptly deported. But even at the present level of productivity of labour in Mexico and Central America (much lower than in the United States), the figure of unemployed in these two regions hovers around fifteen million: these represent a potential additional labour force for the United States. This is without even mentioning some fifty million housewives at present not gainfully employed!

while the total number of jobs destroyed in production through technical progress was far larger even than these ten million: millions of immigrant workers from the less industrialized countries had to return to their homelands; millions of women and young people 'dropped out' of the labour market'; very many productive workers were transformed into unproductive ones.

A more sophisticated version of this theory has been proposed by the Hungarian Marxist Ferenc Janossy, who sees in the inability of capitalism to develop enough skilled (especially highly skilled) workers an unavoidable bottleneck which pushes up real wages at the end of 'prosperity'.[69] But here again the flexibility of capital, both in speeding up skill formation (including at factory level) and in reducing the need for highly skilled labour by technological change, is greatly underestimated.

Proponents of the pure over-accumulation theory of crisis often argue that, as long as accumulation of capital proceeds smoothly, consumption by the 'final consumers' automatically grows, as more wage-labour is being employed (generally at increasing wages) and unproductive consumption out of surplus-value also tends to grow. Hence no glut of consumer goods can appear, as long as the decline in the rate of profit has not significantly slowed down accumulation. The first part of the assertion is correct, as far as it goes. The conclusion, however, does not follow at all. The only thing this analysis proves is the fact that consumption (i.e. realization of surplus-value in department II) grows as long as accumulation grows. But it does not prove that consumption grows *in the same proportion* as does the productive capacity of department II. Indeed, the combined operation of the increasing organic composition of capital in department II and the increase in the rate of surplus-value in the overall economy makes it rather probable that (at least periodically) consumption, while growing, will grow less than productive capacity in department II. In which case, a glut of consumer goods can indeed occur before accumulation has slowed down in the economy taken as a whole.

Similarly, the assumption that a slow-down in current investment (in the last analysis determined by a decline in the average rate of profit) will trigger off the crisis before any overproduction of commodities actually manifests itself, is in the best of cases only one possible variant of the crisis scenario, and by no means

69. Ferenc Janossy, *Das Ende des Wirtschaftswunder*, Frankfurt, 1966.

the only one consistent either with Marx's analysis here in Volume 3 or with the empirical data of industrial cycles historically. Current investment decisions by capitalist firms are a function of two variables: *past* profit realizations (i.e. available surplus-value for accumulation) and *future* profit expectations. About the *current* rate of profit, which is a macro-economic end-result of many current changes, capitalist firms have no way of knowing anything precise, as long as their own and other capitalists' annual balance-sheets have not been drawn up. It is quite possible that past profit realization (e.g. in the previous year) does not yet reflect a decline in the rate of profit, but investment will still be cut precisely because there are growing signs of glut of the commodities which the firms produce (or already apparent phenomena of over-capacity). Conversely, it is equally possible that past profit realization already reflects the beginning of a decline in the rate of profit but investment decisions will still be expanding because, for whatever reason, the capitalist firm believes it can still significantly expand its sales. Profit expectations always include, besides the current trends of the rate of profit, estimates about expected market conditions and market shares. This is precisely one of the reasons why, under capitalism, there definitely exists a tendency for investment to 'overshoot' in certain circumstances, even after the rate of profit has started to decline. Many capitalist firms may believe that by continuing to expand investment and output, they can increase their own market share, profit from technological advantages vis-à-vis their competitors, etc. All these decisions cannot stop the rate of profit from declining. But they can produce growing overproduction of commodities before accumulation of capital actually slows down.

Elements of a correct theory of capitalist crisis are, of course, present in all three of the mono-causal explanations just outlined.[70] They have, precisely, to be integrated with each other to furnish such a theory. The easiest way to set about such an integration, in the light of Volume 3's basic insistence upon the tendency of the

70. While Lenin inclined towards a disproportionality explanation of capitalist crisis, he was prudent enough to write: 'The "consuming power of society" and "the proportional relation of the various branches of production" – are not conditions that are isolated, independent of and unconnected with each other. On the contrary, a certain level of consumption is one of the elements of proportionality.' *Collected Works*, Vol. 4, p. 58.

average rate of profit to fall, is by distinguishing a number of successive forms taken, over time, by the accumulation of capital.

In periods of strong upsurge of capitalist production – when business is brisk, current output is easily sold (indeed demand seems to be stronger than supply) and profits are high – there will be an 'investment boom' which will run rapidly into bottlenecks in both sub-sections of department I: that of machinery and equipment, and that of raw materials. Both these sub-sections of department I, by their very nature, are less flexible in adapting rapidly to demand than is department II. Hence additional investment, capital accumulation, will occur on a larger and larger scale in department I.[71] More means of production have to be produced to produce additional means of production for producing additional consumer goods. Good profit expectations in addition to high profit realizations are the motivation for this boom. Hence, there is a shift of investment towards department I. An uneven development (disproportion) between department I and department II is set into motion.

At a certain point in the boom, two parallel phenomena occur more or less simultaneously. On the one hand, the additional means of production produced come into the production process only after a certain time-lag. But when they enter into that process, they increase the productive capacity in both departments by leaps and bounds. But precisely the relatively high rates of profit and investment imply that real wages and consumer-goods demand from capitalists and their hangers-on could not have developed in the same proportion as this sudden increase in productive capacity in both departments (even if output grows less rapidly in department II than in department I, and even if real wages also grow). Hence a tendency to increasing overproduction (or overcapacity), in the first place in department II.

On the other hand, the massive introduction of new means of production in both departments does not occur with old techniques, but with new up-dated techniques characterized by a basically labour-saving bias, i.e. by an increased organic composition of

71. Marx even saw, in the massively bunched introduction of fixed capital at intervals of from seven to ten years, both one of the main reasons for the periodicity of the industrial cycle and the determining factor for its average duration. On the tendency of investment to 'overshoot', see J. R. Hicks, *A Contribution to the Theory of the Trade Cycle*, Oxford, 1951; Roy Harrod, *Economic Essays*, London, 1953; E. D. Domar, *Essays in the Theory of Economic Growth*, New York, 1957; etc.

capital. This presses down the rate of profit, especially since under boom conditions the rate of surplus-value cannot increase in the same proportion, or even does not increase at all.[72] Hence a tendency to over-accumulation: *part of newly accumulated capital* can no longer be invested at the average rate of profit, or is even not invested at all, pushed towards speculation, etc.[73]

Credit expansion, for a certain time, covers the gap. But it can only postpone the crash, not avoid it. Overproduction now tends to spread from department II to department I.[74] Growing over-production of commodities (over-capacity in a growing number of branches of industry), combined with growing over-accumulation, must of necessity lead to sharp cut-backs in productive investment. Disproportionality between the two departments now jumps from an 'over-extension' of department I into an 'under-development' of that department. Investment falls more quickly than current output.

As a result of the crash – which can, but does not necessarily, take the initial form of a credit and banking crash – there is a general collapse of commodity prices (expressed in gold), together with a decline in output and employment. There is a general devalorization of capital, as a result – simultaneously – of this collapse of prices (i.e. of commodity capital), of a large number of bankruptcies, and of a decline in the value of the fixed capital and raw-material stocks of surviving firms. But this general collapse of prices is nothing but the adaptation of market prices and prices of production (through a lower average rate of profit) to the general lowering in the value of the average commodity, which is the unavoidable outcome of the general increase of investment, organic composition of capital and average productivity of labour during the previous period. Capitalists try to postpone this hour of reckoning as long as possible – whence the over-extension of credit, speculation, over-trading, etc. on the eve of the crash. But they cannot postpone it indefinitely.

The effects of the crash, for the system as a whole, are healthy,

72. See below, pp. 359–60, 364–5.

73. See below, p. 359.

74. This, of course, is not an absolute rule. Overproduction *could start* in certain sub-sectors of department I. This has happened in some but not most concrete crises. The two latest crises – those of 1974–5 and 1979–80 – both started in automobiles and housing, i.e. durable consumer goods, sub-sectors of department II.

however nasty they may be for individual capitalists. General devalorization of capital is not accompanied by a proportional reduction in the mass of surplus-value produced. Or (which amounts to the same) an identical mass of surplus-value can now valorize a smaller total amount of capital. Hence the decline in the rate of profit can be stopped and even reversed. Large-scale reconstitution of the reserve army of labour, occurring during the crisis and the depression, makes possible a vigorous increase in the rate of surplus-value, not only through speed-ups but even through a cut in real wages, which in turn leads to a further rise in the rate of profit. Raw material prices generally fall more than the prices of finished goods, so part of constant capital becomes cheaper. The rise in the organic composition of capital is thereby slowed down, again pushing up the average rate of profit on industrial capital. A new cycle of stepped-up accumulation of capital, stepped-up productive investment, can now start, once stocks have become sufficiently depleted and current production sufficiently cut for demand again to outstrip supply, especially in department II.

It follows that the law of the tendency for the average rate of profit to decline is less a direct explanation for crises of over-production properly speaking, than a revelation of the basic mechanism of the industrial cycle as such: in other words, an uncovering of the specifically capitalist, i.e. uneven, disharmonious, mode of economic growth, which unavoidably leads to successive phases of declining rates of profit, and recuperation of the rate of profit as a result, precisely, of the consequences of the previous decline. This is true at least of the way in which this law operates over the seven–ten-year time-span – leaving aside, for the moment, the *memento mori* it implies for capitalism in a secular perspective.

There can be little doubt that this multi-causal explanation of capitalist crisis, rather than any of the mono-causal variants, corresponds to Marx's own conviction, at least as expressed here in Volume 3. In addition to the passage quoted on p. 40 above, three other passages can be cited which leave little room for alternative interpretations:

'Let us conceive the whole society as composed simply of industrial capitalists and wage-labourers. Let us also leave aside those changes in price which prevent large portions of the total capital from being replaced in their average proportions, and which, in the overall context of the reproduction process as a whole, particularly as developed by credit, must recurrently bring about a situation of general stagnation. Let us likewise ignore the fraudulent businesses and speculative dealings that the credit system fosters. In this case, a crisis would be explicable only in terms of a disproportion in production between different branches and a disproportion between the consumption of the capitalists themselves and their accumulation. But as things actually are, the replacement of the capitals invested in production depends to a large extent on the consumption capacity of the non-productive classes; while the consumption capacity of the workers is restricted partly by the laws governing wages, and partly by the fact that they are employed only as long as they can be employed at a profit for the capitalist class. *The ultimate reason for all real crises always remains the poverty and restricted consumption of the masses, in the face of the drive of capitalist production to develop the productive forces as if only the absolute consumption capacity of society set a limit to them.*'[75] (my italics)

'Periodically, however, too much is produced in the way of means of labour and means of subsistence, too much to function as means for exploiting the workers at a given rate of profit. *Too many commodities are produced for the value contained in them, and the surplus-value included in this value, to be realized under the conditions of distribution given by capitalist production, and to be transformed back into new capital*, i.e. it is impossible to accomplish this process without ever recurrent explosions.'[76] (my italics)

'The manufacturer may actually sell to the exporter, and the exporter to his foreign customer; the importer may sell his raw materials to the manufacturer, and the manufacturer sell his products to the wholesaler, etc. But at some particular imperceptible point *the commodity lies unsold;* or else the total stocks of producers and middlemen gradually become too high. It is precisely then that consumption is generally at flood tide, partly because one industrial capitalist sets a series of others in motion, partly because the workers these employ, being fully occupied, have more than usual to spend. The capitalists' expenditure increases with their revenue. And besides this, there is also, as we have already seen (Volume 2, Part Three), a constant circulation

75. See below, pp. 614–15.
76. See below, p. 367.

between one constant capital and another (even leaving aside the accelerated accumulation) which is initially independent of individual consumption in so far as it never goes into this *even though it is ultimately limited by it, for production of constant capital never takes place for its own sake, but simply because more of it is needed in those spheres of production* whose products do go into individual consumption. This can continue quite happily for a good while, stimulated by prospective demand, and in these branches of industry business proceeds very briskly, as far as both merchants and industrialists are concerned. The crisis occurs as soon as the returns of those merchants who sell far afield (or who have accumulated stocks at home) become so slow and sparse that the banks press for payment for commodities bought, or bills fall due before any resale takes place.'[77] (my italics)

CREDIT AND THE RATE OF INTEREST

In the same way as Volume 2 of *Capital* stressed the importance of previous accumulation (and presence) of money-capital, its periodic injection into circulation, and its periodic outflow from the operations of productive capital properly speaking, to make expanded reproduction (i.e. economic growth) possible for 'capital in general', Volume 3 stresses the key importance of credit for 'many capitals', i.e. for the fluctuations of the industrial cycle under conditions of competition.

The appearance of a generally known average rate of profit unavoidably leads to an equalization of the rate of interest too. Surplus-value is, first of all, split between profit for entrepreneurial capital (industrial profit, commercial profit, banking profit, and profit for agricultural entrepreneurs as distinct from passive landowners) on the one hand, and interest on the other. Through the capitalist banking system, all available money reserves (savings and non-invested surplus-value + idle money capital resulting from non-investment of part of surplus-value realized during previous cycles) are transformed into functioning capital, in other words lent to capitalist firms which are actually operating – i.e. employing wage-labour – be it in the sphere of production or in that of circulation. In this way, capitalists are able to operate with much more capital than they own personally. Capital accumulation can take place at a much quicker pace than would

77. See below, pp. 419–20.

be the case if each capitalist firm could practise enlarged reproduction only on the basis of the profits it had itself realized.

This constant expansion of credit, which has accompanied the whole history of the capitalist mode of production, at first sight seems to accentuate the tendency of the average rate of profit to decline.[78] The total amount of profit distributed among the sum-total of capitalist firms is now lower than the sum-total of surplus-value produced, the difference being exactly the total amount of interest paid out to the passive owners of money capital (which is not to be confused with profits of banks, i.e. the average profits on their own capital, not on their deposits). But this is, of course, a false impression. The average rate of profit is the division of the total amount of surplus-value produced by the total amount of social capital. If, as a result of division of labour among capitalists or over-accumulation, part of that capital is not itself directly productive, in other words, is not engaged in the direct production of surplus-value, this does not change its nature as capital, i.e. value constantly on the look-out for an accretion of value.

Hence, according to Marx here in Volume 3, the effects of credit (like those of trade) on the tendency for the average rate of profit to decline are opposite to what at first sight appears. They in reality tend to put a brake upon that tendency, or even reverse it, as a result of three simultaneous mechanisms which they unleash:

(1) Trade and credit allow capital to rotate more rapidly, thereby increasing the number of productive cycles through which a single sum of money capital can pass in, say, one year, thereby increasing the mass of surplus-value and also the annual rate of profit (since the same amount of surplus-value is produced during each of these productive cycles, all other things remaining equal).[79] This, by the way, is why industrialists are ready to allow commercial and banking capital to share in the general distribution of entrepreneurial profit (total mass of surplus-value minus total

78. See below, pp. 735, 742–3.

79. Industrial capital can rotate more rapidly if wholesale and retail merchants buy produced commodities immediately from industrial capitalists and keep them in stock until the 'last customer' appears. This division of labour inside the capitalist class, in which commercial capitalists buy commodities entering the sphere of circulation from industrial capitalists, explains why the latter are ready to abandon part of surplus-value to the former, in the form of commercial profits.

mass of interest), although neither commercial nor banking capital produces surplus-value. Such capital does not produce surplus-value itself, but it helps industrial capital and agricultural capital produce additional surplus-value.

(2) By enlarging the scope and tempo of accumulation of capital in the productive sphere, over and above profits directly owned by industrialists and capitalist farmers, commerce and trade accelerate the concentration of capital, thereby stimulating technical progress and the production of relative surplus-value, which again counteracts the tendency for the average rate of profit to decline.

(3) By the device of joint-stock companies (corporations), credit creates a situation in which a large part of capital, owned by stockholders, is not expected to receive the average rate of profit at all, but is content with the average rate of interest only. Hence, the average rate of entrepreneurial profit is much higher than it would be if all (or the largest part) of capital were directly entrepreneurial capital, i.e. had to receive the average rate of profit.[80]

The greater flexibility of money capital not tied to any specific firm or branch of industry is, in turn, one of the main reasons why the equalization of the rate of profit can so easily occur and be recognized under capitalism, i.e. why social capital remains relatively mobile in spite of growing capital investment in the form of fixed, relatively immobile capital. Parallel to the reserve army of labour, these huge reserves of money capital are the preconditions for sudden, rapid phases of feverish expansion, which characterize the industrial cycle and the very nature of capitalist growth, uneven and disharmonious. Indeed, the banking system in part plays the role of a social clearing-house, through which capital is constantly being transferred from branches which face stagnating or declining overall demand, to branches which face growing overall demand not satisfied by current production (or productive capacity). The deviations of distinct rates of profits from the average are the guiding mechanism for these transfers. In that sense, Marx stresses the key role of credit in expanding the accumulation of capital to its utmost limits, while at the same time

80. See below, pp. 347–8.

functioning as the main lever for over-speculation, over-trading and overproduction.

It follows that the credit cycle – and the ups and downs of the rate of interest – are partially desynchronized from the industrial cycle properly speaking. During the period of recovery and initial upsurge, money capital is relatively abundant; the level of self-financing of firms is high; the rate of interest is relatively low;[81] and the level of entrepreneurial profit is above average. Conversely, at the peak of the boom, during the phase of over-heating and during the crash, money capital becomes scarcer and scarcer; the level of self-financing declines precipitately; demand for money capital grows constantly; and the rate of interest grows by leaps and bounds, not in spite of but as a function of the decline in the average rate of profit. Firms now borrow not to expand business but to escape bankruptcy; not in order to gain additional entrepreneurial profits, but in order to save their capital. At this precise moment of the cycle, the rate of interest, therefore, can actually be above the rate of entrepreneurial profit (which cannot, of course, 'normally' be the case). But when, after the crash, the crisis and depression properly speaking set in, investment declines steeply; demand for credit collapses; and the rate of interest starts to slide rapidly, which helps the rate of entrepreneurial profit slowly to pick up again.

MARX'S THEORY OF SURPLUS PROFITS

The fact that Marx's theory of differential land rent in reality represents a special case of a more general theory of surplus profits has not hitherto been sufficiently appreciated. This is all the more strange in that Marx explicitly makes the point here in Volume 3, in several passages of Parts One and Two, and returns to the question at length in Parts Six and Seven.

The basic approach, once again, is a straightforward application of the labour theory of value. The question whether labour expended in the production of a given commodity is recognized as

81. Under conditions of permanent inflation of paper money, this applies, of course, to the 'real' and not to the 'nominal' rate of interest. The 'real' rate of interest is the 'nominal' rate minus the rate of inflation. The extent of credit inflation under late capitalism can be measured by the fact that we have known several lengthy periods of negative 'real' rates of interest in key capitalist countries.

average socially necessary labour or not is not a simple physical matter of an actual number of labour-hours expended – of a given fraction of society's total labour potential being used for producing a given commodity.[82] It is a function of the total amount of labour expended in all the units producing that given commodity, as compared to the total amount of labour which society wishes to devote to it.[83] It is a function of the relation between the productivity of labour in the given productive unit and the average productivity of labour in the branch of industry as a whole.

Marx distinguishes three basic situations of current production,

82. An important debate is occurring on this question among Marxists, with a number of non-Marxists also taking part. Isaac Rubin, while correctly denying a purely physiological (reified) definition of 'abstract labour', contends strongly that it is quantifiable, based upon labour-time and labour-intensity (op. cit., pp. 155–7). In my view, he is right and Catherine Colliot-Thélène, in her Afterword to Rubin's *A History of Economic Thought* (London, 1979, pp. 405–15), is wrong when she asserts that there is a basic contradiction involved, when Marx defines 'socially necessary labour' both by the average productivity of labour in each industrial branch and by the relation between branch output and socially recognized *needs*. Where Colliot-Thélène sees a contradiction, there is in fact a difference – between *value production*, which is strictly limited to the sphere of production, and *value realization*, which occurs in the sphere of circulation and depends *inter alia* upon relations between the structure of production and the structure of demand. The law of value adapts the distribution of the labour force to social needs *post festum*, because under conditions of commodity production this cannot be done *a priori*. But this does not imply that labour expended in the production process has not been value-producing, i.e. that labourers (labour-time) engaged in 'unnecessary' production have been nonexistent. It just means that value produced has been redistributed: that the equivalent of some of it is not received by those who own the commodities thus produced.

83. This point, which I made in *Marxist Economic Theory* (London, 1962), is also highly controversial among Marxists. Marx himself, however, is quite clear on the subject (see below, p. 774): 'This is in fact the law of value as it makes itself felt, not in relation to the individual commodities or articles, but rather to the total products at a given time of particular spheres of social production autonomized by the division of labour; so that not only is no more labour-time devoted to each individual commodity than necessary, but out of the total social labour-time only the proportionate quantity needed is devoted to the various types of commodity. Use-value still remains a condition. But if in the case of the individual commodity this use-value depends on its satisfying in and of itself a social need, in the case of the mass social product it depends on its adequacy to the quantitatively specific social need for each particular kind of product, and therefore on the proportional division of the labour between these various spheres of production in accordance with these social needs, which are quantitatively circumscribed.' See too p. 786 below.

in relation to current social needs (not, of course, physical needs, but needs induced by commodity production and mediated through purchasing power as determined by capitalist norms of distribution – i.e. by the class structure of bourgeois society).

Case 1 concerns situations where there is a normal mobility of capital in relation to a given branch of output. Here, inflows and outflows of capital, regulated by oscillations of prices inducing oscillations of rates of profit, will normally balance out social supply and demand. In that case, equalization of the rate of profit will normally apply to the branch in question. Firms which operate at the average productivity of labour in the branch (which will be the general rule) will receive the average rate of profit. Firms which operate below the average productivity of labour will receive less than the average profit, and risk being crowded out of business in situations of crisis and depression. Firms which have made technological advances, which operate at a level of productivity of labour above the average, will enjoy a *temporary surplus profit*, i.e. a profit over and above the average profit resulting from the difference between their individual costs of production and the average costs of production in the branch. But this surplus profit will generally disappear in periods of crisis and depression, when the new technology will become generalized throughout the branch, and the average productivity of labour (the value of the commodity) adapted to that initially higher productivity.[84]

Case 2 concerns branches of production characterized by *structurally stagnant or declining demand*: i.e. 'outmoded' ones, with *structural* overproduction. Here, only firms operating at above-average productivity of labour will receive the average rate of profit. Firms operating at average productivity of labour will receive less than the average rate of profit. Firms operating at below-average levels of productivity of labour will sell at a loss and go out of business. In general, again, when there is normal mobility of capital, such branches of industry will become 'normalized' (i.e. revert to Case 1) even before a general crisis of overproduction occurs, through massive closures of productive units.

But then there is also Case 3, which we might characterize as one of *structurally (or institutionally) determined scarcity*: i.e. the

84. See below, pp. 279, 300 and 373–4.

case where an influx of capital is hampered (or prevented) by *natural or artificial monopolies.*[85] In such cases, there is a *long-term* preponderance of demand over supply. So the firms operating with the lowest productivity of labour in the branch still receive the average rate of profit (i.e. they determine the price of production, or the value, of the commodity produced in that branch).[86] Firms operating at a higher productivity of labour – at the average of the branch, or *a fortiori* at an above-average level – receive a *long-term surplus profit* protected by the very monopoly, i.e. by the powerful obstacle which hinders the influx of additional capital into the branch in question. This surplus profit does not even disappear in times of crisis and depression, although it will obviously be lowered in absolute terms, as a result of the fall in the average rate of profit.

These monopoly surplus profits are called differential rents. In *Capital* Volume 3, three such instances of differential rent are distinguished: land rent; mineral rents; and technological rents.[87] Land rent could be sub-divided into agricultural land rent and urban land rent.

Natural monopolies are determined by the fact that access to natural resources necessary for production (from a use-value point of view) is limited, and that these are not reproducible at will by capital. This applies to land as such, especially land of a given use-value (desired relative fertility, desired location); to mineral sources; to climatological preconditions for using land to produce certain specific use-values (e.g. cotton, natural rubber, tropical fruits, etc.).

Artificial monopolies are determined by limits in capital mobility related not to natural conditions but to conditions arising from the results of specific stages (forms) of accumulation of capital itself: concentration of capital (if, in order to start a new firm in a given branch of industry with minimum level of profitability, it is necessary to invest at least £500 million or $1,000 million, this is obviously an 'obstacle to entry' for most capitalists); monopoly rights in patents, inventions or research in certain new fields of production (or, which amounts to the same thing,

85. See below, pp. 301 and 1001.

86. See below, pp. 278–9.

87. I have used the formula 'technological rent' in extension of Marx's land rent, when conditions of 'artificial monopoly' are due to technological monopolies, similar to the monopoly in landownership.

qualitative advantages in the capacity to apply these); organized practices by a small number of firms dominating production in a given field, systematically resorted to in order to keep out potential competitors; and so on.

As clearly follows from this definition, natural and artificial monopolies, giving rise to surplus profits through putting a brake upon free entry of capital into branches of production where the rate of profit is higher than average, are always relative, never absolute. Land is not reproducible. But possibilities for capital investment on existing land can be vastly expanded. Furthermore, internationally, tremendous areas of potentially agricultural land are not yet exploited (in the nineteenth century, of course, these were many times greater than today). So *potential* agricultural land is still relatively abundant on a world scale. Capitalist technology, furthermore, can be pushed to the point where production becomes possible without the use of land. Mineral resources are finite. But synthetic production of originally natural raw materials (fibres, rubber, oil) is not finite, or at least not to anything like the same degree as natural raw materials properly speaking.

The bigger the initial capital outlays necessary for profitable production, the smaller the number of potential new competitors in a given branch of industry. But conversely, the higher the surplus profits enjoyed in these branches, the stronger the inducement for 'many capitals' to band together and risk the huge initial capital investments necessary to obtain a slice of the cake. The more that decisive advances in technology lead to stable surplus profits over longer periods, the stronger the pressure for potential competitors to leap ahead and bypass these advances by a new revolution in technology, etc.[88] One may conclude that all monopoly surplus profits are always limited in time and, in the long run, tend to disappear, and that commodities produced in initially monopolized branches tend to be exchanged at their prices of production. Whether this 'long run', at least for industrial products produced in monopolized branches under monopoly capitalism (i.e. since about 1890), is the 'long wave' – as I hypothe-

88. An impressive recent example is that of the increasing challenge to I.B.M.'s quasi-monopoly domination of the computer industry, as a result of the development of micro-processors and the attempt by Japanese trusts to bypass I.B.M. in the production of fifth-generation large computers.

sized in *Late Capitalism* – or not, remains a subject for further investigation.[89]

In order fully to grasp the relative (never absolute) nature of any monopoly, whether natural or artificial – and thus the limited nature in time of any form of surplus profits under capitalism – it is necessary to reintroduce into our analysis the phenomenon of structural scarcity which was its starting-point.[90] For it is only if obstructions to capital mobility, i.e. *obstacles to increases in output*, create conditions under which social demand for the goods produced in that given branch of output is for long periods higher than or equal to the total amount of commodities produced (including those produced under the lowest conditions of productivity of labour, or the lowest fertility of soil in agriculture) that units of production enjoying lower costs of production will be able to realize surplus profits in the form of *differential rents* (differential land rents, mineral rents, technological rents).

Once, however, social demand for the goods produced in the monopolized branch of industry recedes, or stagnates, or grows more slowly than does production even under conditions of relative monopoly, differential rent will tend to be reduced and surplus profits to decline. (This does not mean, of course, that they will disappear completely, where the monopoly is natural, as long as differences in fertility, etc. still subsist and determine different unit costs on different pieces of land, in different mines, etc.) The huge increases in average productivity of agricultural labour, which have been one of the main characteristics of the development of capitalism in the twentieth century, and have indeed exceeded the rate of growth of industrial productivity of labour, have completely altered the demand/supply relation for

89. See *Late Capitalism*, op. cit., pp. 545–6. The idea of an equalization of surplus profits side by side with the equalization of average profit, which implies the co-existence during a certain time-span of two average rates of profit, one in the monopolized and one in the non-monopolized sectors of production, was advanced in my *Marxist Economic Theory* (op. cit., Vol. 2, pp. 423–6) and defended in *Late Capitalism* (pp. 95, 538–49). It has been equally strongly challenged. Marx himself, however, explicitly proposes it here in *Capital* Volume 3 (see below, p. 1001).

90. Marx deals with this problem of structural scarcity on p. 279 below: 'If the demand is so strong, however, that it does not contract when price is determined by the value of commodities produced in the worst conditio s, then it is these that determine the market value.'

basic foodstuffs in the advanced capitalist countries.[91] The situation of structural scarcity has been transformed into a situation of structural overproduction, co-determined by the decreasing place of food expenditure in total consumers' expenditure when real incomes rise (Engel's Law). Not only has differential rent, therefore, been strongly contracting in these countries, but large tracts of farm land have been reconverted into pastures, while in turn large tracts of pasture have been reconverted into forests or simply waste land. Massive closures of coal pits in the nineteen-fifties, sixties and early seventies, when oil was much cheaper than coal, are a parallel development in mining, with a co-related decline of differential coal-mining rents.

But the process can also be reversed. When social demand – mediated through an increase in market prices – suddenly surges beyond output for, say, ten or twenty years, i.e. when structural scarcity reappears, a massive reappearance of differential rents occurs. This is what has happened in gold production since the collapse of the Bretton Woods system, when it became impossible for the imperialist Central Banks to maintain the gold price at $35 or $42 (35 S. D. R.) an ounce.[92] The upsurge of the 'free market gold price', first to $100, then to $200, finally to more than $600 an ounce, has made many 'marginal' mines in South Africa (and elsewhere) profitable again, and led to a feverish development of capital investment in gold-mining. The more productive among the twenty main South African gold mines were producing gold at the end of 1979 at around $95 production costs per ounce (the single most productive mine at $64 an ounce). The less productive of these twenty mines had production costs of around $200 an ounce (with the highest single figure being $265). This situation gives a differential rent of more than $100 an ounce for the former

91. In the post-war period, agricultural productivity of labour has been rising faster than that of industry in most of the industrialized capitalist countries: in the United States, three times as fast during the 1950s. See Théodore Schultz, *Economic Crises in World Agriculture*, Ann Arbor, 1965, pp. 70–72.

92. S.D.R. (Special Drawing Rights, emitted by the International Monetary Fund and only used in inter-central-bank relations, not in relations with private capitalists, including private banks) are based on a common basket of currencies, and have thus been constantly re-appreciated against the dollar since 1971. Hence, the increase of the 'official' I.M.F. gold price (fixed at 35 S.D.R. per ounce), which rose from $35 to $42.

category of mines as against the latter, once gold is selling at more than \$200 + average profit: say, more than \$240 or \$250 an ounce.[93]

There is a more general reason why the capitalist mode of production produces both a tendency towards monopolization (e.g. as a result of increasing concentration and centralization of capital), and a tendency towards periodic decline of specific monopolies. This is the fact that surplus profits are deducted from the total amount of profit to be distributed among all those capitalists who participate in the equalization of the rate of profit: in other words, they tend to reduce the general cake distributed among all bourgeois except the monopolists. As there is a tendency for that average rate of profit to decline, monopolies of all kinds – including monopoly property in land – tend, therefore, to accentuate that decline. Hence, the pressure of capital to overcome natural or artificial barriers to the mobility of capital: to reduce the impact of monopolistic situations, or even try to eliminate them altogether. The outcome of this constant tug-of-war is a function of the relative strength of different layers of the ruling class. At least in the twentieth century, the pressure has been more successful with regard to absentee capitalist landlords (separate and apart from capitalist agricultural entrepreneurs) than with regard to industrial, transport or mining monopolies, although not a few cases of collapse of monopolistic surplus profits could be cited in these realms too.

This pressure remains, independently of whether one considers the surplus profits (additional surplus-value) of the monopolists to be actually produced inside the monopolized branches of output, or whether one considers them, at least in several cases, as resulting from transfers of value from non-monopolized to monopolized sectors of production. For, in both hypotheses, the mass of surplus-value to be shared out among all capitalists who do not enjoy rents is substantially lower than it would have been with a 'perfect' mobility of capital into all branches: in other words, their average rate of profit has been lowered. And when this accentuates a tendency which is already operating for deeper reasons, as has been indicated above, the counter-pressure will be all the more powerful.

93. Study by the Banque L. Dreyfus, reproduced in *Le Monde*, 29 January 1980.

THE SPECIFICITY OF CAPITALIST AGRICULTURE

In Volume 3 of *Capital*, Marx extends a notion which he had already stressed at the end of Volume 1: the key importance of private appropriation of land – the transformation of land into the private property of a given limited class of people – for the very birth, consolidation and expansion of the capitalist mode of production. This mode of production presupposes the appearance of a social class – the modern proletariat – which has no access to means of production and subsistence and is, therefore, under the economic compulsion to sell its labour-power. Means of subsistence are, in the first instance, food, which wherever access to land is free can be produced with minimal means of production. Hence, the creation of the modern proletariat hinges, to a large extent, on barring free access to land to people possessing no capital.

This process of private appropriation of land, which in Western Europe mainly took place between the fifteenth and eighteenth centuries and culminated in the sale of village 'free' land reserves (communal lands) unleashed by the French Revolution,[94] was repeated throughout the last part of the nineteenth and the whole of the twentieth century in Eastern Europe, North and South America, the Middle East, Africa, Japan and South-East Asia. The most repulsive form of forcible separation of the original population from its fertile land reserves occurred in Eastern and Southern Africa. It is going on to this very day in countries like Brazil, Iran, the Philippines and Mexico (despite the partial achievements of the 1910–17 Revolution).

However, the interrelation between consolidation of the capitalist mode of production, the process of capital accumulation and the struggle of capital against the tendency for the rate of profit to decline is much more complex than this compulsion to transform all land into private property.

For historical reasons, the generalization of private property in land, in Western, Central and a large part of Eastern Europe as well as in Japan, took the initial form of ownership by a social class separate and apart from 'functioning' capitalists (i.e. capitalist farmers, entrepreneurs) properly speaking. These

94. See (among others) Otto Bauer, *Der Kampf um Wald und Weide*, Vienna, 1925.

capitalist landowners (not to be confused with semi-feudal or feudal landlords) barred entry to their land by the capitalist class in general, unless they received a special 'unearned' income in the form of *absolute land rent* (the same rule applies, of course, to rentier-proprietors of urban land vis-à-vis capitalists engaged in the building industry). In other parts of the world, the phenomenon of private appropriation of 'surplus' land has involved other layers of the ruling class: sometimes foreign settlers appropriated it;[95] sometimes local landowners, merchants, usurers and other sectors of the ruling class operated in the same way. There are some cases, though rather rare, of combinations in one degree or another of both processes.

But in all cases where actual ownership of the land became separated from *capitalist* farming, absolute land rent appeared. And as is the case with differential land rent, absolute rent is a fraction of total surplus-value produced by the sum-total of commodity-producing labour, deducted from the residue to be divided between all capitalist entrepreneurs and owners of money capital. This deduction is all the more onerous in that, contrary to differential rent, it is not open to erosion or equalization through the laws of motion of the capitalist mode of production properly speaking (competition, technical progress, increase in the organic composition of capital, concentration and centralization of capital, etc.). It thus puts a brake upon capital accumulation in agriculture. Hence, the organic drive of capital to eliminate the separation of landownership and capitalist farming: by gradually transforming landowners into entrepreneurs, and land-renting farmers into a majority of wage-earners on the one hand and a minority of landowning farmers on the other. The transformation of a situation of structural scarcity of food into one of structural plenty (latent overproduction) in most of the industrialized countries powerfully assists this process.[96] It represents a *ten-*

95. In the second part of his remarkable study 'Value and Rent' (*Capital and Class*, Nos. 3 and 4), Robin Murray makes the point (pp. 13 ff.) that settlers overseas could generally expect a 'founder's rent' similar to Hilferding's founder's rent of large oligopolistic enterprises. I think he is right, at least with regard to overseas countries with above-average fertile land compared to West Europe. But he gives excessive weight to such 'rent' in explaining international migrations, capitalist expansionism and the origins of imperialism.

96. According to an O.E.C.D. note of February 1980, total wheat stocks in imperialist countries averaged more than fifty million tonnes in every single

dential disappearance of absolute rent in the imperialist countries.

Behind this process there lies an imperious long-term assertion of the law of value of a deeper kind. The *source* of absolute land rent is the lower organic composition of capital in agriculture as compared with industry, i.e. the higher mass of surplus-value produced by agricultural labourers as compared with industrial labourers employed by a same amount of total capital.[97] The barrier of landownership separated from capitalist enterprise makes it possible for landowners to prevent this supplementary amount of surplus-value from being sucked into the general process of equalization of profit between all capitalists. Thus rent is indeed an obstacle to the full flowering of capitalist agriculture: a source of relative backwardness of agriculture compared with industry, i.e. of agricultural productivity of labour compared with industrial productivity of labour. But Marx, who himself stressed this relative backwardness, noted that it was not a fixed and final characteristic of the capitalist mode of production, but could sooner or later be overcome. But when agriculture becomes more and more industrialized, when the substitution of human labour by dead labour (machinery, fertilizers, etc.) is applied on an ever-increasing scale in that branch of production, when contemporary *agro-business* arises, the difference in organic composition of agricultural as compared with industrial capital tends to disappear. Consequently, the material basis for absolute land rent disappears likewise. As Robin Murray has aptly expressed it: in the same way that the formal subordination of labour to capital is transformed into a real subordination in agriculture, formal subordination of land under capitalist agriculture is transformed into real subordination of land as a material element in capitalist agricultural production.[98]

The extent of this process of industrialization of agriculture can be measured by the following facts concerning the United States. Between 1915–19 and 1973–7, productivity of labour in wheat and soybean production increased tenfold, when measured by the labour-hours needed to produce 100 bushels. For maize,

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year between 1970/71 and 1979/80. Total end-year stocks of butter and skimmed milk in the imperialist countries rose from 289,000 tonnes in 1970 to 1.4 million tonnes in 1979.

97. See below, pp. 894–6 and 906.

98. Murray, op. cit., p. 21.

the increase was actually thirtyfold! Production assets – including livestock and raw materials stocked on farms, thus roughly comparable to constant capital – per farm worker increased fivefold in current dollars between 1963 and 1978. Per capita disposable income per farm worker, however, only increased less than threefold, *half of which* originated from sources outside farming properly speaking. Wages for hired labour barely doubled during the same period. A good index of the increase in the organic composition of capital, if there ever was one! Simultaneously, the 'emancipation' of capitalist agriculture from the use of land has made giant strides in animal husbandry, as exemplified above all by hog-raising, cattle-raising and by the aptly termed 'broiler industry'. By 1972, 75 per cent of U.S. beef was raised on so-called feedlots, the largest accommodating as many as 125,000 cattle at a time.[99]

It should be noted that, while absolute land rent originating in the separation of landownership from capitalist farmers (differential land rent *does not* originate in ownership: ownership only determines who appropriates it) tends to disappear under conditions of 'industrialized' agriculture, it reappears in modified form as *generalized mortgaging of land* owned by small and medium-sized capitalist farmers – in other words, as the transfer of a significant part of surplus-value produced in agriculture to banks and finance capital.[100]

However, as I have already emphasized, real capital movements are guided not by the average rate of profit but by *deviations* from that average. So while capital tends to eliminate absolute rent in the older capitalist countries, it also constantly tends to reproduce it, essentially (but not exclusively) in countries where capitalism has penetrated belatedly. There thus operates, at the level of the

99. *US Department of Agriculture Statistics*, 1978, pp. 444, 426, 464; Murray, op. cit., p. 21.

100. See Karl Kautsky, *La Question agraire*, Paris, 1970, pp. 296–9. The growing role of big food-transforming firms (increasingly, multinationals themselves) and big cooperative societies controlled by rich farmers should also be mentioned: these tend more and more to cut farmers off from direct access to the market. According to the French economist Bernard Kayser, barely 25 per cent of France's agricultural production is sold by the farmers themselves to final consumers or self-consumed. All the rest passes through the hands of large capitalist intermediaries, which naturally take their own toll, similar to – and often parallel with – mortgage interest. (See *Économie et Statistiques*, No. 102, July–August 1978.)

world economy, a kind of process of internationalization of land appropriation and creation of absolute land rent.[101] Brazil offers some outstanding examples of this tendency.

Finally, since agricultural production is food production, and since food is an essential element of reproduction of labour-power – quantitatively its main element, at least in the earlier phases of development of the capitalist mode of production – there is another, contradictory, element in the relation between capitalism and agriculture. While for (real or potential) agricultural capitalists, the main problem is eliminating the dual structure of landownership and farming enterprise, for (national) capital as a whole, the main short-term problem is to ensure access to food on the cheapest possible conditions, be it through capitalist, semi-capitalist or pre-capitalist modes of production.

This means that capital as a whole has a vested interest, at least during early phases of capitalist development (which are being reproduced today in most semi-colonial countries, even those which are semi-industrialized), in maintaining a substantial part of the peasantry under conditions where it still has access to *some* land:[102] not enough to provide a minimum basis of livelihood, but sufficient to provide *part* of the annual food intake of the peasant family, forcing these peasants to look for employment during part of the year. Rising capitalism, therefore, both ruthlessly suppresses free access to land through generalization of private ownership of land, and skilfully defends *minifundia,* i.e. small-scale parcellized subsistence farms,[103] which enable wages to be pushed below the subsistence level since this semi-proletarian sub-section of the wage-earning class produces part of its own food. The political and social function of such deliberate policies by bourgeois governments has often been pointed out. They slow down the concentration and permanent urban settlement of

101. Murray, op. cit., pp. 24–5.

102. Migrant labour in South Africa and other settlers' colonies plays a similar role. See, for example, Harold Wolpe, 'Capitalism and Cheap Labour-Power in South Africa', *Economy and Society*, No. 14, 1972; R. T. Bell, 'Migrant Labour: Theory and Policy', *South African Journal of Economics*, Vol. 40, No. 4, December 1972; Francis Wilson, *Labour in the South African Gold Mines*, Cambridge, 1972; Giovanni Arrighi, 'Labour Supplies in Historical Perspective: A Study of the Proletarianization of the African Peasantry in Rhodesia', in G. Arrighi and John Saul, *Essays in the Political Economy of Africa*, New York, 1973.

103. See below, pp. 321, and 947–50.

the proletariat; they maintain an easily manipulated electoral base, that is less easy to unionize or organize in workers' parties; and so on. But the economic function of these policies must also be clearly acknowledged. They play an important role today in many semi-colonial countries, especially the more advanced ones. As for the *direct* exploitation of these miserable 'private owners' by capital, it takes the form not of extortion of land rent but of extortion of *usury interest*, the parcel owners being permanently and increasingly burdened by debt.

The *overall* evolution of agriculture under capitalism will be a resultant of the interaction of the five, often contradictory, tendencies just outlined. And this resultant becomes, in a certain sense, an index of the degree of maturity of capitalist development in the national economy as a whole. On a world scale, this culminates in a tragic end-result. The internationalization of absolute land rent means a growing gap between the average productivity of labour engaged in food production in the imperialist countries, on the one hand, and in the semi-colonial countries, on the other.[104] Both the growing penetration of capitalism into semi-colonial agriculture (with the accompanying phenomenon of increase in commercial as against food crops) and the attempts of bourgeois governments to 'stabilize' parcellized subsistence farming tend to increase that gap further. The consequence is that food surpluses on a world scale tend to become increasingly concentrated in fewer and fewer countries, most of them imperialist ones.[105] In other words, differential land rent on the world market is accessible only to a smaller and smaller number of capitalist large-scale farmers (agro-businesses).[106]

104. In wheat production, yield per hectare in 1977 varied between, on the one hand, 0.89 metric tons in Africa, 1.17 metric tons in South America, 1.36 metric tons in Asia and 1.45 metric tons in the U.S.S.R.; on the other, 3.86 metric tons in the E.E.C. countries, and over 4 metric tons in the richest agricultural states of the U.S. Mid-West.

105. In 1976, 90 per cent of world exports of wheat and wheat flour was made up by five countries: the United States, Canada, Australia, France and Argentina.

106. In the United States, less than 150,000 farms out of 1.7 million, i.e. those with sales of over $100,000, accounted for more than 50 per cent of the total value of all grain sold. This ratio of concentration is substantially higher in grain exports (*US Census of Agriculture: Summary and State Data*, 1977, pp. 1–25).

CAPITALISM AS A SYSTEM AND THE BOURGEOISIE AS A CLASS

One of the outstanding features of *Capital* Volume 3 is the way in which Marx ties together economic analysis and social analysis at the level of the system in its totality – i.e. at a higher level than he did in Volume 1, inside the factory (the process of production properly speaking). In Chapters 48 and 51, here, he shows how the reproduction of a specific form of division of the 'national income' (annually produced new value) between wages on the one hand, and profits, interests and rents on the other, automatically reproduces capitalist relations of production – i.e. the basic class relations and class inequality which define the system.

It is the greatest theoretical weakness of reformism, under whatever form it appears, not to understand this basic truth. Whether wages are high or low, whether 'indirect' wages (social security payments) are inexistent or extensive,[107] they *cannot* upset the basic class relations and class inequality on which the capitalist mode of production is founded. Wages *cannot* rise to the point where they substantially lower surplus-value (profits), without setting into motion a massive 'investment strike' by capitalism (hence a steep decline of capital accumulation), coupled with a frantic attempt to step up the replacement of living labour by machinery – both processes acting to halt and reverse the rise in wages, through the effects of massive unemployment (and cuts in public 'social' expenditure). The one thing it is

107. Today, 'indirect' or 'socialized' wages (i.e. social security benefits, etc.) are quite a substantial part of the total reproduction costs of labour-power – according to certain authors, up to 50 per cent, at least in Britain and France (see Ian Gough, *The Political Economy of the Welfare State*, London, 1979, p. 109; A. Capian, 'Réflexions sur les déterminants de la socialisation du capital variable', in *Issues*, 4, 1979). This does not, however, represent any 'vertical' re-distribution of national income in favour of wages and at the expense of profits, for it is compensated by huge deductions from gross wages in the form of taxes and social security contributions – deductions which also amount to roughly 50 per cent. Instead, what is occurring is a 'horizontal' re-distribution, in favour of certain sectors of the wage-earning class and at the expense of others. Capian gives the example of France, where this system works in favour of higher salary-earning and at the expense of lower wage-earning categories, the former having only 18.2 per cent of their gross money incomes deducted for social security contributions, whereas the latter's deductions rise to 31.5 per cent.

impossible to do with capitalists is to force them to invest or produce at a loss!

In addition, the very trend towards increased organic composition of capital, towards increased concentration of capital, towards a strong rise in the minimum requirements for founding new productive units in all branches of production, constantly consolidates monopoly ownership of the means of production by the bourgeoisie as a class, making it physically impossible for even the best-paid workers to save enough out of their wages to embark seriously upon an industrial enterprise of their own.[108] While this is less true in small retail trade and small service business (or in small-scale farming, during times of acute unemployment[109]), the overall trend is very clear. Wages tend to be spent over the whole life-span of the wage-earner. They cannot lead to any serious accumulation of capital.[110] So wages do not just reproduce labour-power: they also reproduce a special class under permanent economic compulsion to sell its labour-power. Likewise, private appropriation of surplus-value does not just lead to accumulation of capital: it also reproduces a social class which can monopolize the means of production and, therefore, oblige the wage-earners continuously to sell their labour-power to the owners of capital; continuously to produce surplus labour, surplus-value and profits for the exclusive benefit of the latter.

To be sure, the two processes are not symmetrical. Even when real wages have a tendency to secular increase and 'workers' savings' become a large-scale phenomenon, these do not free the individual wage-earner from his proletarian condition; in other

108. Venture capital is generally small capital (as Marx himself observes here, on pp. 371–2 below) and generally condemned to bankruptcy or absorption before large businesses take over the innovations tried out by the adventurers. But even this venture capital is obviously out of range for normal wage-earners receiving the average wage (even that of a highly skilled worker).

109. In periods of large-scale unemployment, there is a small trickle of wage-earners again becoming subsistence farmers, especially in those advanced capitalist countries where there is abandoned agricultural land with more or less free access, on which, though it is impossible to produce the average rate of profit, it is possible to achieve production of use-values higher than the amount which could be purchased with unemployment compensation.

110. One has, of course, to include in the analysis the fact that, with the growth of mass production in more and more branches of industry, workers' 'induced needs' – and the number of goods and services which the average social wage is supposed to buy – tend to increase, as one of the by-products of capital accumulation itself.

words, they do not ensure him a high enough durable income (money reserve) to enable him to go into business for himself. They just represent 'deferred consumption', i.e. an additional insurance fund, over and above socialized 'indirect wages' (social security), to complement his reduced income in times of sickness, unemployment or retirement, or to defray such extra family expenditures as might be incurred for the better education or weddings of his children, etc. In addition, there exists under late capitalism a powerful incentive for the capitalist class to deprive workers of the right to dispose of these savings freely, or even to expropriate them *tout court* – inflation being only the mildest of the various forms of partial or total expropriation to which it resorts.[111]

On the other hand, the fact that all sectors of the bourgeois class have access to a fraction of the sum-total of socially produced surplus-value, even if their own capital is not directly used by themselves in surplus-value-producing endeavours, does not at all imply that this access is equal for every capitalist. Not only does the appearance of monopolies operate in the opposite direction. The law of concentration and centralization of capital acts even more powerfully to this effect. Stepped-up competition eliminates many more middle and large-scale capitalists (not to speak of petty ones) than upper layers of the wage-earning class succeed in breaking through the barrier to becoming small independent entrepreneurs in service industry, retail trade or agriculture.

The sum-total of the entire social evolution is a constant increase in that part of the population which is composed of wage-earners; a constant decline in that part which is composed of independent businessmen.[112] Not one of Marx's predictions has been more thoroughly confirmed by empirical evidence (repeated claims to the contrary notwithstanding[113]) than that which identified a long-term trend to class polarization under

111. In the case of the pension funds 'owned' by U.S. labour unions, but completely managed by the large banks, this *de facto* expropriation is already far advanced. It was completed in Nazi Germany.

112. In the United States, wage-earners as part of the total active population increased from 62 per cent in 1880 to 71 per cent in 1910, 78.2 per cent in 1940 and 89.9 per cent in 1970.

113. For example, Arnold Künzli, 'Für eine kopernikanische Wende des Sozialismus', in *Für Robert Havemann: ein Marxist in der DDR*, Munich, 1980.

capitalism. Marx was able to make that sweeping historical forecast, so strongly denied by almost all his contemporaries, because, basing himself on the laws of motion of capitalism, he understood that the division of 'net value' (value added) into wages and surplus-value *had* to lead, under the pressure of capitalist competition, to more and more wage-earners being unable to become capitalists and fewer and fewer capitalists being able to remain capitalists.

Capitalist relations of distribution, rooted in capitalist relations of production but by no means identical with them,[114] constantly reproduce these relations of production. But they also reproduce the basic material preconditions of class struggle and class solidarity, both in the sphere of distribution (i.e. on the market) and in the sphere of production (in the factory):

(1) The fact that the individual worker has no economic resources on which he can fall back, that he cannot 'wait' till its market price (the offered wage) goes up before selling his labour-power, makes collective organization of such sales by workers – i.e. unionization and collective bargaining – a powerful inbuilt tendency under capitalism, reproducing itself universally wherever wage-labour appears.

(2) The fact that the fluctuations of the reserve army of labour, in the last analysis, regulate the fluctuations of real wages creates a strong inbuilt interest for the mass of wage-earners as such to ensure high levels of employment, in other words to demand elementary economic policies *at the level of the economy as a whole* which tend to limit unemployment.[115]

(3) The fact that *surplus labour* is the very essence of surplus-value and profit (more exactly of RIP: Rents, Interests and Profits) creates an equally strong inbuilt tendency in the working class to challenge speed-ups, reorganizations and forms of control of the labour process which tend to increase the mass of surplus

114. Bourgeois norms of distribution remain operative in the transition period between capitalism and socialism, as well as in the first phase of communism (socialism). See Karl Marx, 'Critique of the Gotha Programme', in *The First International and After*, Pelican Marx Library, London, 1974, p. 346; Leon Trotsky, *The Revolution Betrayed*, New York, 1965, pp. 53–5.

115. This is at least the *long-term* interest of *all* wage-earners. Inasmuch as labour markets are partially fragmented, nationally and sectorally, i.e. since labour mobility is not unlimited, *short-term* interests of relatively privileged parts of the working class might conflict with long-term ones.

labour and its degrading, de-humanizing effects upon the individual worker as well as upon whole sections of the working class.[116]

(4) Finally, the fact that capital *can and must* periodically challenge all the partial conquests of the workers, both in the sphere of distribution (increases in wages and social-security payments; free collective bargaining, trade-union rights and the unrestricted right to strike) and in the sphere of production (reduction of the working week and working day; forms of control over the rhythm of work and the organization of the labour process; union rights inside the work-place in general, etc.), especially through ruthless revolutions in technology,[117] at least periodically teaches the most intelligent, energetic and militant parts of the working class that (to paraphrase Marx) it is not enough to fight for higher wages, it is also necessary to fight for the abolition of the wage system.[118]

Conversely, the fact that, under the capitalist mode of production, ownership of any substantial quantity of money (the starting level differing, of course, from period to period and from country to country) automatically transforms that money into money capital – which not only automatically partakes in the general distribution of total socially produced surplus-value (through acquiring the average rate of interest) but is also thus transformed potentially into additional productive capital (money capital put at the disposal of 'functioning' capitalists in the productive sectors) – creates a powerful class solidarity among all owners of capital in the common exploitation of all wage-earners as a class; in other words, creates the material basis of bourgeois class solidarity and class consciousness.[119]

In this sense, all capitalists have a common interest in opposing 'excessive' wage increases; in supporting all measures which increase the mass of profits; in supporting speed-up practices and 'rationalization investments'; and in generalizing these through-

116. See, for example, Harry Braverman, *Labor and Monopoly Capital*, New York, 1974, passim.

117. For instance, the long-term power of one of the most powerful and militant craft unions capitalism has known in the industrialized countries, the printers' union, has been severely undercut by the electronic composition revolution in the printing trade.

118. Karl Marx, 'Wages, Price and Profit', in Marx/Engels, *Selected Works in One Volume*, London, 1970, p. 226.

119. See below, pp. 270 and 300.

out industry and enterprises in general.[120] They have a common interest in trying to prevent the rise of militant unionism; or, when this becomes impossible, in trying to limit or curtail trade-union rights, to establish various forms of state control over trade unions, etc. – whatever their differences may be as to the tactics, forms, tempo or extent of such policies.

Likewise, the very nature of private ownership of capital and capitalist competition, through the mediation of each capitalist firm searching to maximize its own profit (i.e. striving for surplus profits over and above the average rate of profit), creates the mechanisms through which the general laws of motion of the system impose themselves. By this very fact, through elimination of the weakest capitalist firms, it ensures a temporary successful reversal of the tendency of the rate of profit to decline. Each capitalist working for his own individual interest thus, in so doing, ensures the long-term reproduction, consolidation and expansion of the capitalist system as a whole.

In the same way, the attempts of capitalists to increase the amount of surplus labour extracted from their own labour-force – by constantly striving to increase the productivity of labour, to organize mass production of an increasing number of commodities, and thereby to lower the value (expressed in gold prices) of all commodities – tend to create a collective interest of the bourgeois class in not limiting mass consumption (except in the initial stages of capitalist industrialization). This helps to counteract the difficulties of realizing the value (surplus-value) embodied in the constantly rising mountain of finished goods which inevitably accompanies enlarged reproduction and the accumulation of capital, in spite of the accompanying tendency towards increasing exploitation of productive wage-labour (towards a historically rising rate of surplus-value). This creates a basic class interest of the bourgeoisie in 'normal' rather than 'abnormal' conditions of

120. This is true not only for productive labour as such, but also for wage-labour employed by commercial and banking capital, etc. While this labour does not directly produce surplus-value, it enables capital invested in these spheres to appropriate part of surplus-value produced in the productive sectors. Industrialists accept this deduction, because it enables them to economize their own capital and increases the production of surplus-value as the result of a more rapid rotation of their capital. At the same time, however, they are interested in reducing to the utmost these 'circulation costs', which they understand to be precisely a deduction from their own profits. (See below, p. 413.)

exploitation, including whenever possible rising real wages and elementary social legislation, in order to defuse the explosive character of the class struggle. Direct repression designed to discipline the working class is used only under exceptional circumstances, in grave structural crises (whether economic, political or a combination of both).

Again, the two processes just outlined, whereby a self-conscious working class and a self-conscious bourgeois class are constituted as a direct product of the inner mechanisms of the capitalist mode of production, are not symmetrical. In spite of all the inherent segmentations of the working class – all the constantly recurring phenomena of division along craft, national, sex, generational, etc. lines – there are no inbuilt structural obstacles to the overall class solidarity of workers under capitalism. There are only different levels of consciousness, which make the conquest of that overall class solidarity more or less difficult, more or less uneven in time and space.

The same is not true of bourgeois class solidarity. In periods of prosperity, when their struggles are essentially for larger or smaller shares of an increasing mass of profits, class solidarity easily asserts itself among capitalists. In periods of crisis, however, competition has to take a much more savage form, since for each individual capitalist it is no longer a question of getting more or less profit, but one of his survival as a capitalist.[121] So there are instances of acute crisis of the system in which no economic or political solidarity *can* assert itself among the capitalist class; in which, even in the face of the gravest collective danger for the system as a whole, sectional or individual interests will prevail over collective, class ones.[122]

Of course, what I have just said applies to inter-capitalist competition, not to the class struggle between Capital and Labour as such, in which, by contrast, the graver the socio-political crisis, the more sharply ruling-class solidarity will assert itself. But the fundamental asymmetry of economic class solidarity within, respectively, the capital-owning and the wage-earning class has to be stressed. It is, in the last analysis, structurally connected with the basically different relations of capitalists and wage-earners

121. See below, p. 361.

122. This is true internationally even more than nationally. Imperialist wars are the extreme expression of this trend.

towards private property and competition. Private property and competition are built into the very nature of the capitalist class. Competition among wage-earners, however, is imposed upon them from outside, not structurally inherent in the very nature of the class. On the contrary, wage-earners normally and instinctively strive towards collective cooperation and solidarity.[123] Hence, to whatever extent competition among themselves is periodically reproduced, especially in times of economic crisis or after major social or political defeats, it can always be overcome by subsequent efforts to organize and to raise class consciousness assisted by the very advances of capital accumulation itself.

In Part Seven of Volume 3, Marx pays great attention to the mystifying appearance of revenues 'produced' by different 'factors of production': land, labour and capital. In our day, this mystification has been extended through the quest for growth rates or income accretions 'produced' by scientific progress or even by higher education.[124] In and of itself, 'science' produces neither value nor income. The results of scientific research, incorporated into new forms of machinery and new forms of labour organization, increase productivity of labour and thus undoubtedly contribute to the increase of material wealth. But this is something quite different from the production of value or income. What these formulas mystify is the fact that, under capitalism, private ownership of the means of production and the transformation of manual and intellectual labour – including scientifically creative labour – enable the capitalist (the capitalist firm) to incorporate into the total value produced in the course of the commodity-producing process the results of the cooperation, inventiveness and skill of all manpower employed. And this occurs essentially in the form of surplus-value, since the results in question do not directly change the reproduction costs of labour-power, which alone represent necessary labour (that part of value added which does not take the form of surplus-value). Qualities of labour thus appear as qualities separate and apart from labour;

123. This is rooted in the very process of production under large-scale industry, based upon cooperative labour organization.

124. See the two volumes of readings edited by Mark Blaug, *Economics of Education*, London, 1968 and 1969, which contain items with such expressive titles as 'Investment in Human Capital', 'Rates of Return to Investment in Schooling', 'Rate of Return on Investment in Education', 'The Productivity of Universities', and so on.

as either qualities of 'capital' (which is represented as a mass of things, instruments, machinery and other means of production) or qualities of 'science' (which is again separated from labour as some pure product of the brain).

For Marx, *scientific labour* is the very essence of 'general labour', i.e. creative labour developing new discoveries and inventions. But like collective (socialized) labour, it is indissociably related to the process of cooperation, of many manual and intellectual workers working together: 'These savings in the use of fixed capital, as we already said, are the result of the way the conditions of labour have been applied on a large scale. In short, the way in which they serve as conditions of directly social, socialized labour, of direct cooperation within the production process. This is firstly the only condition on which mechanical and chemical discoveries can be applied without increasing the price of commodities, and this is always the *sine qua non*. Next, it is only with production on a large scale that we can have the economy that arises from productive consumption in common. Finally, however, it is only the experience of the combined worker that discovers and demonstrates how inventions already made can most simply be developed, how to overcome the practical frictions that arise in putting the theory into practice – its application to the production process, and so on. We must distinguish here, incidentally, between universal labour and communal labour . . . Universal labour is all scientific work, all discovery and invention. It is brought about partly by the cooperation of men now living, but partly also by building on earlier work. Communal labour, however, simply involves the direct cooperation of individuals.'[125]

THE DESTINY OF CAPITALISM

Does *Capital* contain a theory of the final and inevitable downfall of the capitalist mode of production? Is the answer to this query to be found in Volume 3, and specifically in Marx's determination of the tendency for the average rate of profit to decline? Do the laws of motion of the capitalist mode of production imply that the system cannot forever survive its inner contradictions? These questions have been asked ever since *Capital* first appeared, by people supporting Marx's theories as well as by his opponents.

125. See below, pp. 198–9.

The so-called 'collapse controversy' has played a crucial role both in the history of Marxist theory after Marx and in the history of the international labour movement influenced by Marx's (or Marxist) ideas.

The initial position defended by 'orthodox' Marxists inside the Second International was cautious but nevertheless clear: the system would in the end collapse through a general sharpening of *all* its internal contradictions. Engels, by and large, supported this view.[126] It could undoubtedly base itself upon a number of passages from *Capital* (though, it is true, from Volume 1 rather than Volume 3).[127] Its main merit was to integrate the class struggle, the growth of the labour movement and of working-class consciousness, into overall perspectives regarding the final destiny of the capitalist system.

It should be stressed, however, that the question of whether capitalism can survive indefinitely or is doomed to collapse is not to be confused with the notion of its inevitable replacement by a *higher* form of social organization, i.e. with the inevitability of socialism. It is quite possible to postulate the inevitable collapse of capitalism without postulating the inevitable victory of socialism. Indeed, rather early in the history of revolutionary Marxism, the two were conceptually separated in a radical fashion, the destiny of capitalism being formulated in the form of a dilemma: the system cannot survive, but may give way either to socialism or to barbarism.[128]

While both Marx and Engels – and especially the older Engels, faced with the tremendous and apparently irresistible rise of the modern labour movement – exhibited a robust optimism as to the

126. See, for example, the Erfurt Programme of the German Social-Democratic Party, supervised by Engels. In August Bebel's famous Reichstag speech on 3 February 1893, highly praised by Engels, the collapse of capitalism was presented as resulting from the interaction of the decline of the middle classes, the growing concentration and centralization of capital, growing class polarization between capital and wage-labour, growing class contradictions, successive grave economic crises, growing dangers of war, growing threats against political democracy and growing class consciousness of the proletariat.

127. See Marx, *Capital* Volume 1, op. cit., pp. 929–30. Thus Lucio Colletti is wrong to reduce Marx's 'collapse theory' simply to the theory of the tendency of the average rate of profit to decline: see his Introduction to L. Colletti (ed.), *Il futuro del capitalismo, crollo o sviluppo?*, Bari, 1970, p. ci.

128. Rosa Luxemburg, 'What Does the Spartakusbund Want?', in R. Looker (ed.), *Rosa Luxemburg: Selected Political Writings*, London, 1972, p. 275.

future of socialism, they were always careful, when the question was posed at its most general, abstract, historical level, to reject any idea of historical inevitable sequences of social organization (modes of production). On a number of occasions, they pointed out that the passage from one mode of production to another depended upon the outcome of concrete class struggles, which might end either with the victory of the more progressive, revolutionary class, or in the mutual destruction of both the old ruling class and its revolutionary adversary and in a protracted decadence of society.

The initial position was challenged by the so-called revisionists around the German Eduard Bernstein, who denied that there was any inherent tendency for the inner contradictions of the capitalist mode of production to sharpen. They postulated, on the contrary, that these contradictions would decrease. They did not, however, conclude from this that capitalism would survive for ever, but rather believed that it would fade away gradually, so that there was no need to overthrow it by revolutionary means.[129] Most of the later variants of gradualism and reformism (including, in recent years, Euro-communism) have their common roots in Bernstein's writings, which are remarkable for the clear and consistent way in which they pose the problem[130] – the only trouble being that their predictions proved to be wrong.

Far from leading to permanent peace, capitalism has led to two world wars and risks a third one, suicidal for the whole of mankind. Far from its leading to an ever-smoother functioning of the international capitalist economy, we have witnessed the catastrophic crises of 1920–21, 1929–32 and 1938, followed, after the post-Second World War boom, by a new long slump starting in the late sixties or early seventies. And far from ever-increasing freedom and democracy, the twentieth century has seen much greater repression and far bloodier dictatorships than anything Marx, Engels or other nineteenth-century socialists ever witnessed or could have imagined in their day.

It is in this context that followers of Marx attempted to formulate in a more rigorous way the probable destiny of capitalism. Rosa Luxemburg was the first to try to elaborate, on a strictly

129. See, above all, Bernstein's own *Evolutionary Socialism*, New York, 1961.

130. See, as a typical example, Anthony Crosland, *The Future of Socialism*, London, 1956.

scientific basis, a theory of inevitable collapse of the capitalist mode of production. In her *The Accumulation of Capital*, she tried to show that enlarged reproduction, with full realization of surplus-value produced during the process of production properly speaking, was impossible under 'pure' capitalism. That mode of production, therefore, had an inherent tendency to expand into a non-capitalist milieu, i.e. to gobble up the large areas of petty commodity production still surviving inside the capitalist metropolis and to expand continuously towards the non-capitalist periphery, i.e. the colonial and semi-colonial countries. This expansion – including its most radical forms: contemporary colonialism and murderous colonial wars; imperialism and imperialist wars – was indispensable for the survival of the system. If and when that non-capitalist milieu disappeared, the system would collapse, since it would be unable fully to realize surplus-value. But Luxemburg made it clear that, long before that final moment, the simple consequences of these increasingly violent forms of expansion, as well as the consequences of the gradual shrinking of the non-capitalist milieu, would sharpen the inner contradictions of the system to the point of explosion, thereby preparing its revolutionary overthrow.[131]

I have already discussed, in the Introduction to Volume 2 of *Capital* (as well as in *Late Capitalism*), the strengths and weaknesses of Luxemburg's *The Accumulation of Capital*.[132] Here, I only wish to deal with a methodological objection which has been raised against Luxemburg's theory of collapse – and subsequently against a number of other such theories. Critics have alleged that, by basing the perspective of inevitable collapse of the capitalist mode of production exclusively on the system's laws of motion, its inner economic mechanism, Luxemburg was moving back towards 'economism'; that this was a regression from the way in which Marx and Engels themselves, and their first disciples, always integrated economic laws and movements with the class struggle, in order to arrive at overall historical projections and perspectives.[133]

131. Rosa Luxemburg, *The Accumulation of Capital*, London, 1963, passim.

132. Ernest Mandel, Introduction to *Capital* Volume 2, Pelican Marx Library, London, 1978, pp. 62 ff.

133. This argument was first directed against Luxemburg by Bukharin (see *Imperialism and the Accumulation of Capital*, op. cit., p. 115) and by Henryk

This objection, however, is unjustified. While it is true that the contemporary history of capitalism, indeed the history of any mode of production in any epoch, cannot be satisfactorily explained if the class struggle (and especially its outcome after certain decisive battles) is not treated as a partially autonomous factor, it is likewise true that the whole meaning of Marxism disappears if this partial autonomy is transformed into an absolute one. It is precisely the merit of Luxemburg, as well as of several of her subsequent antagonists in the 'collapse controversy', to have *related* the ups and downs of the class struggle to the inner laws of motion of the system. If one were to assume that either the infinite adaptability of the capitalist system, or the political astuteness of the bourgeoisie, or the inability of the proletariat to raise its consciousness to sufficient levels (not to speak of the alleged growing 'integration' of the working class into bourgeois society), could, in the long run and for an undefined length of time, neutralize or reverse that system's inner laws of motion and intrinsic contradictions, i.e. prevent them from asserting themselves, then the only scientifically correct conclusion would be that these laws of motion do not correspond to the system's essence; in other words, that Marx was basically mistaken when he thought he had discovered that essence. (This is something different, of course, from the possibility of *temporary* ups and downs in the sharpening of contradictions, which are not only possible but even inevitable, as Marx himself pointed out in his treatment of the tendency for the average rate of profit to decline.)

A second attempt to produce a scientifically rigorous 'collapse theory' (though in the event it was less rigorous, it should be said, than Luxemburg's) was made during and immediately after the First World War by certain leading radical Marxist economists who greatly influenced Lenin when he was drafting his *Imperialism, the Highest Stage of Capitalism.* The most prominent of these were the Russian Nikolai Bukharin and the Hungarian Eugen Varga.[134] While avoiding any 'mono-causal' reduction of the

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Grossmann (*Das Akkumulations- und Zusammenbruchsgesetz des kapitalistischen Systems*, Frankfurt, 1967, p. 22), who both accused her of 'mechanical' economic determinism. Claudio Napoleoni formulates a similar reproach in Colletti (ed.), op. cit., pp. lii–liii.

134. Bukharin, op. cit., pp. 113–25; Eugen Varga, *Die Niedergangsperiode des Kapitalismus*, Hamburg, 1922, pp. 7–14.

problem to a single decisive factor, these authors formulated the hypothesis that capitalism had entered an irreversible period of historical decline, resulting from a combined manifestation of all its sharpened contradictions: reduction of markets; decline of world trade; decline of the international division of labour; decline of money economy, and even a partial reversion to barter and pre-capitalist forms of production in capitalist countries; decline of material production; collapse of the credit system; absolute decline in the standard of living of the workers; recurrent wars and civil wars; recurrent revolutionary explosions and victorious socialist revolutions.

While this analysis may offer a relatively convincing description and explanation of what actually occurred in 1914 (or even 1912)–1921 and again in 1930–40 (or even in certain parts of the world in 1945–8), it gets into serious trouble once confronted with post-Second World War developments in the international capitalist economy. Tending to theoretical eclecticism, it lacks the deeper rigour needed to tie all these various developments to the basic laws of motion of the system. In particular, it avoids any discussion of the reasons why the countervailing factors, enumerated by Marx as able temporarily to neutralize the tendency for the average rate of profit to fall, would definitely cease to be effective in the epoch of capitalist decline; why the huge devalorization and destruction of capital which occurred in the 1929–32 crisis and the Second World War, coupled with a huge upsurge in the rate of surplus-value (as a result both of catastrophic working-class defeats and of a powerful increase in the productivity of labour in department II, as a result of a new technological revolution), could not lead to a new upsurge in the productive forces – inevitably ending in a new reassertion of sharpened contradictions of the system.[135]

One offshoot of the Bukharin–Varga theory of the irreversible decline of the capitalist system since 1914 is the concept of 'general crisis of capitalism', in which the emphasis has become progressively shifted from the *inner* laws of motion of the system towards the *outside* challenges it is increasingly meeting as the

135. It is true that Varga took a more cautious attitude after the Second World War; however, this seems to represent a 'bridge' position on the way to the harmonicist conceptions of the theoreticians of 'state monopoly capitalism'. See *inter alia* his *Essais sur l'économie politique du capitalisme*, Moscow, 1967.

result of a chain of victorious socialist revolutions, which have led to a shrinking of the geographical area in which it can operate. In its initial form, the concept of a general crisis of capitalism – which originated from the victory of the October Revolution in Russia – still established an interrelation between that outside challenge and the ensuing sharpening of the system's inner contradictions.[136] But this has become less and less the case in later variants, especially the 'state monopoly capitalism' theory fully developed after the Second World War.

Here the 'basic' contradiction is clearly defined as that between the 'socialist camp' and the 'capitalist camp', and no longer as the increasingly explosive inner contradictions of the capitalist system itself. The paradox is even pushed to the point where Soviet authors seriously assert that, as a result of the 'competition between the two systems', capitalism is 'condemned' to continuous growth![137] In this way, the theory of collapse is 'dialectically' turned into its very opposite: the possibility for capitalism to survive for ever. The system's capacity to eliminate for an indefinite period the most serious effects of its inner contradictions is postulated – until such time as the economic, social and cultural superiority of the socialist camp finally asserts itself. It is hardly necessary to point out that this intellectual contortion is structurally related to the specific interests of the Soviet bureaucracy – both its attempts to maintain conditions of peaceful coexistence with international capitalism, and its concern to maintain the subordination of a large section of the international labour movement to its own diplomatic manoeuvres – and, as such, represents a typical phenomenon of ideological mystification.

A third – once again, more rigorous – attempt to theorize the inevitability of capitalism's collapse was offered in the late twenties by the Polish Marxist Henryk Grossmann. This was essentially a generalization – one could even say an extreme extrapolation – of Marx's law for the tendency of the average rate of profit to decline. Grossmann tried to prove that, in the long run, countervailing forces cannot prevent the law from asserting

136. See, for example, Eugen Varga, *Grundfragen der Ökonomik und Politik des Imperialismus nach dem zweiten Weltkrieg*, Berlin, 1955.

137. See, for example, N. Inosemzev, *Der heutige Kapitalismus*, Berlin, 1973, pp. 59, 94–5, 106–7. For a more general critique of the theory of 'state monopoly capitalism', see Ernest Mandel, *Late Capitalism*, op. cit., pp. 513–22; and Jacques Valier, *Le PCF et le capitalisme monopoliste d'état*, Paris, 1976.

itself *with increasing strength* – up to the point where *all* accumulated capital tends to be unable to become valorized, i.e. to the point where the total mass of surplus-value cannot ensure sufficient accumulation, even if the subsistence of the capitalist class itself falls to zero.[138] There are many weaknesses in this theory, which have been pointed out by a number of critics.[139] The main one is that Grossmann does not really *prove* that *all* the countervailing forces gradually lose their capacity to neutralize the declining rate of profit. He especially underestimates the effects of massive devalorization (and destruction) of capital, which has historically proven to be much larger in scope than he visualizes (his book was finished before the 1929–32 crisis unfolded to its full depth – and, of course, before the frightful destruction of the Second World War).

Therefore, Grossmann's somewhat arbitrary numerical starting-point – the reproduction schemas which Otto Bauer worked out in his reply to Luxemburg's *The Accumulation of Capital*[140] – leads to results which ignore the effects of devalorization cycles of capital. Such a hypothesis is untenable in the light of the real history of capitalism (which is a crisis-ridden history that has witnessed twenty-one crises of overproduction since the establishment of the world market for industrial goods). Marx explicitly points out this devalorization-of-capital function of capitalist crises in Chapter 15 of Volume 3 of *Capital*. Hence, one can only consider Grossmann's successive figures as representing not annual totals but averages for seven/ten-year cycles. Thus the final collapse of the system is postponed till the twenty-second century (after thirty-seven seven/ten-year cycles). If the initial proportions between department I and department II were more realistic – and they should have been, in the light of the real history of the capitalist mode of production which, in the 1920s, had nowhere even approached a situation in which two-thirds of current production occurred in department I – the postponement of the 'collapse' would be even more pronounced: it would occur only after fifty or sixty cycles, i.e. after 400 or 500 years. Inadvertently, Gross-

138. Grossmann, op. cit. (original edition Leipzig, 1929).

139. The most systematic critiques of Grossmann are to be found in Fritz Sternberg, *Eine Umwälzung der Wissenschaft?*, Berlin, 1930; and Nathalia Moszkowska, *Zur Kritik Moderner Krisentheorien*, Prague, 1935.

140. Otto Bauer, 'Die Akkumulation des Kapitals', in *Die Neue Zeit*, Vol. 31 (1913), part 1.

mann, obsessed by his mono-causal explanation for the inevitability of collapse, was led to demonstrate precisely the opposite of what he intended: the extreme longevity rather than the final collapse of the system, as a function of its inner laws of motion.

One might be tempted to treat the Baran/Sweezy theory of the growing difficulty of 'surplus realization' by monopoly capitalism as either a variant of Luxemburg's collapse theory or a fourth distinct collapse theory of its own.[141] This, however, is not the case, since Baran and Sweezy, while underlining the growing *difficulties* for 'surplus realization', at the same time stress the system's capacity to integrate the working class socially and thereby ensure its perpetuity – albeit under conditions of permanent quasi-stagnation – rather than its inevitable collapse. Like the more extreme proponents of the 'state monopoly capitalism' theory, these authors have to project the system's real enemies outside the system itself: third-world peasants; marginalized super-exploited layers; and so on. But they are nowhere able to demonstrate that these social forces anywhere have a potential social and economic strength comparable to that of the modern proletariat. Since such forces are not vital to the system's basic productive relations, they can be variously ignored, or integrated, or crushed, without making the system incapable of functioning.[142] So this is not really a 'collapse of capitalism' theory at all.

As in the case of the mono-causal theories of crisis, there are obviously correct elements in each of the three versions of collapse theory outlined above. These have to be tied together in order to furnish a coherent theory of the inevitable collapse of capitalism, consistent with all the inner laws of motion and contradictions of that mode of production, as unfolded by Marx's analysis in *Capital*.

One element in Grossmann's analysis is important, if not de-

141. Baran and Sweezy, op. cit., Chapters 3 and 4. There is a clear filiation between the Baran/Sweezy concept of capitalism tending towards economic stagnation, and the theories of neo-Keynesian (and sometimes semi-Marxist) authors like Michael Kalecki (*Studies in Economic Dynamics*, London, 1943; *Essays in the Theory of Economic Fluctuations*, London, 1939), J. Steindl (*Maturity and Stagnation in American Capitalism*, Oxford, 1952) or Joan Robinson.

142. It is no accident that most 'third-worldist' Marxists tend to exaggerate the ability of capitalism to 'restructure' itself on a world scale by purely economic processes, in order to overcome the current depression of the nineteen-seventies and eighties.

cisive, as the starting-point for such a synthesis: this is the point in time when, in addition to the tendency of the *rate* of surplus-value to decline, the *mass* of surplus-value ceases to grow and begins to decline – first gradually, then permanently. This would obviously be the most serious blow to a continuous process of capitalist accumulation. Grossmann, however, fails to point out the concrete content of such an incipient decline in surplus-value production, which I have tried to specify in *Late Capitalism*: a level of mechanization, of semi-automation – let us say, of spreading full automation – of a growing number of branches of output, in which the total input of productive labour-hours starts to decline, hence in which total value-production declines.

This does not automatically imply an *immediate* decline in the absolute mass of surplus-value, since the big increase in productivity of labour inherent in 'robotism' can reduce necessary labour-time proportionally to the reduction of absolute value production. In the long run, however, this is impossible without more and more severe reductions even in real wages. After a certain point, moreover, it becomes physically impossible. So the extension of automation beyond a given ceiling leads, inevitably, first to a reduction in the total volume of value produced, then to a reduction in the total volume of surplus-value produced. This in turn unleashes a fourfold combined 'collapse crisis': a huge crisis of decline in the rate of profit; a huge crisis of realization (the increase in the productivity of labour implied by robotism expands the mass of use-values produced in an even higher ratio than it reduces real wages, and a growing proportion of these use-values becomes unsaleable); a huge social crisis;[143] and a huge crisis of 'reconversion' (in other words, of capitalism's capacity to adapt) through devalorization – the *specific forms* of capital destruction threatening not only the survival of human civilization but even the physical survival of mankind or of life on our planet.[144]

143. See below, p. 372: 'A development in the productive forces that would reduce the absolute number of workers, and actually enable the country to accomplish its entire production in a shorter period of time, would produce a revolution, since it would put the majority of the population out of action.'

144. I cannot deal here with the problem of 'limits of growth', which some people have argued are inherent not in the capitalist mode of production as such but in large-scale industrial production itself, seen as inevitably depleting natural resources. Marx was very much aware of this problem (see below, pp. 949–50; and *Capital* Volume 1, op. cit., pp. 636–8). He saw it, however, as a

A way out is obviously possible, via the massive transformation of 'services' into commodity-producing branches (which add to total value production). Indeed, it is already starting in such key services as health, education, banking and public administration. This indicates how wrong it is to speak of late capitalism as a post-industrial society.[145] On the contrary, we are only now entering the age of full industrialization of a whole series of branches which have escaped that process up to now. But this only postpones the time of reckoning. For the industrialization of service sectors reproduces there, after a certain transition period, the very same processes of massive mechanization, semi-automation and full automation for which micro-processors have already provided the necessary technical tools (the same applies, incidentally, to the process of industrialization of underdeveloped countries as a way out of the structural crisis). So it is impossible to see how capitalism can escape its final fate: economic collapse.

In addition, with the development of semi-automation and automation, a new significant reversal occurs of the revolution constantly produced by capitalism in labour organization and the actual labour process. A massive reintroduction of intellectual labour into the process of production is inevitable, alongside an at least relative decline in the extreme parcellization of labour characteristic of Taylorism. The more wage-labour is employed for supervising functions and the maintenance of delicate and costly equipment, the more its own skill, level of culture and degree of involvement in the production process becomes an indispensable element of reproduction of capital. Hence, not only are the cooperative qualities of objectively socialized labour inside the factory developed to a higher degree. The consciousness of the workers that they are able to run factories instead of

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by-product of the specific (and distorted) forms of technological development characteristic of capitalism, not as an inevitable product of the application of the natural sciences to production. This implies that the problem is soluble in a different social framework, without mankind having to forgo the advantages of freeing itself from uncreative mechanical labour. Some of the most acute non-Marxist critics of contemporary capitalist society from an ecological standpoint have come to similar conclusions: see, for example, Barry Commoner, *The Closing Circle*, London, 1972; Harry Rothman, *Murderous Providence*, London, 1972.

145. See, for instance, Daniel Bell, *The Coming of Post-Industrial Society*, New York, 1973.

capitalists or capitalist managers takes a giant leap forward. Thus the growing crisis of capitalist relations of production (both objectively and subjectively, i.e. in terms of their legitimacy in the eyes of the working class and of larger and larger sectors of the population as a whole), and the challenge which workers' struggles pose for these, become an integral part of the system's tendency towards collapse.

But it is evident that such a trend towards upgrading labour in productive sectors with the highest technological development must, of necessity, be accompanied by its very negation: a rise in mass unemployment, in the extent of marginalized sectors of the population, in the number of those who 'drop out' and of all those whom the 'final' development of capitalist technology expels from the process of production. This means only that the growing challenges to capitalist relations of production inside the factory are accompanied by growing challenges to all basic bourgeois relations and values in society as a whole, and these too constitute an important and periodically explosive element of the tendency of capitalism to final collapse.

As I said earlier, not necessarily of collapse in favour of a higher form of social organization or civilization. Precisely as a function of capitalism's very degeneration, phenomena of cultural decay, of retrogression in the fields of ideology and respect for human rights, multiply alongside the uninterrupted succession of multiform crises with which that degeneration will face us (has already faced us). Barbarism, as one possible result of the collapse of the system, is a much more concrete and precise perspective today than it was in the twenties and thirties. Even the horrors of Auschwitz and Hiroshima will appear mild compared to the horrors with which a continuous decay of the system will confront mankind. Under these circumstances, the struggle for a socialist outcome takes on the significance of a struggle for the very survival of human civilization and the human race. The proletariat, as Marx has shown, unites all the objective prerequisites for successfully conducting that struggle; today, that remains truer than ever. And it has at least the potential for acquiring the subjective prerequisites too, for a victory of world socialism. Whether that potential will actually be realized will depend, in the last analysis, upon the conscious efforts of organized revolutionary Marxists, integrating themselves with the spontaneous periodic striving of the proletariat to reorganize society along socialist lines, and leading it to precise goals: the conquest of state power and radical social revolution. I see no more reason to be pessimistic today as to the outcome of that endeavour than Marx was at the time he wrote *Capital*.

ERNEST MANDEL

NOTE

In this edition numbered footnotes are those of the original text. Those marked by asterisks, etc., are the translator's.