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Theory of Long Waves**

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In the recent period the theories of Kondratiev have enjoyed new popularity with bourgeois economists and some people who consider themselves Marxists. It is one of those ironies of which history is so rich that Kondratiev's ideas are being used by bourgeois economists to justify the idea that the capitalist system can go on indefinitely in a never-ending series of "long waves" in which long periods of downswing are automatically followed by long periods of upswing and vice versa. It is rather like an economic version of the "perpetual motion machine" which people have endeavored to discover for centuries, but which so far has not been found anywhere under the sun.

Lenin once remarked that politics is concentrated economics. It is the cornerstone of historical materialism that, in the last analysis, the viability of any socio-economic system depends upon its ability to develop the means of production. This was already explained by Marx in his *Introduction to the Critique of Political Economy*. Marx explains the relation between the productive forces and the "superstructure" as follows: *"In the social production which men carry on they enter into definite relations that are indispensable and independent of their will; these relations of production correspond to a definite stage of development of their material powers of production... The mode of production in material life determines the general character of the social, political and spiritual processes of life. It is not the consciousness of men that determines their existence, but, on the contrary, their social existence [which] determines their consciousness."*

However, Marxism has nothing in common with the well-known caricature which asserts that Marx and Engels "*reduced everything to economics*". This patent absurdity was answered many times by Marx and Engels, as in the following extract from Engels' letter to Bloch: *"According to the materialist conception of history, the ultimate determining element in history is the production and reproduction of life. More than this neither Marx nor myself have asserted. Hence, if somebody twists this into saying that the economic element is the only determining one, he transforms that proposition into a meaningless, abstract and senseless phrase."*

Historical materialism has nothing in common with fatalism. Our fate is not predetermined by economic laws, nor are men and women merely puppets of blind "*historical forces*". But neither are they entirely free agents, able to shape their destiny irrespective of the existing conditions imposed by the level of economic development, science and technique,

which, in the last analysis, determine whether a socio-economic system is viable or not. To quote Engels: *"Men make their own history, whatever its outcome may be, in that each person follows his own consciously desired end, and it is precisely the resultant of these many wills operating in different directions and of their manifold effects upon the outer world that constitutes history."* (Ludwig Feuerbach).

Thus, *Marxism by no means reduces history to economics.* It does not eliminate the subjective factor - the conscious activity of men and women, shaping their own destiny. In fact, Marx explained that although the development of the productive forces was decisive in the last analysis, this did not at all signify that the relation between the economic base and the *"superstructure"* was automatic and mechanical. Nor is it a one way process. The superstructure of politics, ideology, diplomacy and even religion, dialectically interacts on the economic base and affects its development.

In a marvelously profound letter which he wrote to Conrad Schmidt in October 1890, Engels points out that all kinds of factors can influence the development of the productive forces: *"In the last analysis production is the decisive factor. But when the trade in products becomes independent of production itself, it follows a movement of its own, which, while it is governed as a whole by production, still in particular cases and within this general dependence follows its particular laws contained in the nature of this new factor; this movement has phases of its own and in turn reacts on the movement of production."* And he cites the discovery of America *"due to the thirst for gold which had previously driven the Portuguese to Africa"*. The latter may be considered under the heading of *historical accidents*, and could not have been foreseen. Yet it had the most profound consequences for the development of capitalism. Likewise, as Engels explains, the conquest of India by the Portuguese, Dutch and English had entirely unexpected results. They intended to import goods from India, and nobody even dreamed of exporting anything there. But by carrying out a military conquest they created the conditions for developing a market in India: *"They first created the need for exports to these countries and developed large-scale industry."* (Marx and Engels, *Selected Correspondence*, pp. 778-9.)

Thus, elements which are external to the normal workings of the capitalist cycle can profoundly modify it. Wars, military conquests, scientific discoveries, even accidents - all play a role. The same is true of the state, as Engels explains in the same letter: *"Society gives rise to certain common functions which it cannot dispense with. The persons selected for these functions form a new branch of the division of labor within society. This gives them particular interests, distinct too from the interests of those who give them their office: they make themselves independent of the latter and - the state is in being. And now the development is the same as it was with commodity trade and later with money trade; the new independent power, while having in the main to*

follow the movement of production, also, owing to its inward independence (the relative independence originally transferred to it and gradually further developed) reacts in its turn upon the conditions and course of production. It is the interaction of two unequal forces: on the one hand the economic movement, on the other the new political power, which strives for as much independence as possible, and which, once having been established, is also endowed with a movement of its own. On the whole, the economic movement gets its way, but it has also to suffer reactions from the political movement which it established and endowed with relative independence itself, from the movement of the state power on the one hand and of the opposition simultaneously engendered on the other." (Ibid., p. 480.)

In the same letter Engels explains that even such things as religion and other ideological manifestations play an important role in the development of society and even the economy: *"As to the realms of ideology which soar still higher in the air, religion, philosophy etc., these have a prehistoric stock, found already in existence and taken over in the historic period, of which we should today call bunk. These various false conceptions of nature, of man's own being, of spirits, magic forces, etc., have for the most part only a negative economic basis; but the low economic development of the prehistoric period is supplemented and also partially conditioned and even caused by the false conceptions of nature. And even though economic necessity was the main driving force of the progressive knowledge of nature and becomes ever more so, it would surely be pedantic to try and find economic causes for all this primitive nonsense. The history of science is the history of the gradual clearing away of this nonsense or of its replacement by fresh but already less absurd nonsense. The people who deal with this belong in their turn to special spheres in the division of labor and appear to themselves to be working in an independent field. And insofar as they form an independent group within the social division of labor, in so far do their productions, including their errors, react back as an influence upon the whole development of society, even on economic development. But all the same they themselves remain under the dominating influence of economic development."* (MESCS, pp. 482-3.)

What a difference there is between these carefully qualified and precise statements of Engels and the vulgar caricatures of mechanical "Marxism" which seeks to reduce the richness of dialectics to simple and barren formulae!

The Capitalist Cycle

If one looks at the history of capitalism for 200 years, it is immediately evident that the boom-slump cycle (the "*business cycle*") is the normal cycle of capitalist development. This has always existed and will always exist until the capitalist system vanishes from the stage of history. However, this does not exhaust the question of the peculiarities of

capitalist development. A further examination of history shows that, in addition to the normal boom-slump cycle, there are longer periods which have their own peculiarities. Although the exact delineation of each period can be a matter of dispute, in general outline it is possible to establish the existence of a number of such periods. For the sake of argument, let us take the following possible periods: 1848-79; 1880-93; 1894-1914; 1915-39; 1940-74.

Each one of these periods of capitalist development has had a different character to any other period. That much is abundantly clear. For example, the long period of about 20 years before the First World War, like the period 1948-74, was characterized by a big development of the productive forces. This set its stamp upon the whole period, affecting the relations between the classes and the consciousness of every class. As a result of economic growth, full employment and improved living standards in the advanced capitalist countries, there was a long period of relative social peace. There were exceptions, of course, in particular, the Russian Revolution of 1905. In the same way, the French revolutionary events of 1968 took place at the peak of the post-war economic upswing. But this was not the general picture. In general this was *the classical period of reformism, not revolution*.

We must remind ourselves that this long period of economic upswing was the objective reason for the reformist and nationalist degeneration of all the parties of the Second International prior to 1914. Basing themselves on this in an entirely empirical way the leaders of the Second International imagined that capitalism had solved its problems. Bernstein was only the first to argue that the working class no longer existed, that crises were a thing of the past, and that revolution was no longer necessary. This was the dream of the reformists who imagined themselves to be great realists: peacefully, gradually, through reforms it was possible to transform society. All those illusions ended up in the blood, filth and poison gas of the first great imperialist slaughter. The First World War of 1914-18 opened up an entire new period, radically different to the previous one. The period between the two world wars was characterized not by peace and stability but by war, revolution and counter-revolution. Beginning with the Russian Revolution of 1917, it was a stormy period of class struggle, which decidedly changed the outlook of the class, violently shattering the old illusions. It shook the mass organizations, causing split after split and opening up big possibilities for the development of Marxism.

In the debates that took place within the Communist International in the early 1920s the question of the economic cycle was discussed in some depth. The ultra-lefts put forward the argument that there was going to be a final crisis of capitalism. They maintained that capitalism would just collapse under the weight of its own contradictions. Lenin and Trotsky, on the contrary, pointed out that there is no such thing as the final crisis of capitalism, in the sense of an automatic collapse of the system. Left to

itself, the capitalist system will always find a way out - although at the most frightful cost to the working class and human civilization. Unless and until capitalism is overthrown by the working class then there is always some way out of even the deepest crisis. Thus, the fate of society is not decided mechanically by the blind play of economic forces, but by the class struggle, in which the elements of organization, consciousness and leadership play just as decisive a role as in war between the nations.

Nikolai Dmitrievich Kondratiev was head of the Moscow Institute of Economic Investigations in the early 1920s. Undoubtedly a gifted and original economist, his fate was a tragic one. Like so many outstanding intellectuals who shone in the first years of Soviet power, he ended his life in one of Stalin's labor camps. The tragic nature of his death and the bold and strikingly original nature of his hypotheses has surrounded his name with an almost mystical aura. In some circles he is seen as a great guru whose theory of "long waves" serves to explain (and moreover predict) broad historical developments.

His theories were first aired in a series of articles in the early 1920s and surfaced at the Third Congress of the Communist International in 1922. In 1924 he published an article with the title *The Statistic and Dynamic Conception and Economic Fluctuations* which lays down his basic thesis. The following year he summarized his ideas in book form. But by this time the climate in the Soviet Union was already changing. The rise of the Stalinist bureaucracy meant that everyone who did not slavishly follow the dictates of the leadership was in danger of falling into disgrace. Whereas in 1922 Trotsky answered Kondratiev with arguments, the Stalin regime used other methods to settle differences. Kondratiev was silenced, removed from his post and fell into obscurity. Then towards the end of 1930, when Stalin was already preparing the methods that would later turn into the infamous Purges, Kondratiev was suddenly arrested and charged with being the head of a non-existent Workers' and Peasants' Party. The charge was absurd. But without even the pretence of a trial Kondratiev was sent to Siberia where he died in circumstances which have never been clarified.

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The first thing to be made clear is that Kondratiev was not really a Marxist. His conversion to Communism was recent, a fact attested to by

his presence in the Provisional Government where he had served as Kerensky's Minister of Food. Of course, this in no way invalidates Kondratiev's views; nor does it discredit him as a person. On the contrary. That he went over to the October revolution is to his credit. But it serves to show how far removed he was from Marxism and how superficial was his grasp of its fundamental ideas and method, and how ludicrous are the efforts that have been made by some people to present him as a great Marxist economist who developed the theories of Marx.

Kondratiev was what was later described as a "Red Professor". He belonged to the category which Trotsky first described as "*fellow travelers*", that is to say, those intellectuals who adhered to the October revolution and Bolshevism without having absorbed the fundamental ideas and methods of Marxism. There were many such people. One can say that the revolution attracted to itself all that was best in the old intelligentsia. These men and women dedicated themselves sincerely to the cause of socialism. But they lacked the necessary years of experience and rigorous theoretical training to enable them to acquire a real Marxist understanding. Inevitably they brought with them the heavy baggage of bourgeois ideology and outlook. Not one of them understood the method of dialectics. Most often they tried to make up for this lack of philosophical method by resorting to formalistic methods of reasoning. Formalism is perhaps the most typical trait of the psychology of the fellow travelers, whether in art and literature, military tactics or economics. It certainly formed the basis of Kondratiev's work and constitutes its principal weakness.

Formalism is extremely characteristic of bourgeois thought, and especially of university-trained intellectuals. The whole of formal logic is based on it. This method consists of elaborating a more or less arbitrary hypothesis on the basis of a few selected facts and then attempting to justify the hypothesis by a further marshalling of any data which would tend to support it. This method is well known to postgraduate students who have to defend a doctoral thesis. On the positive side, such a mode of proceeding can often throw up interesting new insights or illuminate existing theories. But on the negative side, it can and does lead to the kind of false and arbitrary (even downright dishonest) conclusions which we identify as sophistry. For every doctoral thesis that leads to new discoveries, there are a hundred fit only for the rubbish-bin.

Hegel once remarked that "*it is the desire for a rational insight, and not merely the accumulation of a mass of data which must possess the mind of one concerned with science*". Beyond the facts and figures there are deeper processes at work. True, Kondratiev attempted to understand these processes, but his very method prevented him from drawing the correct conclusions from the information at his disposal. And as we will see, even the information he used did not at all prove his basic thesis. The way in which Kondratiev's theory of "*long waves*" evolved is very typical of the method of universities. His Institute had embarked on a series of

studies on the world economy during and after the First World War. Basing himself on this limited data, Kondratiev first drew his conclusion about the existence of long economic cycles. His method can broadly be described as statistical. This is very characteristic of bourgeois economists who seek to give an impression of scientific rigor to their work by relying heavily on mathematical models. However, anyone with even a nodding acquaintance with the subject knows that these models frequently break down when subjected to the test of life.

The great value of Kondratiev's work was that it showed beyond doubt that, above and beyond the normal cycle of booms and slumps (the trade cycle or the business cycle) which is a fundamental feature of capitalism and which has been extensively described by bourgeois economists like Schumpeter, there exist broader historical periods in the history of capitalism. This fact is also now sufficiently well documented to require no further justification. There are, as we have already pointed out, distinct periods in the development of capitalism, and every such "cycle" tends to be different from every other. This is an important observation. But Kondratiev went further than this. He argued that these periods had a cyclical - that is recurrent, repetitive - character, and that this could be explained in strictly economic terms related to the recurrent cycle of investment. In his article entitled *Long Economic Cycles*, he argued that, in addition to the normal trade cycle of between seven and eleven years, there existed longer cycles, the average duration of which was fifty years. He concluded that the capitalist system passes through "long waves", in which each downswing is followed by an upswing which can last for decades. It is this latter assertion that was rebutted by Trotsky. And though it has regularly made its reappearance, enjoying a temporarily fashionable status (as at present), it has no solid basis either in fact or in theory.

Marx and Kondratiev

Kondratiev based his whole theory on a parallel with Marx's analysis of the trade cycle - the normal cycle of booms and slumps which is a fundamental feature of capitalism. However, there is no relation between the two. Marx's theory of the capitalist cycle is precisely explained in the three volumes of *Capital*. The entire process is set forth in great detail and the precise mechanism is explained from every point of view. By contrast, Kondratiev's theory is a very loose hypothesis, based on just a few facts arbitrarily selected to fit his case. The existence of the boom-slump cycle is extremely well documented, so that even bourgeois economists are compelled to accept it. On the other hand, while there are certainly indications that powerfully suggest the existence of broader historical periods of capitalism, the existence of "long waves" in the sense used by Kondratiev has never been proved and remains in the realm of speculation three generations after it was first put forward.

Kondratiev introduced certain modifications into Marx's economic analysis. He takes Marx's idea that the average cycle of capitalism is determined by the periodic re-investment of fixed capital (approximately every ten years in Marx's day) but introduces an idea of his own, namely that there is a graduation in the length of the cycle, in the productive period and in the quantity of investment in different types of constant capital (machinery, plant, etc.). This is what he writes: "*The material basis of long cycles is depreciation, the replacement and incrementation of the basic capital fund, the production of which requires huge investments and demands a long time to realise. Basic constant capital consists of big industrial installations, the major railways, canals, the big agricultural exploitations, etc.... Really speaking, the training of skilled workers also belongs to this category.*" (Second article, p. 60.)

And again: "The replacement and incrementation of this fund is not a continuous process, but is realized, as it were, in leaps, which are reflected in the long cycles of economic activity. The period of increasing production of these capital goods corresponds to the ascending phase. The ascending trend of the elements of economic activity with respect to the level of equilibrium of the third order exist, according to the previous scheme, in the prolonged period of ascent, which is interrupted by fluctuations of lesser duration. On the other hand, in the period of slow decline of this process a movement of the economic elements towards the level of equilibrium begins and can descend even further. We must emphasize that the level of equilibrium itself changes during the process of cyclical fluctuations and is generally displaced towards a higher level." (Ibid., p. 61.)

Having established a link between the long cycles and the cycle of re-investment in capital goods, Kondratiev still has to show why this process has to take place in leaps, instead of being a permanent process of incrementing the investment fund. In order to do this, he has to resort to the theories of another bourgeois economist, Tugan Baranovsky. Large scale investments presuppose the existence of big amounts of capital available in the form of credit. Thus, certain conditions must exist for the initiation of a "long wave". Kondratiev specifies them as follows:

- "1) A high intensity of saving [i.e., a high propensity to save].
- 2) The availability of relatively large sums of capital as credit, at low rates of interest.
- 3) Accumulation of the latter at the disposal of powerful groups of entrepreneurs and financiers.
- 4) A low level of prices to stimulate saving and long-term capital investment." (Third article, p. 38.)

The application of investments in the ascending phase eventually comes up against its limits in the shape of a high rate of interest and scarcity of capital. Thus, the end of the ascent and the start of a downturn is

explained strictly in line with bourgeois economics, i.e., by the monetary theory of *over-investment*.

However, the theory fails to explain the reason for the upward phase of the long cycle itself. Nor, as Garvy points out, does it explain adequately the reasons for the transition from upswing to downswing. In his third article, Kondratiev himself admits that "The ascendant phase is not, in fact, an absolute necessity." (Ibid., p. 38.)

Although he admitted that the very existence of long waves was only a "*probability*", Kondratiev nevertheless attempted to show that they were of fundamental importance for the whole economy. This despite the fact that in his first article he did not attempt to prove the existence of a definite relation between long waves and capitalism: "We lack sufficient data," he wrote, "to affirm that cyclical oscillations of the same character are also typical of non-capitalist systems. If they were linked to the capitalist economy, we could affirm that the collapse of capitalism would cause the long waves to disappear." (First article, p. 65.)

The Problem of Statistics

Clearly, the characterization of broad periods of capitalist development depends on the availability of a sufficient mass of statistical data. For the earliest period (the 18th century) this is problematical. Only for England do we dispose of more or less adequate statistics for the late 18th century and the early years of the 19th century. The English economist Jevons produced an index for the period 1782-1865. A new index covering the period 1789-1850 was published in *The Review of Economic Statistics* (vol. 5, 1923). Sauerbach produced statistics for the period after 1846. But the situation of statistics in Britain, as Marx pointed out, was infinitely superior to that of any other country. For France, for instance, there is no index of prices until the 1860s. And France was the next most developed capitalist economy after Britain until it was displaced by Germany and America towards the end of the 19th century. The situation as regards the USA is somewhat better: economic indices exist from the end of the 18th century. But as a general rule, the data is incomplete and unreliable until the second half of the 19th century. Therefore, any conclusions drawn from it must have a highly conditional character.

Basing himself on quite limited data, Kondratiev arrived at the following generalization: "The ascending phase of the first cycle takes in the period 1789-1814, that is to say, 25 years; its descent begins in 1814, and ends in 1849, having therefore lasted for 35 years. The complete cycle of the movement of prices thus takes in 60 years.

"The ascending phase of the second cycle begins in 1849 and ends in 1873, having therefore lasted 24 years. The moment of change in the direction of prices is not the same in the United States as in England and France; in the United States, the maximum level of prices corresponds to the year 1866; but this finds its explanation in the civil war and does not contradict

the unity of image that is presented by the course of the cycle in both continents. The descent of the second cycle begins in 1873 and finishes in 1896; its duration, then, is 23 years. The cycle of the movement of prices consists of 47 years.

"The ascent of the third cycle begins in 1896 and finishes in 1920; that is to say, it has a duration of 24 years. The descent begins, according to all the data, in the year 1920." (Ibid., p. 41.)

Even here it should be noted that Kondratiev is compelled to take account of external (non-economic) factors to explain the movement of prices in America - namely, the American Civil War. But he regards it as a non-essential (accidental) phenomenon which partially distorts his results, producing a divergence between the cycle in Europe and America, nothing more. There is no mention of the evident effects on prices and trade of the Napoleonic wars. Yet these wars and their aftermath exercised a powerful influence not just on prices and trade but also on wages and employment. Only in passing does he mention the fact that wars are connected with agricultural depressions. But this fact is not expanded or explained. For Kondratiev, the First World War and the October revolution have no place in determining his long waves. In fact, as we shall endeavour to prove, they had a very fundamental effect on the economic life of Europe and the world.

Elsewhere in his article Kondratiev quotes similar statistics for the rate of interest and wages, as well as the consumption of cotton in France, the production of wool and sugar in the USA and other data to back up his hypothesis of long waves. He argues that technological inventions usually take place in periods of downswing, when they have no possibility of being applied and later find an outlet during the upward phase. He also argued that "as a rule, the majority of important wars and revolutions take place during the ascendant phase of long waves, during periods of high tension [arising from] the growth of economic activity." (Ibid., p. 57.)

Later on, Kondratiev revised the dates of his cycles as follows:

From 1790 to 1810-17 upswing (first long cycle)
 1810-17 to 1844-51 downswing
 1844-51 to 1870-75 upswing
 1870-75 to 1890-96 downswing
 1890-96 to 1914-20 upswing

However, the arbitrary way in which these periods have been worked out was already pointed out by Kondratiev's contemporaries and these criticisms were effectively summed up by George Garvy in his extensive article *Kondratiev's Theory of Long Cycles (The Review of Economic Statistics, vol. xxv, 4, November 1943)* to which I am heavily indebted for the sources used in the present article.

The problem is that Kondratiev attempted to derive an extremely broad historical generalization from very limited data. This problem was pointed

out at the time by a number of Soviet economists. It is also clear that Kondratiev made very selective use of the data available, only using those statistics that supported his thesis, whereas there were many others which did not. He made use of 25 different sets of statistics, and in his first article he mentions six of them, the results of which led him to a negative result (French consumption of grain, coffee, sugar and cotton and American production of wool and sugar), adding that "in some other cases" it was completely impossible to detect any long waves. In the same issue of *Voprosy Konyunktury* where his first article appeared we find five other sets of statistics which fail to show any trace of long cycles. Thus, on Kondratiev's own admission, at least eleven cases (ten of them being physical quantities) gave a negative result.

Kondratiev's Soviet critics

From the very beginning Kondratiev was answered by many of his colleagues in the Soviet Union. The most complete rebuttal came from Oparin. One of the most interesting aspects of Oparin's work was when he attempted to apply Kondratiev's series to the years of descending phase of the third long wave (after World War One). The results obtained were quite different to those of Kondratiev. Oparin concluded that "*the formal mathematical method [...] used by professor Kondratiev is of little use in investigating the theoretical normality of the series analyzed.*" (See Oparin's review of Kondratiev's first article in *Ekonomicheskoe Obozreniye*, Nov. 1925, pp. 255-8.)

Even before Oparin, Bazarov had pointed out a major flaw in Kondratiev's method. If it was a matter of finding the lowest common denominator the sum of equations based on the fluctuations of the economic cycle, it would always be possible to deduce the existence of a "long wave", providing that the parabola was on a sufficiently steep elevation. It would only be a matter of either excluding those deviations which did not fit in with the "long wave", or else making use of these deviations to establish the existence of an entirely different "long wave". Such a procedure would always leave considerable scope for the establishment of arbitrary hypotheses.

Other Soviet economists like L. Eventov (in *Voprosy Ekonomiki*, no. 1, 1929) and V. Bogdanov (in *Pod Znameni Marxisma*, June 1928), also drew attention to other methodological problems in Kondratiev's theory, in this case, the problem of how to relate the long-term "secular development" to the normal trade cycle.

But it was Oparin who subjected Kondratiev to the most searching criticism. A careful analysis of Kondratiev's statistical sources immediately revealed the most glaring contradictions. Oparin readily conceded the difficulty in finding sufficient statistics to establish beyond reasonable doubt the existence of long-term economic processes, but criticized Kondratiev for not making use of all the available statistical information. For example, he uses the figures of the price of English lead,

but not the world prices of the same metal. Yet, as Oparin correctly observes, the price of commodities such as lead are decided by the world market. Moreover, if we accept the existence of "long waves", they must affect the workings of the whole world economy. Either the "long-wave" fluctuations in the price of lead affected world prices, or else the "long wave" was a purely British phenomenon - a conclusion which fundamentally conflicts with Kondratiev's conclusion. In fact, Kondratiev had analyzed several such series of prices and found that they did not provide him with the anticipated result.

Apart from Oparin, the most withering criticism of Kondratiev came from A. Gerzstein in his article *Do Long Waves Exist in Economic Life?* (Published in *Mirovoye Khozyaistvo i Mirovaya Politika*, vol. III, 1928). Gerzstein's article is more interesting than the others because he follows Kondratiev step by step through his long cycles and brings out the inner contradictions in his hypothesis. Analysing the periods 1790-1844 (Kondratiev's first cycle) and 1844-51 to 1890-96 (the second cycle), and using data mainly drawn from the USA and Britain, he shows the following: that the period 1815-40, which Kondratiev depicts as a period of descent, was in fact a period of unprecedented economic development. *This was precisely the period of the Industrial Revolution.* This, in turn, was intimately connected with a non-economic event, namely, the end of the Napoleonic wars. This permitted the recovery of international commerce and relatively freer trade, provoking a steep fall in agricultural prices and an agricultural depression, but at the same time providing a powerful stimulus to the development of industry. Thus, an agricultural depression and falling agricultural prices in the concrete historical context of the rise of capitalism cannot be cited as evidence of an economic downswing, but quite the contrary. *The fall in the price of wheat was precisely the prior condition for an unprecedented upswing in capitalism.*

A similar error can be seen in Kondratiev's second cycle, where the period he describes as a phase of decline was in fact the period of rapid industrialization in the United States and Germany. Only in the case of Britain does Kondratiev's argument seem to find some justification. British industry in this period experienced a slower rate of growth. However, as Gerzstein correctly points out, this was merely the expression of Britain's loss of position in relation to the growing power of her new competitors, Germany and America and, to a lesser extent, other rising capitalist economies. Britain in this period was already losing her pre-eminence as the world's greatest industrial power and was losing export markets, particularly in machinery to her rivals. But to present this as a general decline is entirely false.

Gerzstein also finds fault with Kondratiev's treatment of the period 1890-1914. Despite the general rise in prices in this period, he finds much evidence of a general slowing of the growth of the productive forces, when compared to the previous decades. So that, if it is a question of

establishing long-wave secular trends, it is questionable that even this period of economic upswing can be viewed as a "long-wave" phenomenon (which by definition must relate to the previous phase of the "long wave"). The examples cited by Gerzstein are themselves quite sufficient to indicate the arbitrary character of Kondratiev's approach to complex historical processes. The very fact that he concentrates on agricultural prices and agricultural depressions as proof of "long waves" is itself misleading, as the example of the Industrial Revolution shows. The crisis of agriculture is indeed related to the general economic cycle, but has its own laws, partly related to the long-term decline of agriculture relative to industry under capitalism, and partly connected with non-economic political phenomena such as the attempt of the bourgeoisie (particularly in France but not only there) to maintain the peasantry as a counterweight to the working class. In any case, it is clear that an understanding of the development of capitalism should be based on an all-round analysis of economic statistics, particularly in industry, and not on agricultural prices.

Actually, one of the most serious problems with Kondratiev's method is its heavy dependence on the movement of *prices* in general. Variations in prices can, moreover, be influenced by a whole series of phenomena: the increased productivity of labour, technological change, the increase of world trade, wars, crop failures, the increased production of gold, etc. Thus, the fall in the level of prices that commenced in the beginning of the 19th century was the result of the increase in the productivity of labour brought about by the Industrial Revolution and the increasing use of machinery and new techniques of production. Basing himself on the American manufacturing census, Guberman shows that the only cases that indicate the opposite trend before the First World War (in 1830, 1870 and 1897) were caused by unusual increases in the production of gold, which until quite recently had been a key factor influencing the movement of prices.

The Investment Cycle

It is obvious that merely to establish the existence of long-term oscillations would not be sufficient to prove the existence of long cycles in the Kondratiev sense of the term. In reality the only way to do this would be to demonstrate *the precise mechanism whereby one cycle generates the next*. There must be some kind of internal regulator. Unless this point is clarified, the whole idea of long economic waves is reduced to a *mystification of the historical process*. Kondratiev attempted to solve the mystery by referring to the process of investment and innovation over long periods. He argued that certain inventions and techniques had to wait for long periods - as much as 20 years - before being put into practice in the form of new machines and factories, just because of the lack of capital. Thus, for him the "long cycles" were basically *re-investment cycles*.

Unfortunately this apparently elegant solution bears very little relation to the way in which the capitalist system operates in practice. *Actually, the renovation of capital goes on all the time.* There is absolutely no evidence to support the view that large-scale investment takes place over long periods of time in the kind of regular way suggested here. Nor can it be demonstrated that new inventions take place mainly in periods of downswing, as Kondratiev argued. This argument is, yet again, produced out of thin air with no real attempt at justification. In fact, it is very difficult to establish any rule concerning such matters as when individuals make scientific discoveries. Scientific discoveries are made all the time: in economic booms and in crises; in times of peace and in times of war. Moreover, they are made in different times in different countries. To try to establish a general rule for this is virtually impossible. It would be like trying to fix the positions of individual molecules in a gas. But in any case what is important for economics is not the date when such-and-such an invention first occurred to the mind of the inventor, but when it first enters the process of production. To use a philosophical expression, before that it exists only as a bare potential, *an abstract possibility.* Only when it is actually applied in production does it become *actual* and therefore suitable material for the field of economic investigation.

Kondratiev focuses the question of investment not from an economic but from a technical point of view. In particular he does not pay sufficient attention to the key question of depreciation - which can have both a physical (wear and tear) and "moral" (obsolescence) aspect. Already in the 1920s Gerzstein pointed out that the life-span of capital goods was between five years (tools) and a hundred years (buildings). In the present period, the life span of such things is far less. State-of-the-art computer plants which cost between one and two billion dollars to build become obsolete between three and five years later. Moreover, such is the enormous variety of capital goods that the process of investment must have *a more or less continuous character*, although over a long time it will have a greater or lesser intensity reflecting the rate of profit and the general fluctuations of the market economy. It is difficult to see how this process could be brought under a general, mathematically precise and verifiable rule. Bogdanov asked what kind of time would be necessary to replace the Suez Canal or the Pacific railway.

Kondratiev did not prove his assertion that investment in "basic capital goods" took place at regular intervals of between 48 and 60 years. Such a position cannot be demonstrated because *this bears no relation to the real functioning of the capitalist system.* In fact, the replacement of machinery and buildings occurs all the time and at different times and speeds in each branch of production. As Garvy points out: *"Even if the process of investment were discontinuous, re-investment would be continuous, since it depends not only on actual wear and tear but also on the degree of obsolescence, the cost of maintenance, the rate of interest, wages, technological progress, and the rate of utilization."* There is

absolutely no reason why capital goods (machinery and buildings, etc.) should simultaneously wear out at regular intervals of approximately half a century, as assumed.

Kondratiev argued that the application of new inventions was dependent on a previous process of accumulation of an investment fund. This concept is actually taken from Tugan-Baranovsky. Paradoxically, Kondratiev in one of his early writings criticizes Tugan-Baranovsky for his idea of a loan-fund, but then took over this very idea as one of the cornerstones of his own long-wave theory. In his book on Tugan-Baranovsky, he writes: "*One of the basic ideas of Tugan-Baranovsky's theory of cycles cannot be accepted without discussion: the theory of the accumulation of free, non-invested capital. For since when has this kind of capital ever existed?*" (N.D. Kondratiev, *M.I. Tugan-Baranovsky*, Petrograd, 1923.)

Gerzstein also pointed out that it was not at all the lack of an investment fund which limited economic expansion, but *the impossibility of obtaining a sufficient return on the capital lent for investment*. At the peak of the period of expansion, investors are more reluctant to risk their capital on new investments and instead prefer to invest in the bond market or in other types of fixed return investment. Oparin shows with reference to the statistics of the French Savings Bank that the alleged long cycles of savings are an illusion. Savings are affected by many factors - not just economic ones. He shows that the balances of the Savings Bank in France express themselves as *a continuously rising curve* except for two occasions: one was the period of social and political turbulence between the 1848 revolution and the coup d'état of Louis Bonaparte (1848-50) and the Franco-Prussian War (1870-71), when investors withdrew their funds. Finally, there was a fall in the balances held by the French Savings Bank in the years immediately preceding the First World War, which reflects the growth of the commercial banks which accounted for a growing proportion of savings. For these and other reasons the idea of a "loan fund" for investment is extremely weak. But this is the cornerstone of Kondratiev's theory of long cycles. If it falls, the explanation of the motor-force for long cycles disappears with it.

Here again, Kondratiev took only those statistics that seemed to support his theses and ignored others that suggested a different result. For example, those statistics that relate to production and consumption give entirely different results to those of Kondratiev. Thus, out of seven French series of statistics relating to physical quantities mentioned by him, only two suggest the existence of long cycles, and one of those (land used for the cultivation of oats) seems contradictory. Whereas he claimed to have uncovered the existence of two and a half long cycles, only four out of the 25 series studied by him cover such a period; a further four cover two cycles; the remainder cover only one or one and a half cycles. Even where the figures agree with his thesis, objections have been raised that they deal with only a narrow field (i.e., prices) and the dates and even the

tendencies in some cases are uncertain. On the very few occasions when Kondratiev cites data relating to physical production (e.g., the production of pig-iron in England), the results do little to support his case. The point is that if he had been more rigorous in the use of statistics, the results obtained would clearly have been very different.

The conclusion is inescapable: the empirical evidence for the thesis of Kondratiev is extremely weak. Garvy concludes: "*The examination of Kondratiev's statistical work leads us to conclude that he did not manage to demonstrate the existence of 'long economic cycles'.*" The real, concrete historical development is far more complex and contradictory - far more dialectical - than this abstract schema. It cannot be reduced to a simple curve, or an eternally repetitious series of cycles. However, in another sense, Kondratiev's inventive brain did a service to our understanding of the historical process. He drew attention to the existence of broad historical periods with their own characteristics. This is a brilliant deduction, pregnant with all sorts of conclusions which deserves further exploration.

As Garvy correctly remarks: "*Although the hypothesis of cyclical oscillations of long duration, upon which are superimposed shorter cyclical movements, must be discarded, the idea that the capitalist economy has passed through various successive stages in its development, characterized by different rhythms of growth and geographic expansion, deserves attention. The actual analysis would probably gain in precision and meaning if it were based upon a more articulate distinction between the different phases of capitalist economy. The 'curve of capitalist evolution' would be a more complicated equation than a simple curve and certainly more irregular than Kondratiev's long cycles. We would substitute for the hypothesis of periodic long oscillations the study of the successive stages of our actual economic system, of its growing geographical scope and its shifting relations with the non-capitalist spheres. This would distance us from the construction of abstract models of temporal sequences, leading us to the study of the real dynamics of our economic system.*" (G. Garvy, *Kondratiev's Theory of Long Cycles*, in *The Review of Economic Statistics*, Cambridge, Mass, vol. XXV, 4 November 1943.)

Trotsky and Kondratiev

The Soviet critics of Kondratiev mentioned here certainly cast serious doubt on both his statistics and methodology, but ultimately this criticism is unsatisfactory because it was made from the same narrow economic point of view that is the main weakness of Kondratiev himself. Kondratiev's critics were, like himself, "*Red Professors*". Therefore their argument remained abstract and academic. And typically of university academics, they merely went to the other extreme, "*negating*" Kondratiev's thesis by simply placing a minus where he had placed a plus. By such procedures, we do not get very far! At least Kondratiev's

hypothesis possesses a certain audacity and imagination. By examining it conscientiously, bringing out both its strengths and weaknesses, one could learn something about the real process of capitalist development, even if at the end of the day, the original "long-wave" hypothesis were found to be false.

The first defect of Kondratiev's model is related to his abstract and formalistic way of presenting the most complex and contradictory historical processes. In exact opposition to formalism, the Marxist dialectical method does not seek to force a given system or idea on the facts but on the contrary, to derive valid generalizations from a careful examination of all available data. Here we see the first problem with Kondratiev's hypothesis. Already in 1923, in his brilliant little essay *The Curve of Capitalist Development*, published in 1923 in *Vestnik Sotsialisticheskoi Akademii*, vol. iv, Trotsky drew attention to Kondratiev's thesis.

Unlike the criticisms of the "Red Professors", Trotsky's *Curve of Capitalist Development* provided the answer to Kondratiev from a dialectical and Marxist point of view. Kondratiev himself was well aware that he was skating on thin ice. There was simply not enough data to make a solid case for the existence of long waves. Thus, he himself emphasized the conditional character of the hypothesis. He stated that the existence of long cycles was "at least very probable". For that very reason Trotsky recommended that a much more serious study was necessary before making such a sweeping generalization. However, the differences between Trotsky and Kondratiev were not just a question of statistics, but a *fundamental difference of method*.

The reason why Trotsky showed interest in Kondratiev's theory was connected with the debates in the Communist International at this time. The wave of revolutions that had followed the Russian revolution had subsided. The last opportunity to break the isolation of the Soviet Republic was in 1923, when a severe economic crisis and the seizure of the Ruhr by French imperialism created a revolutionary situation. Even the fascists were predicting that the Communists would take power. But the opportunity was thrown away by the leaders of the German Communist Party, following the false advice of Stalin and Zinoviev. Trotsky drew the conclusion that the defeat of the revolution would provide capitalism with a temporary breathing space. This was the political condition for a new boom in capitalism, which could achieve a relative stability for a time. In answer to the ultra-lefts who denied that capitalism could recover, Lenin and Trotsky pointed out that unless it was overthrown by the working class, capitalism could always find the way out of even the deepest crisis.

Trotsky again expounded this idea in a speech at the Third Congress of the Comintern. However, his approach to the question of "*equilibrium*" was radically different from that of Kondratiev. While welcoming Kondratiev's contribution to the aforementioned debates in the

Communist International, Trotsky warned that it was incorrect to put forward broad historical generalizations a priori - that is, as purely intellectual constructions and not as a result of painstaking investigation. He wrote that *"the conquests that can be obtained by this road will be determined by the results of investigation itself, which must be more systematic, more ordered than those excursions into historical materialism which have been undertaken up till now."* The reference here is probably not only to Kondratiev but also to Bukharin, who was also not guiltless of formalism. Not for nothing did Lenin in his Testament remark about Bukharin "I think he has never really mastered dialectics".

In his speech Trotsky said: *"Capitalist equilibrium is an extraordinarily complex phenomenon. Capitalism establishes this equilibrium, disturbs it, then re-establishes it only to break it again, at the same time as it extends the limits of its dominion. In the economic sphere, these constant breakdowns and recoveries take the form of slumps and booms... Thus, capitalism possesses a dynamic equilibrium which is always in a process of breakdown and recovery."*

Here Trotsky is polemicising against those mechanical "Marxists" who spoke of the *"final crisis of capitalism"*. He refers to an article in the London Times concerning British foreign trade: *"In January of this year, the London Times published a table of statistics which takes in a period of 138 years... In this interval, 16 cycles have been completed; that is to say, 16 crises and 16 periods of prosperity. Each cycle covers approximately eight and two third years - almost nine years... If we analyze more closely the curve of development we find that it is divided into five segments, five distinct periods. From 1781 to 1851 the development is very slow; scarcely any movement can be observed... After the revolution of 1848, which served to broaden the field of operations of European trade, there is a breaking-point. From 1851 to 1873 the curve of development rises rapidly..., and from 1873 there follows an epoch of depression. From 1873 until approximately 1894 we witness a stagnation of the British market... followed by another boom which lasts until the year 1913... Finally, with the year 1914 the fifth period begins, that of the destruction of the capitalist economy."* (See *The First Five Years of the Communist International*, vol. I, p. 174; see also pp. 208 and 211, and the article *Flood-time* (1921) and *The World Economy and its Conjunctures*.)

Giving Kondratiev his due, Trotsky was prepared to admit the existence of long-term oscillations in economic development, *but denied that these distinct periods possessed a cyclical character*. Rather they were the result of a concatenation of particular circumstances, some of which were not of an economic character at all. Therefore the use of the term "long cycles" - and still more "long waves" - was unjustified. He considered that the very concept of such a cycle was barren. Instead, he put forward an entirely different conception, summed up in a graph that presents the process of historical development as a series of phases, comprising both

rising and descending curves of differing durations and qualities. This view was also shared by many Soviet economists, such as Oparin, Gerzstein, Guberman and Novokhilov.

Trotsky's *Curve of Capitalist Development* is actually based on the figures for British foreign trade already referred to. It is a clear rebuttal of Kondratiev's whole method. Trotsky explains in his article what ought to be obvious to a Marxist, namely that the development of capitalism cannot be reduced to a question of economic cycles. Although in the last analysis the decisive element in the historical process is the development of the productive forces, there are many other elements which condition the process in a decisive way. The most obvious of these are wars and revolutions, but there are many others. Technology, politics and even religion can affect economics in a most important way. The relation between the economic "base" and the legal, political and ideological "superstructure" is far from being a one-way affair. The "superstructure" can and does modify, disrupt, distort and otherwise affect the economic "base" in many ways. The equation is complex and dialectical, not simple and mechanical. To make a mistake on this point will necessarily lead to incorrect conclusions. The whole purpose of Trotsky's article was to explain just how complex and contradictory the relation between "base" and "superstructure" really is. Were this not the case, history would be a very simple affair!

How do Marxists understand the historical process? The basic position of historical materialism, which has been already referred to, was set forth by Engels in his Introduction to *The Class Struggles in France*. This was the starting point for Trotsky's analysis. Trotsky explained that the character of each epoch is determined by a whole series of elements: not only the play of internal forces in the productive system but also external factors such as the opening up of new countries and continents to capitalism, the discovery of new natural resources, and also "superstructural" factors such as wars and revolutions. All these factors influence each other dialectically to produce a rich and complex mosaic of events which we call history.

Historical materialism, as we have seen, has nothing in common with crude economic determinism. Men and women are not merely puppets or blind agents of "economic forces", but active agents of the historical process who can by their actions profoundly modify the outcome of historical development. True, their actions are circumscribed by a set of circumstances which are given by the whole previous historical development. But within these limits, their actions can and do exercise a great influence on history. Side by side with this dynamic view of history, Kondratiev's conception seems like a mechanistic caricature. It stands approximately in the same relation to Marxist dialectics as the mechanism of Laplace stands in relation to relativity theory and quantum mechanics.

Is there an 'Equilibrium' in Capitalism?

Implicit in the theories of Kondratiev is the idea that there is a kind of natural state of equilibrium to which capitalism strives. The equilibrium is disturbed by economic crises, but these are eventually overcome and a new equilibrium is restored for a time, until it is again interrupted by a crisis, and so on and so forth. This idea was not invented by Kondratiev, of course. It was invented by the prominent bourgeois economist Alfred Marshall at the end of the 19th century. This idea has enjoyed a renewed popularity in recent years, because it expresses the notion that the market regulates itself. The "unseen hand" of the market will sort everything out in the end. Therefore, there is no need to interfere with the work of market forces. All kinds of social reform, state intervention, legislation, minimum wages, trade unions and so on are not merely unnecessary, but positively harmful because they distort the market mechanism and hinder its proper function, which is to reach the famous state of equilibrium, in which prices, wages and employment will all be at their "natural" level, and everything will be for the best in the best of all capitalist worlds.

At the heart of the theory of equilibrium is the notion that in a competitive market supply and demand must eventually be equal. But the whole history of capitalist crises shows precisely the opposite. This idea is as old as Ricardo who wrote that *"No man produces but with a view to consume or sell, and he never sells but with an intention to purchase some other commodity which may be immediately useful to him or which may contribute to future production..."* In turn Ricardo took the idea from "the inane Say" as Marx called him. *"Say's law"* has been present one way or another in bourgeois economy ever since. The intention of it is clear: to "prove" that overproduction is impossible. It is, as Marx pointed out, *an economic fiction*.

Kondratiev not only accepted Marshall's theory but actually attempted to generalize the notion of equilibrium to every aspect of economic activity. He writes: *"The wave fluctuations are processes of alternating perturbations of the equilibrium of the capitalist system; growing or diminishing deviations from the levels of equilibrium."* (Second article, p. 58, my emphasis.)

The reactionary implications of this theory need no elaboration. Here we have the theoretical basis for Thatcherism and Reaganism, and all the later variants thereof. Of course, this is very far from Kondratiev's position. He did not accept the reactionary conclusions that flowed from this idea but nevertheless, he set out from the orthodox positions of Marshall. What interests us here are not which conclusions are drawn from the theory, but *whether the theory itself is correct*. Actually, the theory of equilibrium is yet another example of *an arbitrary assumption*, which has no basis in fact. It was a blatant attempt to explain away economic crises and justify the anarchy of capitalist production, on the grounds that "in the long run" the market would reach equilibrium. As

Keynes ironically remarked: "*In the long run we are all dead.*" The funeral knell for the theory of equilibrium and classical Marshallian economics came in 1929 and the Great Depression that followed it.

The mistake of Kondratiev is to treat the capitalist system as a simple linear system, like the kind of system encountered in simple mechanics, a pendulum for instance. However, the parallel is fundamentally flawed. The capitalist system has no "*natural equilibrium*". It moves chaotically through a series of crises, wars and revolutions which cannot be predicted in advance with any accuracy *because the system itself is not a linear but a chaotic system*. To use the very graphic expression of George Soros (who knows quite a lot about how markets move), the market is not like a pendulum striving for a definite point of equilibrium, but more like a *smashing ball*, the movement of which is difficult or impossible to predict, but the destructive effects of which are never in doubt.

The difference between Trotsky and Kondratiev was not at all secondary or one of emphasis, but a fundamental difference of outlook and method. It is the difference between revolutionary Marxist dialectics and the lifeless abstractions and formalistic mode of thinking of the university professors (even the "*Red*" ones). That it also had profound practical implications is shown by their different attitude to the stage through which world capitalism was passing in the 1920s. Trotsky did not accept Kondratiev's view that after the slump of 1920-21 capitalism would regain its equilibrium. Apart from the extensive disruption caused by the War and the ruin of Germany, there was the disequilibrium between town and country and between different branches of production. On an international plane there was the growing contradiction between Europe and America and particularly between the USA and Britain. Trotsky predicted that the economic recovery would have a superficial and speculative character and would lead to a deep depression. He did not rule out the theoretical possibility of a new period of economic upswing, but only at the cost of terrible suffering of the masses in Europe.

In a discussion on world economy that took place in January 1926, in which Trotsky took part along with a number of Soviet experts, Kondratiev included, Trotsky stressed the turbulent state of the international finance system and the fact that Europe was experiencing continuous spasmodic convulsions and not a cyclical recovery: "*When a living organism finds itself in impossible situations,*" he wrote later, "*its heart-beat becomes irregular.*" The economic boom in the USA he explained was largely at the expense of Europe. Instead of stabilization and equilibrium, Europe was faced with new shocks that would place revolutionary developments on the order of the day. These predictions were brilliantly confirmed by subsequent events.

War and the Economic Cycle

The weakest link in Kondratiev's line of argument is his treatment of wars, revolutions and innovation under capitalism. Without adducing any real

argument to explain it, he merely asserts that wars and revolutions tend to occur during the upward phase of the "wave" whereas technological innovations tend to occur during the downswing. In his work Kondratiev mentions wars and revolutions but he does so as a kind of list or chronicle of events that are somehow thrown up by the expansive phase of the wave, and following the same method he gives a list of inventions that for some reason are the product of the descending phase. At no time is any coherent reason given for these assertions. Here again the method is formal, abstract and completely arbitrary.

We have already seen that Kondratiev argued that wars and revolutions take place during the upward phase of long waves, "during periods of high tension [arising from] the growth of economic activity". To some extent Kondratiev's argument was directed against those crude "Marxists" who argued that revolution can arise only from the poverty of the masses. To this Trotsky replied that misery alone was never sufficient to cause a revolution: if that were the case, the masses would always be in revolt! The relation between the economic conditions and revolution is a complex question. The biggest revolutionary general strike in history occurred in France in 1968 - at the peak of the post-war upswing. But is it correct to affirm that wars and revolutions invariably take place in periods of economic upswing?

It is not difficult to show the unsoundness of this hypothesis. Indeed, it was done long ago. Having examined the data, Oparin found that, if one eliminates a period of approximately five to seven years either side of such periods of change, then the distribution of such events as revolutions and wars (not to speak of the more trivial ones) was uniform throughout the "long cycles". Indeed there is no apparent reason why this should not be the case. Certainly, Kondratiev has not provided one.

According to Kondratiev, the years 1789-1809 were supposed to be an expansive phase of a long wave, followed by a relative stagnation from 1809 to 1849, when another expansion began, lasting till 1873. Then another recession followed until 1896. According to this schema, the upward phase of the third long wave would be from 1896 to 1920, and the deep slump of 1920-21 would be explained as an expression of the onset of a downswing. In practice, however, the slump of 1920-21 had a different explanation, as we shall see. How does this scheme fit in with the frequency of wars and revolutions? Here again, Kondratiev's selection of data is extremely arbitrary. For instance, he carefully enumerates all six coalitions against Napoleon, but omits the war of 1812 between Britain and the USA. Eventov points out that Kondratiev's list of wars and revolutions treats the insurrection in Herzegovina on the same level as the French Revolution or the American Civil War! At this point, the formalistic character of the method which was already evident in Kondratiev's treatment of economic processes becomes absolutely glaring. The severe crisis of 1847 and the depression of the 1890s mark the turning-point of two long cycles. The Franco-Prussian War took place at

the peak of a cycle, as did the Paris Commune. But the case of the 1848 revolutions is not clear. If it took place in the ascending curve, then it must have been at its very beginning. Since the previous year was marked by a deep slump, the psychology of the workers would still have been predominantly marked by the latter, and not at all shaped by the upswing.

The most obvious contradiction is the fact that, according to Kondratiev, the period 1914-20 marked the commencement of a descending phase of a long wave. In such a phase, revolution was not supposed to be on the agenda. Yet precisely the years following 1917 were characterized by revolutions and revolutionary movements, not only in Russia, but in Germany, France, Britain, Spain, Italy, Hungary, Estonia, Bulgaria - to speak only of the advanced capitalist countries. If most of these movements did not succeed, the reason is not to be found in the vagaries of the economic cycle but in the failures of the leadership. The Communist International was founded only in 1919. The Communist Parties were young and inexperienced and made many mistakes. This was what prevented them from repeating the success of the Bolshevik Party, as Trotsky explained in *The Lessons of October* (1923). Of course, objective conditions (including the economic cycle) exercise a powerful influence on the psychology of all classes and shape the background on which the struggle is fought out, creating conditions that are more or less favorable. But ultimately, the subjective factor is decisive. In Hungary the bourgeois government of Count Korolyi actually handed power to the Communist Party without a struggle. The Hungarian communists had exceptionally favorable conditions for carrying through the revolution, yet they failed. This failure had nothing to do with the economic circumstances and everything to do with the false policies pursued by Bela Kun and the other leaders of the Communist Party (see Alan Woods, *The Forgotten Revolution*).

It is simply not possible to explain complex phenomena like wars and revolutions by means of *economic reductionism* of this character. As a matter of fact, the contradictions that lead to conflict between the nations or between the classes can be detected at *any* stage of the cycle. But, as Oparin correctly noted, *they reach their most critical point at the transition between one period or cycle and another*. However, this merely means that the objective conditions have matured for the outbreak of conflict. The real march of events is determined by a complex interplay of phenomena - political, military, diplomatic, religious and psychological - which to a very great extent transcends the economic stage on which they are played out and react back upon it in a decisive way.

Let us take a more recent example: the war in Kosovo. Was this the result of a "long-wave" phenomenon? Hardly. It was the result of a number of complex factors, such as the unleashing of the national question on the Balkans after the collapse of Stalinism and the strategic calculations of US imperialism. Does this exhaust the question? Not at all. The national question in the Balkans itself has a long history that undoubtedly

conditioned the behavior of Milosevic and all the other participants. Another decisive factor was the turbulence in neighboring Albania. Had the 1997 revolution in Albania succeeded (and there was no objective reason why it could not have done so, apart from the lack of the party and the leadership) the whole region would have been facing revolution. But the failure of the revolution in the South to take the offensive against the government in Tirana led to an abortion. The so-called Socialists led by Fatos Nano stepped into the vacuum, opened the door to imperialism and saved capitalism, preparing the way for future convulsions. Berisha and his reactionary gang were permitted to regroup in the North where they did not hesitate to play the card of Albanian chauvinism in an attempt to destabilize the situation and regain control.

This had fatal consequences for Kosovo. The KLA received large supplies of arms from sympathetic groups across the frontier which encouraged them in their aggressive stance. All these events prepared the final outcome. Even religion played a role (admittedly, not a decisive one) in stoking up hatred between Serbs and Kosovars. To trace the matter a little further back, the break-up of Yugoslavia itself was largely a product of the intrigues of German imperialism, its old policy of the *Drang nach Osten* (the "*Thrust to the East*") and its greed to regain its old colonies in Eastern Europe and the Balkans. This was a major factor in creating the whole Balkans mess. Yet the German imperialists did not anticipate the results of their policy. Neither did the Americans anticipate the results of their clumsy bullying at Rambouillet, when they imagined that the mere threat of bombing would force Milosevic to surrender. They made a mistake and blundered into a war which might have cost them dear if it had not been for the help they received at the eleventh hour from Boris Yeltsin, who left Milosevic in the lurch.

Napoleon once remarked that war is the most complicated equation. It is sufficient to enumerate just a few of the elements involved in the Kosovo conflict to see how unsound it is to try to reduce it to a kind of economic "wave-function" (with apologies to the physicists). The causes of the Kosovo war were not fundamentally economic (except to the degree that economic calculations are always present in wars) but *strategic*. It was a war to decide the question: *Who controls the Balkans?* And it must not be forgotten that for world imperialism historically the importance of the Balkans has always been more strategic than economic (because of the Balkans' strategic geographical position in relation to Europe and Asia, the Middle East, Russia, the Mediterranean and the Suez canal, etc.). This was no different. The fall of the Soviet Union which hitherto had one of its main spheres of influence in the Balkans, has left a vacuum that has permitted, as always, the entry of foreign powers interested in grabbing spheres of interest and manipulating small Balkan nations for this end. As a matter of fact, the recent war was partly the result of a miscalculation by Clinton who was misled by his officials about the real situation in Belgrade. Accident, miscalculations, mistakes - all these also play a role in

shaping history. Under different conditions it is possible that the Kosovo war might never have been fought. Conversely, its outcome could have been far less favorable to NATO had Moscow not betrayed Belgrade - something that could not have been predicted with certainty in advance.

The First World War

Let us just take one other example of the relationship between war and economics. Both the First and the Second World Wars - which unfolded in a way which could not have been foreseen by anyone - fundamentally shaped the world order that followed them, *and this had a decisive effect in determining the character of the economic cycle*. In 1914 the capitalists found a way out of the impasse of the system through war. But, of course, the war was not simply a reflection of economic problems. The First World War grew out of the enormous antagonisms and tensions between the different imperialist powers which had grown continually in the previous period. In the years before 1914 one international crisis followed another. Any one of these shocks could have led to war. It was a mere accident that the assassination of the Austrian Crown Prince set the ball rolling. But, as Hegel points out, dialectically, necessity expresses itself through accident. Another factor was the development of the class struggle in different countries. It is not generally realized that on the eve of the First World War in the period of 1912-1914 there was a huge upswing of revolutionary struggles, not just in Russia, but in Britain, Ireland, France, Spain and other countries. The revolutionary upsurge of 1912-14 really put an end to the long period of class peace, even before the war. But that was then cut across by the outbreak of hostilities and general mobilization. There is little doubt that one of the elements in the calculation of tsarist Russia which tipped the balance in favor of intervening in the war, despite its inherent weakness, was fear of revolution. Here again, economic factors played only an indirect role.

The First World War broke out after a long period of economic growth, as a result of the accumulation of contradictions between the big imperialist powers. The Russian revolution took place partly as a result of the War. But it is difficult to see concretely how these events are related to a broader scheme of things such as that described by Kondratiev. The audacity of his generalization is breathtaking. But audacity is never sufficient in science. What is needed is a detailed explanation that lays bare the mechanics of the process. The mechanics of the process that led to the First World War are clear. So are those that produced the Russian revolution. But what precisely are the mechanics of the process described by Kondratiev? They are not explained. Therefore we are dealing with a mere assertion, which one can take or leave.

It should be added that the economic situation that emerged from the War was determined to a large extent by the terms imposed on a shattered Germany by British and French imperialism in the Treaty of Versailles. The monstrous reparations imposed on Germany effectively

prevented any prospect of recovery in the biggest economy in Europe. Without a recovery in Germany, there could be no general economic recovery in Europe as a whole. This elementary fact was well explained by John Maynard Keynes in his classic work *The Economic Consequences of the Peace*. Here again, the decisive factor was not the capitalist investment cycle but the predatory policies of imperialism. A further factor was the determination of the imperialists to crush Soviet Russia. By deliberately excluding two of the key economies in Europe - Germany and Russia - they created the conditions for economic convulsions. Of course, this did not cancel out the normal capitalist cycle, which continued to operate throughout the whole period, *but it did have a huge effect in determining the character of the period between the Wars*.

The stormy period which followed the Bolshevik revolution, and which lasted approximately from 1917 to 1923 was a period of revolution in one country after another, in which the working class could have taken power in Italy, Germany, Hungary and so on. But in every case the revolution was betrayed by the Social Democratic leaders. This provided the political precondition for a new (albeit temporary and fragile) equilibrium. There was even a temporary boom accompanied by the same old illusions that capitalism had solved its problems. Thus, even in a period of general downswing, one can see periods of revival and economic boom. But these are merely temporary rallies that precede a new and even sharper decline. In the same way, a dying man can experience periods of lucidity and apparent recovery, which can deceive those around him into believing that recovery is on the way.

The period between the Wars was a period of almost unbroken social and political upheavals. The wave of revolutions that swept Europe after 1917 took place both during and after an economic boom. This, of course, does not invalidate Kondratiev's assertion, since he refers not to the trade cycle, but to "*long waves*". But it does show that the connection between revolution and economic processes is a complex one. As a matter of fact there were more than one reason for these revolutions. The main elements were the influence of the Russian revolution and the immaturity and inexperience of the young Communist Parties. This question was dealt with by Trotsky in *The Lessons of October* (1923) where he explains the key role of the subjective factor in the revolution.

During the First World War, production was geared to the requirements of the Front. Trade boomed. The USA in particular strengthened its position vis-a-vis the other great powers (as it did again during World War Two). The end of the War led to the crisis of 1920-21. This was partly caused by the re-entry of Britain and France into world trade. But it also reflected a collapse of demand in Europe because of the depressed living standards of the masses, especially in Germany. Everywhere the capitalists tried to put the burden of the crisis on the shoulders of the working class. In Britain the bosses moved to cut wages, leading to an outbreak of sharp class conflict, strikes and lockouts. The slump, however,

did not last long. In part it was also the result of the wartime inflation (arms expenditure is inflationary by its very nature), which had to be squeezed out of the system through a painful adjustment. Following the slump there was a boom which lasted until 1929 and which acquired a buoyant character, especially in the USA which was fast becoming the main capitalist country, challenging Britain for world supremacy. So sharp was the contradiction between the two that in the mid-1920s Trotsky thought that war between them was possible.

The War destroyed the inner cohesion and stability of the European states, in the first place Germany, which experienced revolutionary upheavals in 1918, 1919, 1920, 1921 and 1923. Thereafter, the movement died down for a period. This was partly the result of the exhaustion of the working class which had lost confidence in the Communist Party as a result of the failure of the latter to lead a revolution in 1923. The defeat of the revolution created the political conditions for an economic boom which restored a relative equilibrium for a few years, before the Crash of 1929 opened a new and convulsive phase of decline. The ten years that preceded World War Two were years of frightful economic collapse and a world depression deeper than any that has been seen before or since. This was precisely a period of the most violent class struggle in one country after another: Spain (1931-37), Germany (1930-33), Austria (1934), France (1936). In Britain we saw the creation of the ILP, a left wing split off from the Labor Party and a growing wave of unofficial strikes right up to the War. In America there was also a wave of radicalization with the Teamsters' strikes and the creation of the CIO. This was a period of revolution and counter-revolution. The fact that the counter-revolution succeeded was not the product of "long waves" but exclusively of the failure of the leadership of the proletariat. Trotsky explains this very well in his masterly article *The Class, The Party and The Leadership*. He said that the Spanish working class was capable of making not one but ten revolutions, but had been let down by every one of its organizations: Socialists, Communists, Anarchists and POUMists. *Not economics but the subjective factor was the reason why the revolution did not take place.*

If we consider the period between the wars, however, it was not all crises and revolutions. There was, as we have said, a period of stabilization between 1923 and 1929, accompanied by the illusions, which we mentioned above that capitalism again had allegedly solved its problems. Politically, this period was characterized by a series of Social Democratic governments in Europe, which Lenin and Trotsky characterized as the period of the "*Left Bloc*". There are certain parallels between that phenomenon and the present situation where the majority of governments in Western Europe are Social Democratic. Then came the Crash of 1929, and a new period of economic, social and political instability on a world scale.

With a certain delay, the slump that began in the USA reached Europe. The financial crash was expressed in the collapse of the Kredit Anstalt

Bank of Austria, followed by an even deeper collapse in Germany and Britain. However, the speed with which the economic crisis spread to the rest of the world was uneven. France, where the ruling class had deliberately based itself on backwardness (largely out of fear of developing the proletariat, after the shock of the Paris Commune), only began to enter into crisis in 1933-34, when America was already beginning a slow recovery.

The slump had the most profound consequences, creating unbearable social tensions and crises in Austria, Germany, Spain, France and Britain. There was a *period of revolution and counter-revolution* right up to the Second World War. But once again - as in the period 1917-23 - the weakness of the subjective factor was decisive. In one country after another, the working class suffered defeat because of the policies of the Social Democratic and Stalinist leadership. Not on the basis of a "long wave", but as a result of the defeats of the proletariat - especially in Spain - Trotsky predicted the inevitability of a new world war.

It is not possible even to begin to understand these events if we use Kondratiev's approach. It is methodologically flawed and does not even fit in with the known facts. Thus, on the basis of a painstaking study of the same statistical data used by Kondratiev, the Soviet economist Oparin, on the contrary, found that wars and revolutions tend to occur with greater frequency *at the point where the economy changes direction*. This is a very interesting observation and is actually far nearer the mark than the hypothesis of Kondratiev. Something similar was said much later by Trotsky, who pointed out that neither booms nor slumps in and of themselves cause revolutions, but those sudden changes in economic circumstances (which can be the movement from boom to slump or vice-versa) which shake society out of its lethargy and compel men and women to consider critically their normal habits and assumptions. This idea, pregnant with consequences, is far more worthy of detailed exploration than the rather empty and formalistic conception of "long waves".

Economic effects of the Second World War

The arbitrary and forced nature of Kondratiev's thesis is at once exposed by the Second World War. This occurred not in a period of upswing but precisely after the deepest depression in history; not as a result of the contradictions of a period of expansion, but of the impasse produced by an economic collapse. The central contradiction was the crisis of German capitalism. The mighty industrial potential of Germany was hemmed in and blocked as a result of the settlement imposed by France and Britain after the First World War. The failure of the German revolution - a direct result of the false policies, first of the Social Democrats and then of the Stalinists - led to the rise of Hitler. The Nazis attempted to solve Germany's difficulties by introducing a war economy ("guns before butter"). But by 1938 this had already reached its limits. Hitler was compelled to go to war or face economic collapse and overthrow. The only

thing that could have prevented the Second World War would have been the victory of the Spanish revolution. But the Spanish proletariat was blocked by its leadership. As Trotsky had warned, the defeat of the Spanish working class meant that war was inevitable.

To trace all these processes in detail would be too long. Suffice it to say that the line of historical development which we have given here in the barest outline has nothing whatever to do with the formal schema worked out by Kondratiev. History works, not according to the formal schemes of economic determinism, but dialectically. The economic processes provide the background upon which the class struggle is waged. But the class struggle, revolution and counter-revolution, and also the wars between nations, diplomacy and so on, operate according to their own immanent laws in which the subjective factor, the personal qualities, intelligence, ability, of the leadership play a decisive role. And these factors in turn play a decisive role in conditioning the economic conditions. The relationship between all these factors is extraordinarily complicated and contradictory. It cannot be reduced to a simple formula as Kondratiev attempted to do.

What happened after the Second World War could not have been foreseen even by the greatest genius. It was certainly different to the situation which Trotsky had anticipated in 1938. Trotsky had correctly predicted that the war would end in revolution. There were revolutions, even during the war, in Italy, in Greece, in Denmark. Even in Britain, there was a profound process of radicalization and a desire for a fundamental change in society. The soldiers returning from the war expressed their desire for a change in the massive vote for the Labor Party. In Germany, the mood of radicalization was expressed in the fact that the SPD inscribed in its programme the slogan of the socialist united states of Europe. In France and Italy, there were revolutionary movements which could have taken power. The same was true of Greece. But once again, the revolution was headed off by the Social Democracy and the Stalinists.

In the debates in the Communist International already referred to, Lenin and Trotsky had predicted theoretically that if the workers did not take power there might be a further important development of capitalism. At the time, they did not think it was likely, but they said it was a theoretical possibility. Had the Communist International and the Communist parties stood firm on a Leninist policy, the whole situation would have been different. But the Stalinist degeneration of the CI doomed the revolution to defeat, first in China, and then in Germany and, most disastrously of all, in Spain. After the War, following instructions from Moscow, the CP leaders prevented revolution in France, Italy and Greece. In Britain the wave of radicalization that swept through the working class and the armed forces was successfully channeled by the Labor leaders along the lines of reformism and saved the capitalist system from overthrow. A similar role was again played by the Social Democratic leaders in Germany.

This was the political condition for the new boom, the new period of upswing - a new period, entirely different from the 1930s. This was a colossal upswing of the productive forces, at least in the advanced capitalist countries, a colossal upward spiral of the means of production, full employment in America, in Western Europe, in Japan which once again had profound effects on the consciousness of the working class and on the mass organizations. The question is: what were the reasons for this long upswing? Was it the manifestation of Kondratiev's "long waves"? Or did it have other causes?

The answer to this question was provided long ago by Ted Grant in one of his most important writings on economics: *Will there be a Slump?* written at the height of the post-war upswing in the late 1950s. In the first part of this work he explains the different factors that combined to produce an upward spiral that lasted for about two decades. It should be noted here that war itself plays an economic role - and far from a secondary one! By causing extensive destruction of the means of production, a war, from an economic point of view, has a similar function to a slump. The tremendous destruction of factories, bridges, railways and roads is, of course, tragic from a human point of view. But from the standpoint of capitalist economics it is a very good thing because it creates new markets once hostilities have finished. The order books are full, the factories are working flat out, and the contractors are busily looking for work. The old proverb states "it is an ill wind that brings nobody anything good". Millions are dead, crippled and homeless, but there is always a nice profit to be made!

According to the United Nations, the post-war reconstruction boom only came to an end in 1958. This in itself was a powerful stimulus for the upswing. Likewise the discovery of a whole series of new industries as a result of the drive for military innovation on the part of the belligerents provided new fields of technological investment in chemicals, plastics, radio, television, radar, nuclear energies, specialized steel and a host of other fields. The elements of nationalization and "planning" introduced during the War as a matter of military necessity provided the starting point for the so-called managed capitalism and Keynesian economics practiced by many Western governments after 1945. As the Marxists pointed out in advance, this was not the main reason for the boom (as was imagined not only by the Social Democrats but also by some so-called Marxists like Ernest Mandel and Tony Cliff). It played a secondary role in aiding the recovery, but only at the cost of producing colossal distortions and inflation which has since had to be squeezed out of the system with the most painful consequences.

We might add that the acceptance of Keynesian economics after World War Two was itself the result of fear of revolution in the West. The wave of revolutions that began as early as 1943 (Italy) terrified the bourgeois of the West into making concessions to the working class. On the other hand, the victory of the Soviet Union in the War and the advance of the

Red Army into the heart of Europe compelled the American imperialists to underwrite European capitalism with large loans and aid (Marshall Aid). This was yet another ingredient in the economic recovery. As always, reforms were a by-product of revolution. Once more, economics cannot be separated from politics and the class struggle.

The main factor that led to the upswing was the growth of world trade - a factor that has lasted up to the present. However, the world economic order established after 1945 had nothing to do with a "long wave". It was the direct consequence of the international balance of forces that emerged from the War: the domination of the entire world by two mighty powers: on the one side US imperialism, and on the other Stalinist Russia. The emergence of US imperialism as the dominant world power was already predicted by Trotsky before 1939. The crushing economic domination of the USA is revealed by the fact that in 1945 two-thirds of all the world's available gold supplies was in Fort Knox. Unlike Europe and Japan, whose productive base was pulverized by the War, America's industry was intact. The possession of a mighty army, navy and air force, and the monopoly of nuclear power, gave the USA a complete hegemony over the western world. This is what enabled Washington to impose its terms to the whole capitalist world after 1945. This in turn led to the acceptance of the US dollar as the international currency (with the pound sterling as a reserve). It was this that created the basis for an unprecedented expansion of world trade - the real mainspring of the post-war economic upswing.

What is evident is that this peculiar concatenation of circumstances that propelled the capitalist post-war world to unheard-of heights could not possibly have been the result of a "long wave". The tremendously complex combination of elements that shaped the post-war world economy could not have been foreseen in advance, and were not the result of a preordained scheme of things, but of an immensely complicated interplay of factors, not only economic, but military and political as well. To present such a complex phenomenon merely as the automatic expression of some "long wave" is clearly out of touch with all reality.

'Long Waves' today

In recent years Kondratiev's theories have been in vogue with all kinds of bourgeois economists. The Austrian bourgeois economist Joseph Schumpeter in his classic study *Business Cycles* first coined the expression "cycles" to refer to long economic cycles of 50 years. However, most economists dismissed it as bunkum or at best regarded it as a harmless eccentricity. Nowadays a significant number of articles can be found in respectable economic journals in which the wave theory is not merely accepted but referred to with awe.

The reason is not far to find. Official bourgeois economics is in crisis. The authority enjoyed heretofore by university economists has all but collapsed over the last 20 years. Those who are responsible for making the important business decisions involving huge sums of money look on them

with undisguised contempt. And why not? The economists failed to predict the last recession. They also failed to predict the present boom. Now they are predicting that the present boom will go on forever. Who believes them? Probably not many people, because not many bother to read what they have to say. Businessmen still occasionally consult them - for lack of a more satisfactory alternative. They also consult professional astrologers, whose advice is probably not less useful. But insofar as they continue to invest it is because they are still making lots of money, not because they have been convinced by the New Economic Paradigm.

Casting around looking for a new Idea, some of the whizz-kids stumbled upon Kondratiev, and the sky opened up! Here was just what was needed: a general theory that provides one with the key to past, present and future! Better still, one that gives the capitalist system a long lease of life, on the principle that "what goes down must come up". The bourgeois adherents of the long-wave theory have embraced it with customary fervor of new converts. The whole idea is to be able to make precise predictions about the behavior of the stock exchange which will make some people very rich. The long-wave theory - if correct - should permit one to do this. Unfortunately, the movement of the stock exchange cannot be accurately predicted. There have always been crackpots (especially in the USA which seems to specialize in producing such people) who have enjoyed temporary notoriety in making spectacular predictions about the economy, and getting them spectacularly wrong! One recalls the case of Joseph Granville, the man who predicted a stock market crisis in 1981 and the more recent case of Long Term Capital Management who suffered spectacular losses in 1998 when the bottom dropped out of the market as a result of the collapse of the Russian rouble. This company based itself on a supposedly fool-proof formula worked out by two economists, Robert Merton and Myron Scholes who ironically were awarded the Nobel Prize for their remarkable "discovery". That discovery was used by John Meriwether, the Chief Executive of L.T.C.M. to convince investors that they could not lose. In the event, the company lost hundreds of millions of dollars and had to be bailed out by the Fed.

In the 1980s a man called Robert Prechter popularized a theory called the Elliott curve, which is clearly based on Kondratiev's ideas. Elliott's version of the wave theory states that the market moves in a predictable pattern. According to this view, each upward move is characterized by three up waves and two down (and each downward move by two down and one up). The final fifth up-wave of the cycle that was supposed to have begun in 1932 began in 1982. And so on and so forth. However, despite its more complicated appearance, the content is no more scientific than before. True, Prechter made some correct predictions, but so have others with different theories, or none at all. In one of his central predictions, however, he proved spectacularly wrong. He predicted on the basis of the long-wave theory that the USA would move towards protectionism at the end of the 1980s. This has not happened. Over the last ten years world

trade has continued to expand and has been one of the main factors prolonging the boom, although the tensions between the different trading blocs has not been removed and will undoubtedly result in protectionist trade wars and competitive devaluations at a later date.

Of course, there is no disgrace in guessing the movement of the economy and getting it wrong. But the point is that the long-wave theory (and its Elliott variant) claims to provide a way not just of guessing but of accurately predicting the behaviour of the economy over decades and centuries. Such a claim is quite clearly unsound and passes from the realm of science to that of science-fiction. If Kondratiev had the merit of advancing a thought-provoking view of economic history which provides us with a fertile field of investigation, the bourgeois epigones of Kondratiev, by trying to develop it into a kind of pseudo-science, have reduced the whole thing to absurdity.

The present boom has once again given a shot in the arm to the long-wave theorists. Even the German President Herzog mentioned Kondratiev in a speech he delivered at a dinner hosted by the German federation of industry (BDI) in the Summer of 1996, when he warned the German bosses that Germany might miss out on the forthcoming "long cycle" of strong economic growth based on IT: "Drawing on the theories of Nikolai Kondratiev, the Soviet economist who first propounded the idea of long 50-year 'waves' of economic expansion and contraction in the 1920s, Herzog pointed out that Germany had missed out on the first wave based on the invention of the steam engine in the 18th century. However, the country had been a technological pioneer in the second, third and fourth waves that followed and had benefited fully from the associated welfare gains." (The Financial Times, 1/7/96.)

We do not know how deeply President Herzog has studied Kondratiev or whether, as is more probable, his speech-writer thought it a good idea to challenge the intellectual capacity of the German employers. His reference to welfare is certainly not much in line with current economic thinking - "long wave" inspired or not. As for the new technological revolution, the German bosses seem to be rather reluctant to spend more of their hard-earned cash on research. In the four previous years, according to the *Deutsche Forschungsgemeinschaft*, the central body promoting German research, German industry had cut its spending on research and development personnel by 38,000. As usual, what induces the capitalists to invest is not long-wave (or any other) theories, but only the prospect of profits.

As could be predicted, the long-wave craze has taken off most energetically in the USA. In *The Bank Credit Analyst* (28 June 1995) we read: "*The US economy is embarked on its third long-wave expansion of the 20th century. Key driving forces are a technology-led surge of capital spending and a marked increase in the growth of world trade.*" The article concludes: "*This century's most severe bear markets (the*

1930s and the 1970s) occurred during long-wave downturns. The experience of the 1960s suggests that stock market corrections could be sharp but short-lived and valuations could remain at the high end of their historical range for several years." This is a general historical prediction (lacking any scientific basis, one might add).

Now for the specifics. The journal publishes a number of interesting charts, one of which refers to historical trends in productivity. This "shows that productivity growth has continued to exceed the average of past cycles - particularly in manufacturing. [Actually, almost all of the productivity growth has been confined to one sector - information technology and specifically computer production. See *The Class Struggle and the Economic Cycle*]. Output per man-hour in manufacturing is 5.5 percent above the average of past cycles, adjusting for the fact that production growth has fallen short of the historical average. *Companies have not let up in their drive to boost efficiency and reduce costs.*" (p. 28, my emphasis.)

As we have shown in previous documents, this boom has been at the expense of the working class. The rate of exploitation has risen enormously in all countries as the capitalists try to squeeze the last drop of surplus value from their employees. Of course, the search for surplus value is always the basis of every boom and of capitalist production in general. But in this boom the pressure on the working class has been far greater than in the past. This is not at all like the period of the 1960s when most workers felt that they had benefited from the boom. The feeling now is altogether different. The growing malaise is reflected by the fact that Al Gore cannot even win an election in a boom. This fact is a symptom of the sickness underlying the whole system. This cannot be shrugged off by superficial references to "long cycles". More serious economists like Michael J. Mandel (no relation to Ernest) are predicting that the "Internet boom" is preparing the way for an Internet depression in the foreseeable future. He has produced a lot of hard evidence to back his claim, which is entirely probable, the long-wave theoreticians notwithstanding.

Ernest Mandel and Kondratiev

Ernest Mandel, who habitually capitulated to every fashionable trend in bourgeois economics, also latched onto Kondratiev, attempting to reconcile his theories with those of Marx and Trotsky, while trying to cover up the tracks, notably in his book *Late Capitalism* (London, 1975). Having already capitulated to Keynesianism and each and every other "trendy" bourgeois theory, it was entirely typical of Mandel to flirt with Kondratiev's ideas, while at the same time trying to maintain a safe distance from them. This trick of "running with the hare and hunting with the hounds" was always a habit of Mandel, and adequately expresses the eclectic nature of his method. Thus, in his writings on Kondratiev he says on one page: "The international history of capitalism thus appears not as a succession of industrial cycles every seven or ten years but also as a

succession of longer periods, of about fifty years. We have experienced four to date." (p. 158.)

From these lines it is clear that Mandel *agrees* with Kondratiev. This is a straight account of the long-wave theory with no "ifs" or "buts". This impression is further deepened when we read: "As far as these indicators [world capitalist production and the expansion of the market] are concerned, *empirical verification of 'long waves' is perfectly possible.*" (Ibid., p. 186, my emphasis.)

Elsewhere we read: "Such a cycle of at least five 'long waves' cannot be attributed to chance, *nor only to the play of external factors.*" (Ibid., p. 185, my emphasis.) The reader should note that this is *exactly the opposite* of Trotsky's position, which stressed the importance of "external factors" (wars, revolutions, etc.) in shaping these broad periods. Yet a little later, without blinking an eyelid, Mandel says the *exact opposite*, agreeing with Trotsky's criticism of Kondratiev: "Trotsky advances two central arguments against the theses of Kondratiev: in the first place, the analogy between 'long waves' and 'long cycles' is incorrect; that is to say, that these 'long waves' lack the 'natural necessity' which the classic cycles possess. In the second place, while the classical cycle is explained in the last analysis by the internal dynamics of capitalist production, in order to be explained, the 'long waves' require 'a more concrete study of the curve of capitalism and of the totality of relations between the latter and all aspects of social life'. In other words, Trotsky rebels against a non-causal theory of 'long waves', constructed on the basis of the renovation of fixed capital, by analogy with the Marxist explanation of classical cycles." (Ibid., p. 170.)

Uncomfortably aware that he has landed himself in an impossible position of defending two mutually incompatible theses, Mandel tries to wriggle out by a simple conjuring trick: "In fact, *one can agree with both these critiques* which were shared in the 1920s by many Soviet economists." (Ibid., 172, my emphasis.)

We point out in passing not only that not "many" but *hardly any* Soviet economists shared Kondratiev's views in the 1920s, although quite a few agreed with Trotsky's position against that of Kondratiev. But why let the facts spoil a good story, as the journalists say. Clearly Mandel would like some company. But no matter how many or how few people supported these ideas, it is not possible to square the circle either in mathematics or in Marxist economics. One can agree with Kondratiev's theory of "long waves" or one can agree with Trotsky. One cannot agree with both.

The reason for Mandel's interest in Kondratiev is self-evident. Mandel was incapable of explaining the reasons for the long post-war upswing. His writings on economics reveal a clear tendency to abandon Marxism in favour of Keynesianism and other fashionable bourgeois nostrums. Then Kondratiev appears with his "long waves" and the problem is solved with ease! The great advantage of formalistic theories is that they relieve one of

the need to *think*. Mandel used Kondratiev's thesis in order to explain away the long post-war upswing in capitalism. Likewise, he used it to "explain" the subsequent crisis that began in 1973-74.

Unfortunately, if you say "A" you must also say "B", "C" and "D". A wrong theory sooner or later leads to disaster in practice. Mandel did not notice that the reason why so many bourgeois economists are so enthusiastic about Kondratiev's "long waves" is that if this theory is correct, there is no evident reason why the capitalist system could not go on indefinitely, passing from one cycle to another. If there is a downswing, there is no cause to worry, since it will eventually be followed by a long upswing. Moreover, since there is nothing to be done about it, the working class has no alternative but to tighten its belt and passively await the better times that will come with the next "wave". The reactionary conclusions that flow from this conception really require no elaboration. In short, by wriggling out of one theoretical difficulty, Mandel has landed in a far worse position: one that would imply the abandonment of the Marxist position altogether. That is why he tries to face all ways at once - for Trotsky *and* for Kondratiev (and hope that nobody notices!). Mental gymnastics of this kind do not really get us very far.

The attempt to "marry" Trotsky with Kondratiev is quite comical. Trotsky never accepted Kondratiev's theory of long waves. On the contrary, he explained in some detail that the existence of such waves - in the sense meant by Kondratiev - was *impossible*. It was impossible to predict the precise character of different epochs or their frequency. The curve roughly worked out by Trotsky in his article of 1923 has an extremely irregular character and reflects not long cycles but *distinct historical periods*. As for Kondratiev's thesis, Trotsky accurately characterized it as an "*incorrect generalization based on a formal analogy*". What did he mean by this? Only this: that there is no comparison between Marx's theory of the capitalist economic cycle (the "trade cycle") and the unwarranted generalization which Kondratiev tried to draw from it.

From a theoretical point of view the idea of long cycles has nothing in common with Marxism. But not to worry! Mandel assures us that "long waves" can be easily verified by empirical evidence. Really? But if it was so easy to prove the existence of long waves, why has this subject been a matter of controversy for so long? Evidently Mandel was in possession of privileged information not available to the rest of the scientific community which has expressed the most varied and contradictory views on the subject. But this is only another example of Mandel's customary method of *asserting an opinion as if it were an undisputed fact*, and hoping yet again that nobody will notice the difference.

In his *Late Capitalism*, Mandel finds fault with Garvy for his criticism of Kondratiev, which he considers to be "pointless", "imprecise" and "merely semantic". Actually, Garvy's study is extremely thorough and well-documented, which cannot be said of Mandel's writing on Kondratiev,

which for example leave out of account the crucial question of capitalist equilibrium - the central point around which the whole theory of long waves revolves. Trotsky's differences with Kondratiev were certainly not of a semantic nature, and also centered on the question of *equilibrium* which Mandel either has not understood - which is bad - or else deliberately ignores - which is worse. The difference between Kondratiev's term "*cycle*" and Trotsky's "*periods*" is *not at all a linguistic quibble*, but a fundamental difference between two incompatible ways of interpreting history, economics and the class struggle.

Mandel's objective in *Late Capitalism* is to smuggle in non-Marxist elements into his "analysis" of capitalism. He agrees with both Trotsky and Kondratiev -which is a bit like agreeing both with Charles Darwin and the First Book of Genesis. He poses the question whether there exists "an internal dynamic peculiar to the succession of industrial cycles during long periods of time" and answers in the affirmative. He emphasizes the role of the falling rate of profit in the crisis of capitalism, but then "improves" on Marx by attributing this mainly to factors such as the creation of credit and monetary administration. This is not Marxism but Keynesianism. Marx explained that the main cause of the tendency of the rate of profit to fall was the increased organic composition of capital. This we can see clearly at the present time, with the colossal sums being invested in things like computer plants and the constant rush to update information technology.

The reason that Mandel stresses these other elements is that he wants to establish a link between Kondratiev's theory of long cycles and Trotsky's insistence that social and economic development is fundamentally affected by "external conditions". But by "external conditions", Trotsky had in mind, not factors like credit (which is part of the internal mechanism of the normal trade cycle) or monetary administration (which, indirectly, is also a reflex of the same process), but *non-economic factors such as wars and revolutions*. Even the most superficial examination of Trotsky's *Curve of Capitalist Development* will show that Trotsky specifically denied that the kind of periods described by Kondratiev could have a cyclical character. *Mandel therefore agrees with Kondratiev and disagrees with Trotsky*. He is, of course, at liberty to do this. But he really should not try to face all ways at once and then cover up his tracks by verbal gymnastics.

Mandel states that capitalism has experienced "three general technological revolutions" which he specifies as the use of steam-powered machinery from 1848 (?); then the introduction of the electric and combustion engine from the 1890s; lastly, electronic devices and nuclear power (!) after the 1940s. He adds that each of these technological revolutions has been preceded by a process of "super-accumulation" of capital: a situation in which "one part of the accumulated capital can only be invested with an inadequate (?) rate of profit, a rate which is progressively reduced".

Mandel takes off his hat to the shade of Marx by mentioning in passing the falling rate of profit. But he does so in his usual sloppy manner, not making clear that this is only a tendency, which can be negated for whole periods before re-asserting itself. He presents it as an absolute law, which Marx never did. In fact, the so-called super-accumulation of capital has nothing to do with Marx. It is only Mandel's way of *plagiarizing* and *re-baptizing* the latter's idea of an "investment fund" with pseudo-Marxist terminology. As usual with Mandel, there is not a single original thought, but only non-Marxist ideas dolled up with "Marxist" phraseology and presented as his own.

When this mysterious process of "super-accumulation" - the laws of motion, origin and nature of which are so far unknown to mortals - has been completed, there suddenly appears a technological revolution, like a rabbit from a conjuror's hat; except that here the place of the latter is taken by a combination of (unexplained) "detonating factors" which magically raise the rate of profit once more, incorporating the new processes into production and thus generating a great oscillation of growing investment and economic activity. But then Mandel proceeds: "However, exactly by the same process [the same process and no other! But we have yet to discover what this "same process" consists of!] the gradual generalization of the new sources of energy [?] and the new machine-engines must lead... to a new dis-investment and the reappearance of inactive capital..." (Mandel, *op. cit.*, Spanish edition, p. 159.)

Thus, the rate of profit falls because of the high organic composition of capital (the high ratio of constant capital in relation to variable capital, of dead in relation to living labor) and the consequent lowering of the rate of value. There follows a wave of contraction in economic activity. This is the downward side of the long wave. But this only leads to a new phase of "super-accumulation as a result of the growth of inactive capital which leads (eventually) to a new upward wave... and so on and so forth.

This elegant economic model does away with all contradictions. Or rather, it overcomes and transcends them, rather in the manner that Hegel's Absolute transcends all the contradictions of this world - and the next. And just like Hegel's Absolute, this miracle is all achieved in the mind. Actually, Mandel mixes everything up. He confuses the normal trade cycle - the laws of which were described by Marx in great detail - with Kondratiev's long waves, the mechanism of which has never been elucidated by anyone, not Kondratiev himself, and certainly not Ernest Mandel. All Mandel does is to re-state (in a superficial and garbled way) what Marx wrote concerning the tendency of the rate of profit to fall and the trade cycle, and to apply where it cannot be applied - namely to a 50 year cycle. He tries to apply Kondratiev's methods to the later period of capitalism after the Second World War and gets the following results:

From the end of the 18th century to 1823 Accelerating growth
 1824 to 1847 Decelerating growth
 1848 to 1873 Accelerating growth
 1874 to 1893 Decelerating growth
 1894 to 1913 Accelerating growth
 1914 to 1939 Decelerating growth
 1940-45 to 1940-48 (depending on which countries) to 1966 Accelerating growth

Here again the arbitrary nature of the method produces patently erroneous results. According to Mandel, "we will have entered at the present time in the second phase of the 'long wave' that started with the Second World War, characterized by a decelerating accumulation of capital." (Ibid., p. 122, Eng. ed.) This problem yet again is that this assertion does not correspond with the known facts. If, as Mandel confidently claims, the period 1940-45 to 1966 was the ascending phase of a long wave, then the downswing should have begun in 1966 - something which is patently untrue. The post-war economic upswing continued until the so-called oil crisis of 1973-74. Since then, the capitalist system has not recovered the levels of growth, productivity, profitability, employment and growth in living standards of the period 1948-73. In the USA in the last five years they have come close to some of these figures. But in Europe and Japan this is certainly not the case, and it remains to be seen how much longer the boom in America will last. Contrary to the optimistic claims of the advocates of the so-called New Economic Paradigm (which we have answered many times already), the present boom does not represent a secular trend but has an extremely fragile and unstable character, and will almost certainly end in a serious slump. In any event, none of this fits in neatly with the predictions either of Kondratiev or his belated imitator, Ernest Mandel.

The question of long waves summed up

To this day, there is still no clear consensus on the exact nature of these long cycles even among supporters of the theory. Earlier on we cited one possible series, which coincides with Kondratiev's original theory, namely: 1848-79; 1880-93; 1894-1914; 1915-39; 1940-74. However, there have been a number of alternative proposals, such as: 1820-70; 1870-1913; 1913-50; 1950-73 and 1973-94. These differences underline the arbitrary nature of the hypothesis. The protagonists of the long wave-theory cannot agree among themselves even on what precisely the long waves consist of.

Some long-wave enthusiasts appear to have got completely carried away in their search for long historical cycles. Paul Drucker in his book *Post-Capitalist Society* has tried to argue that there are major transformations, not every 50 years, as maintained, but every 200 or 300 years, starting with the 13th century, and that the Western economies are now going through one such phase. At this point the paucity of accurate statistics

rules out any possibility of any such prediction. By comparison with Mr. Drucker, Kondratiev's theory seems a model of text-book rigor.

What is obvious is that distinct periods in capitalist development do indeed exist and possess a different and distinctive momentum. Actually, the more recent studies provide a better basis for a serious study of the economic history of capitalism. In science it frequently is the case that the pursuit of an incorrect hypothesis nonetheless leads to significant results that serve to advance our knowledge and understanding. The Big Bang theory of cosmology is a case in point. In contrast to the abstract theoretical model of Kondratiev, the more empirical approach produces a *series of unequal cycles* - just as Trotsky predicted would be the case.

A recent study (Angus Maddison, *Phases of Economic development*) makes the following comment: "Successive phases have not been initiated by collective planning decisions, innovative ideas, or changes in the ideology of domestic and international economic policy. *Transitions from one phase to another have usually been determined by some kind of historical accident or system shock.*" (A. Maddison, *Phases of Economic Development*, p. 59, my emphasis.)

This is exactly what Trotsky argued against in *The Curve of Capitalist Development*. The reason why the historical phases of capitalist development are of irregular duration is precisely because they are determined by the interplay of complex forces - not exclusively economic in character. The transition from one period to another is characterized by shocks and sudden changes. The most violent kind of changes are wars and revolutions which represent a profound break with the past and profoundly disrupt the movement and direction of society, creating conditions for a new advance - or a regression. The line of history, contrary to the prejudices of liberal evolutionists, knows periods of descent as well as ascent. To the degree that a given socio-economic system exhausts its potential for the development of the means of production, a long period of decline and decay sets in. This may be of long duration, and will certainly be interrupted by periods of recovery, but the general line will be one of descent.

From an historical point of view the capitalist system has played the most revolutionary role. In the entire period of human existence, there has never been such a spectacular, almost miraculous development of industry, agriculture, science and technique. The earliest period of the primitive accumulation of capital can be traced to the 13th century approximately, when urban societies formed around city guilds and universities became centers of learning. This is the embryonic phase of capitalism - the period when the nascent bourgeoisie was struggling to assert its rights against the prevailing feudal order. However, the real period of capitalist ascent begins with the Protestant Reformation and the Renaissance, the discovery of America and the period of mercantile capitalism in the 17th and 18th centuries. From this point on, the graph of

economic development shows a steady upward trend. This nascent period of capitalism is dotted with revolutions: the Dutch revolution and the Peasant War in Germany in the 16th century; the English revolution in the 17th century and the French revolution at the end of the 18th century. The invention of steam and the industrial revolution initiates a period of stormy economic growth and the spread of capitalism in Europe and throughout the world. The rise of the national states in Europe, accompanied by wars, represents the consolidation of capitalism and the division of the world between the main capitalist powers, resulting in the development of imperialism. The contradictions between the imperialist powers eventually resulted in the First World War.

Even the most cursory study of the period before the First World War will show the inter-relation between economic and non-economic factors in shaping each period. The whole period of 1789-1815 was shaped by the French revolution and the resulting Napoleonic wars. These events had profound economic effects, arising from Napoleon's Continental System and the resulting blockade of Europe by the British navy. These events also had repercussions in America and Asia. Only about 1820 did the situation change, allowing for the normalization of trade, which, together with the technological progress characterized by the industrial revolution in Britain, prepared the way for major economic growth. Most of the 1820-70 expansion occurred in Europe which accounted for 63 percent of the growth in world output, notably in Britain, Germany, Belgium and Holland. But outside Europe, growth was meager. The epoch of the world market had not yet dawned. Britain had a crushing superiority in all fields. Its industrial strength was mirrored in the decline of the peasantry and the rise of the industrial proletariat. By 1870 its farm sector employed only a quarter of the population.

Maddison concludes from the available evidence that growth was further accelerated after 1870. Here too, the new period was marked by war and revolution (the Franco-Prussian war and the Paris Commune). The decisive new element in the equation is the loss of Britain's monopoly of industrial power and the rise of Germany and the USA (the abolition of the slave-states as a result of the American Civil War and the unification of Germany which was likewise achieved through war). This period is characterized also by a new stage in the industrial revolutions related particularly to the railways, but also to other inventions which had a powerful effect in improving communications and uniting the whole world in a single capitalist world market (steamships and the telegraph).

It is clear that this expansion of world trade was one of the key factors in this upswing, as Marx had already anticipated. Capitalism opened up new markets, thus acquiring a greatly broader sweep for its operations. In the 18th century protectionism had been the norm. This culminated in the Continental System and the European blockade of the Napoleonic period. But the rise of industrial capitalism in Britain and the demand for new markets changed all that. It must not be forgotten that in the early period

of capitalist development, when industry was still in its infancy, all the capitalist states were protectionist. Only when their industries developed to the point where they had outgrown the possibilities of the home market did they begin to advocate free trade. For obvious reasons, the first to enter this path was Britain. Between 1846 and 1860, Britain had already eliminated all tariff barriers and trade restrictions. This measure, however, did not come easily but involved a long and bitter struggle between the manufacturers and the landed interests represented by the Tory Party. Moreover, the other capitalist countries maintained protectionist policies until their industries were strong enough to withstand the cold blast of free trade. This fact is frequently overlooked today by those who wish to impose the blessings of globalization on the weak economies of Africa, Asia and Latin America.

However, by about 1870, most of the old mercantilist barriers to trade had been removed. Free trade policy was imposed by Britain in its colonies and semi-colonies like Turkey, Thailand (Siam) and China, where the British "persuaded" the Chinese of the benefits of trade liberalization by forcing them to eat opium on pain of artillery bombardment. In Germany the customs union (Zollverein) of 1834 ended barriers between German states and the external Zollverein tariff was lowered in 1850. In 1860 the Cobden-Chevalier Treaty removed French quantitative restrictions and reduced tariff barriers to a modest level. This was followed by French commercial treaties with Belgium, the Zollverein, Italy, Switzerland, Spain and other countries.

The railways, the telegraph, steamships and the opening of the Suez Canal all served to stimulate world trade, which, as after the Second World War, became the principal engine of world economic growth. *In this period, world trade rose about four times as fast as world output.* This led to an enormous development of the world division of labor. Herein lies the secret of the colossal growth that characterized capitalism up to the First World War. According to Maddison's estimate (not shared by other "long-wave" economists) the graph of economic development rises significantly after 1870 and continues, with interruptions, until 1913.

For the world as a whole in the period before the First World War the per capita growth of GDP was the second greatest in history - surpassed only by the upswing of 1948-74. The expenditure on the railways alone was far greater than any other investment in history - including the present IT boom. The length of railway lines in a total of 36 countries between 1870 and 1913 increased from 191,000 kilometers to nearly one million. In some ways the development of world trade in this period was greater than in the present phase of globalization. This is certainly true in relation to the movement of labor. From 1870 to 1913 there was large-scale international immigration with an outflow of 17.5 million people from Europe to America, Canada, Australia, Argentina, etc. On the other side of the planet, a large number of Indians and Chinese moved to Ceylon, Burma, Thailand, Indonesia and Singapore.

However, it would be incorrect to portray this period as one of smooth and uninterrupted progress. The development of a number of powerful capitalist states, all struggling for markets, colonies and spheres of interest, gave rise to new contradictions in the form of imperialism - the higher phase of monopoly capitalism analyzed by Lenin in his classic work *Imperialism - The Highest Stage of Capitalism*. The crushing power of Britain was shown on the one hand by its colonies which covered vast areas of the globe, on the other by its mighty industry and foreign investments. Lenin explains that one of the essential features of imperialism is the export of capital. In the period before the First World War there was a massive flow of foreign capital, particularly from Britain, which directed nearly half of its savings abroad. But France, America and Germany were fast catching up and pressing in on Britain, with explosive consequences. The Treaty of Berlin (1870) officially divided up the world between the main European powers. But such a formal division, which left out of account the inevitable shift in economic and military strength that flows from uneven development, could not last. By the end of this period, not only Britain, France, Belgium, Holland and Germany had carved out colonies, but also Russia, Italy and the USA.

Before 1914, British foreign assets were equivalent to one and a half times its GDP; French assets about 15 percent more than its GDP; German assets about 40 percent of its GDP and America's assets only 10 percent. These figures give a fairly accurate idea of the distribution of economic power in the world before the First World war. For a time the imperialists could establish an uneasy coexistence on the basis that the general expansion of world trade and production could give all of them something. But the imbalance was too great to last for long. In particular, the military and industrial power of Germany - the latecomer on the scene - bore no correspondence to its position as a world economic power. The unbearable tensions arising from this contradiction increased through a series of partial clashes till they reached the critical point in the Summer of 1914.

We have already commented on the fact that this long period of upswing was the cause of the long period of "class peace" and illusions in reformism. It was also the cause of the national-reformist degeneration of the Second (Socialist) International. The illusion was created that capitalism had solved its problems, that the class struggle had ended, that the proletariat had ceased to exist and so on and so forth. But in the end this period and all its illusions was blown sky-high by the First World War which ushered in an entirely different period: a period of storms and stress, a period of revolution and counter-revolution, in which the workers could have taken power many times, but were frustrated by their leadership.

As we have seen, the period between the wars was utterly different to the period before 1914. This is how Maddison describes it: "This was an era deeply disturbed by war, depression and beggar-my-neighbor policies. It

was a bleak age, whose potential for accelerated growth was frustrated by a series of disasters." (Op. cit., p. 65.) But the same author considers that the period is so complex that it is not useful or even possible to consider it as a single whole. He divides it up into three separate periods: 1913-29; 1929-38 and 1944-49.

It is not possible to consider the economic developments unless we also consider the effects of the War in which large parts of Europe were laid waste; 3.3 inhabitants of Eastern Europe were killed. Maddison comments: "The division of the old area [in Europe] led to new tariff barriers, upset traditional transport roots, and created massive problems of adjustment to new market situations. Poland had to forge a national economy out of three different currencies and fiscal areas" (ibid., p. 66). And again: "The war caused a drop in GDP in most West European countries, with the biggest damage to living standards in Belgium, France and Austria. Western Europe's 1913 GDP was not regained until 1924; for a decade, per capita product was well below pre-war levels. A large proportion of resources was diverted from consumption and investment for war purposes. There were 5.4 million deaths among the armed forces (including 2 million in Germany, 1.3 million in France, and three-quarters of a million in the UK). Apart from the grief inflicted on the families of these victims, many of the survivors were suffering injuries or the lasting effects of poison gas." (Ibid., p. 68.)

And again: "The destructive impact of the war in the West was concentrated on a narrow band of territory in Belgium and Northern France. These two countries suffered significant damage to their domestic capital stock. France lost two-thirds of her foreign investments because of default (mainly by Russia) and inflation. Germany's smaller foreign assets were either sold or seized for reparations. The UK suffered very heavy losses to its merchant shipping fleet. The British net foreign asset position was not greatly changed by the war." (Ibid., p.68.)

The temporary boom that followed the slump of 1920-21 had many similarities with the present boom. It collapsed in the deep slump of 1929 which shattered the illusion that the good times would last forever. The impact of the depression which followed was even greater than the destruction of the War. Maddison writes: "The international economic order and the aspirations of domestic economic policy were affected very powerfully by the depression. The gold standard system was jettisoned by most countries. The international capital market collapsed and the liberal trading order was destroyed. The United States gave an unfortunate lead with Smoot-Hawley tariff legislation of 1929-30. This set off a retaliatory wave elsewhere. The UK introduced imperial preference in 1932 which abrogated the multilateral principle. France, Japan and the Netherlands followed similar tactics in their empires. Even worse were the quantitative restrictions on trade and foreign exchange which Germany pioneered. They were copied in some degree in France, Italy, Japan, the Netherlands, Eastern Europe and Latin America. The volume of world trade fell by

more than a quarter, and the 1929 peak was not reached again until 1950. Widespread debt default and the breakdown of reparations arrangements led to a massive flight of capital from Europe to the United States."

What turned the slump into a deep depression in the 1930s was the sharp contraction of world trade as a result of protectionist ("beggar-my-neighbor") policies and competitive devaluations. This is what gave the period before the Second World War a radically different character to the period before the First World War. But even during this period the boom-slump cycle continued to operate. Thus, by about 1938 the economy of the USA was beginning to come out of the slump. The event, however, which completely transformed the situation and marked the transition of a new historical period was the outbreak of the Second World War. The war - which flowed from the unbearable contradictions of world capitalism - cost at least 55 million lives (27 million of them in the USSR), massive destruction of the productive forces and brought the human race to the brink of barbarism. Belgium, France, Italy and the Netherlands suffered immense damage. Britain was also extensively bombed. But that was nothing compared to the catastrophic destruction of the productive forces in the USSR, Eastern Europe, Yugoslavia and Germany.

However, from a strictly economic point of view, the War acted as a stimulus. Engels long ago explained that in a war the normal workings of the capitalist system are temporarily suspended. The final answer to the defenders of the "free market economy" is this: that when they were faced with a serious threat and plunged into a life-and-death struggle, the British and American ruling class did not leave things to the "invisible hand" of the market. On the contrary. They resorted to centralization, nationalization, and even measures of partial planning. Of course, on the basis of capitalism such planning can never be complete. But the question must be posed: why did they do this? And the answer is quite clear: *because it gives better results*. The figures speak for themselves. US output nearly doubled during this period, achieving an annual rate of growth of nearly 13 percent. All the unused capacity (unused because it was not profitable for the capitalists) was thrown into the war effort.

The central issue of the war (at least in Europe) was the position of Germany, whose economic might had been strangled and hemmed in by Britain and France under the terms of the Versailles Agreement. Hitler's plan was to achieve by violent means a redivision of the world in Germany's interest. This meant a life-and-death struggle with the old imperialist powers Britain and France, and above all with the Soviet Union. The enslavement of Eastern Europe and the Ukraine were central to this plan. This could not be achieved without first pulverizing and dismembering the USSR. All the rest was merely an expression of this imperialist dream of German domination. Nazism with its racist delirium and delusions of national superiority was only the distilled essence of imperialism, disguised under a thick layer of medieval superstition and mysticism and served up in a language that would appeal to the mentality

of the frenzied petit bourgeois facing economic ruin as a result of the crisis of capitalism.

During the War Hitler at last realized the age-old dream of German imperialism: to reorganize Europe under German control. The Reich controlled a vast territory containing all the industry and wealth of Europe, and a formidable military regime which had easily defeated the forces of Britain and France. Yet Hitler was defeated by the Soviet Union in the most tremendous combat in military history. The victory of the Soviet Union in the War and the division of Europe into two antagonistic blocs completely transformed the world situation and upset the calculations of Britain and the USA. It meant that the outcome was completely different to that of the First World War, although the degree of destruction in Europe and other parts of the world (China, Japan, etc.) was much worse. The Allies dropped two million tons of bombs on the Continent, mostly on Germany. Europe's capital stock was in ruins. The situation in the USSR and Eastern Europe was still worse. Submarines had sunk a large part of the merchant fleet and livestock had been slaughtered on a massive scale. Moreover, Britain was heavily in debt to the USA and the Commonwealth.

With far less destruction in Europe, the First World War led to a long period of economic depression. Why did this not occur after 1945? Was it the pre-ordained consequence of a long wave? Not at all. It was a result of Marshall Aid which the USA extended to Europe not for economic reasons but out of fear of revolution and "Communism". The roots of the post-war settlement and the long economic upswing that flowed from it (the reasons for which we have already given) *was not the result of economic considerations, but of political, military, strategic and diplomatic ones*. Paradoxically, the end of the War initially led to a sharp fall in production in the USA. GDP dropped by a quarter from 1944 to 1947 as the war economy was abandoned and the army demobilized. The situation only changed with the world boom that resulted from Marshall Aid, the European reconstruction boom and later by the Korean war boom. These are what gave the initial impulse to world production and above all to world trade which, as we have pointed out, was the main motor-force for the post-war upswing that lasted until 1974.

For a whole generation after the Second World War, world capitalism experienced - perhaps for the last time - a long period of sustained and massive growth, accompanied by steadily rising productivity, wages and living standards in the advanced capitalist countries. This was the objective basis for the relative stability of relations between the classes, and also between the national states in the post-war period. In this period the most spectacular results were obtained, which have never been equaled before or since. In the USA labor productivity increased by a steady 2.5 percent every year, as compared to 1.9 percent in the upswing of 1870-1913. The growth rate in America was twice that of Britain in the century following 1820.

These are impressive results. Moreover, if we take the rate of economic progress over a longer period, we see the literal truth of what Marx and Engels wrote about the truly revolutionary role of capitalism in developing the productive forces and thus laying the basis for a higher order of human society. If we take the period from 1913 to 1950 we see that American total factor productivity grew by 1.6 percent a year, which was already five times as fast as in the period 1870-1913. But this rate of progress accelerated still faster in the upswing of 1950-74. Then it fell back and there was virtual stagnation for almost 20 years.

The epoch of capitalist decline

The development of capitalism is not like a closed system in which physical processes merely repeat themselves, but an actual evolution. Just as in the life of a man or woman we can see definite stages which do not repeat themselves, so we can see similar phases in the life of different historical systems. The Roman republic entered on a phase of vigorous expansion, marked by wars of conquest. Probably the beginning of the turning-point was the end of the Punic Wars that led to the destruction of Rome's most formidable rival. There followed a period of great instability and civil wars in the later republic, leading to the imposition of the rule of the emperors, beginning with Augustus. The empire reached its maximum point of development in the following generation or so, and then enters a long period of decline, lasting about three centuries. However, this decline was not a straight line. There were periods of recovery and brilliance, which, however, merely paved the way for further decline and decay. One could establish certain parallels with the line of development of feudalism in Western Europe, with the absolute monarchies taking the place of the emperors.

Of course, every socio-economic system has its own peculiarities and the process does not follow an identical path in all of them. The laws governing the development of slave-society are not the same as those governing feudalism. And capitalism has laws that are radically different to both of these. But that is not the point. The point is that social development does not proceed according to the mechanics of a simple closed system, in ever-repeated cycles. The only possible exception would be what Marx called the Asiatic mode of production, the first law of which was a kind of unchanging monotony based on a low level of development of production (virtually a subsistence agricultural economy) with a huge state bureaucracy grafted onto it, as in ancient China. But capitalism can least of all be compared with such a system!

Ever since its inception over 300 years ago, the capitalist system has played a most revolutionary role in developing the productive forces. Its heyday was the 19th century, when it played a relatively progressive role in developing industry, science and technology at an unprecedented rate. But already in the first decades of the 20th century, this was coming up against its limits. The two world wars and the period of crisis and

depression between the Wars were the most graphic illustration of the fact that the productive forces had outgrown the narrow limits of private property and the nation state. The October revolution showed how this crying contradiction could be resolved. Many times after 1917 the working class attempted to carry through the socialist revolution in one country after another but were prevented from succeeding by the leadership of the mass workers' organizations. And in the debates in the Communist International at this time, Lenin and Trotsky explained that, if the working class did not take power, it was not theoretically excluded that capitalism could experience a new period of upswing - something that actually occurred following the Second World War.

The central issue is the nature of the post-war upswing. Did it represent a new period of capitalist rebirth? Or perhaps proof that capitalism is fated to swing eternally backwards and forwards between prosperity and depression till the end of the world? Or was this just a temporary respite, preparing the way for new and more terrible declines? From a Marxist point of view the capitalist system has long ago ceased to play any progressive role on a world scale. The impasse is expressed by the fact that even in a boom (like the present one), the number of unemployed and under-employed in the world, according to the estimate of the United Nations, is not less than 1,000 million people.

The future of the entire world is shown by the plight of the backward capitalist countries of Asia, Africa and Latin America. Even at the height of the boom, they are plunged in a morass of poverty, debt, hunger and illiteracy. Even in those underdeveloped capitalist countries where the boom has led to rapid growth, the living standards of the masses has not improved but has even declined. There has been a colossal increase in inequality, with a sharp increase in class conflict. Peru's growth rate went up from only 0.3 percent in 1998 to 2.1 percent in the first nine months of 1999. This is faster than the rest of Latin America. Yet according to *BusinessWeek* (29/11/99), "For most Peruvians, positive GDP figures belie the fact that this looks and feels like a deep recession, and business groups are questioning the accuracy of government figures." All this confirms that capitalism has long been in a long-term decline that manifests itself in many different ways.

It was the long period of economic upswing after 1945 - together with the division of the world between US imperialism and the USSR - which gave rise to this relative stability in world relations. The longevity of capitalism, its stability at least in the West, was predicated on the economic results *which expressed themselves in steadily rising living standards*. In the golden age of the post-war upswing from 1948 to 1974, world per capita GDP grew by 2.9 percent per year. World GDP rose by 4.9 percent per year and world exports by 7 percent per year. On the basis of such results the capitalists could grant concessions to the working class in the form of higher wages, better health insurance, pensions, education and housing.

But now everything has changed. Despite the present boom in the USA, most capitalist countries consider an annual growth rate of 2-3 percent to be a triumph. And this growth is by no means expressed in an automatic rise in living standards, health, education and culture. On the contrary. Even in advanced capitalist countries, governments are slashing public expenditure. Instead of reforms there are counter-reforms. Workers' conditions suffer a continuous deterioration in terms of hours, safety and labor rights. And this is nothing compared to the nightmare conditions that exist for the masses in Asia, Africa and Latin America.

The prolongation of this death-agony actually threatens to undermine human culture and civilization, or even the future of humanity itself. The existence of technology which can pose a threat to the existence of our species (biological and chemical warfare, genetic engineering, nuclear power, etc.) in the hands of irresponsible multinationals; the ravaging of the planet by greedy monopolies; the degrading and wholesale destruction of the environment - the air we breathe, the water we drink, the food we eat - in the name of profit; the unbridled activities of imperialism which provoke war after war - all these phenomena, when taken together, are posing a question-mark not just over the future of a given socio-economic system which has outlived itself, but over the future of our planet.

This long-term decline and decay does not at all rule out the possibility of periods of boom like the present one. Marxists have always understood that the boom-slump cycle is an inherent feature of capitalism, and that it will accompany capitalism from the cradle to the grave. Even the deepest slump will eventually be followed by a recovery. But in the present epoch, the recoveries will not be similar to those of the past. The upswing that followed the Second World War was exceptional and was probably the last time the capitalist system showed such dynamic growth. But that took place as the result of a peculiar concatenation of circumstances. In all probability such a combination will not arise again.

The long period of post-war upswing finished in 1973-74, with the first serious recession since the War. The 1970s was a decade of revolution. Beginning with the overthrow of the Greek Colonels and the Portuguese revolution of 1974-75, there was a beginnings of a revolutionary movement at that time in Europe. Not only Greece and Portugal, but Italy, Spain, France, Cyprus and Britain were all caught up in the revolutionary wave. This also affected the mass organizations of the proletariat. For the first time since the War, there was the emergence of mass left reformist and semi-centrist currents in one country after another. The leaders of the socialist parties of Spain, Greece, Italy and France began to talk of Marxism. In Portugal, Mario Soares spoke of the dictatorship of the proletariat and the socialist paper *La Republica* reprinted articles by Trotsky. In Britain, the old right wing of the Labor Party was vomited out and the party was taken over by the left wing. The Marxist tendency took over the youth wing of the party and even gained members of parliament.

Of course, the left phraseology of most of the leaders was only demagogy, adopted under the pressure of the rank and file with no serious intention of putting it into practice. As they moved closer to power, so the radical discourse of the leaders became more "statesmanlike" and "realistic". As always, the left reformists and centrists soon abandoned their radical positions and capitulated to the bourgeois and the right wing.

In this period the most advanced layers of the class were already beginning to draw revolutionary conclusions. In several countries, such as Spain and Italy, there were clearly the elements of a pre-revolutionary situation. In Portugal, the working class had power in its hands. The Times of London published an editorial with the heading 'Capitalism in Portugal is dead'. Only the policies of the socialist and communist party leaders saved the situation for the capitalists. The whole process was then cut across by the boom of the 1980s. For a time the pendulum swung to the right.

Now we have entered into a qualitatively new situation. The period of long upswing is past history. That does not mean to say that capitalism will collapse, or that there is no development at all. It means that *capitalism is no longer able to develop the means of production as they did in the past*. If one examines the basic indices of the economy since 1974, it is obvious that the capitalist system has never recovered the level of growth, profitability, investment or employment of the period of upswing. This is a decisive fact which has many repercussions on a world scale. Until recently, the rate of growth for most developed capitalist countries has been poor. A rate of growth of 2-3 percent is now regarded as a triumph! This is approximately half the average figures for the period of the upswing. The case of Japan is most striking. In the period of upswing Japan was one of the main motor forces for the world economy, achieving high growth rates, sometimes in excess of 10 percent. For the past decade, however, Japan has been stuck in recession with hardly any growth at all.

The fact that a turning point has been reached is shown by the reappearance of mass organic unemployment in most of the advanced capitalist countries. During the post-war upswing unemployment was virtually unheard of. For the first and only time in the history of capitalism there was full employment. But not anymore. Ever since 1974 unemployment in most countries has remained persistently high even in booms. This suggests that the capitalists are unable to make use of the full potential of the productive forces, and that therefore the capitalist system is playing a reactionary role in holding back the development of society.

This does not mean that it is not capable of developing the productive forces at all. In booms like the present one we see that it is still capable of developing certain branches of production in certain countries for a limited time. But even in the present boom there are still about one million people out of work in Britain - a figure that would have been unimaginable 30 years ago. The same situation exists in France, Germany

and most other countries, and is even worse than these figures suggest since the official statistics deliberately understate the real level of unemployment. If we accept the official figures, the rate of unemployment in 1984-93 was 6.8 percent in Western Europe compared to only 2.4 percent in the period 1948-74. However, in Germany and France until recently the figure was about 10 percent. In Southern Europe it averaged 12.2 percent, and in Spain was more than 20 percent. True, unemployment has since gone down as a result of the effects of the boom in Europe. But despite this the situation of full employment remains a distant dream. The new generation is compelled to accept badly paid jobs on what the French call "rubbish contracts". And even this badly paid precarious employment will disappear with the first cold breath of recession.

The present boom in the USA seems to represent a decisive change in this situation. But as we have explained elsewhere this will not be long-lasting. Beneath all the surface froth, all kinds of contradictions are piling up. The serious representatives of Capital are becoming increasingly alarmed at the imbalances above all in the American economy. The scenario is, in fact, much more reminiscent of the boom of the 1920s than the beginning of the post-1945 economic upswing. The collapse of the present boom will usher in a turbulent period of crisis with far-reaching consequences for the whole world.

Out of the economic, social and political convulsions that will ensue from this, the class struggle will find a new lease of life. The old certainties will disappear and a new questioning of the existing state of society will become general. In one country after another - in one continent after another - the socialist revolution will be placed on the order of the day. Whether this is successful or not will be determined by a number of factors; not least among them will be the quality of the leadership of the proletariat - the subjective factor. It is the preparation of this which must occupy all our energies at the present time.

The subjective factor

The economic upswing of capitalism in the West was one of the main reasons why world capitalism managed to save itself after World War Two. Certain things flow from this fact. If one asks the question why have the genuine forces of Marxism been thrown back for a whole historical period, various answers can be given. But the fundamental reason for the weakness of Marxism in this whole period must be looked for in the objective situation itself. This long period of upswing lasted from 1948 until 1974-75 approximately. Just as the long period of capitalist upswing before World War Two produced the reformist and nationalist degeneration of the mass workers' organizations, so the post-war upswing in world capitalism was the main reason for the isolation of the genuine forces of Marxism for a whole historical period.

There was also another powerful factor which could not have not been foreseen: the strengthening of Stalinism for a whole historical period. The monstrous distortions of Stalinism in the East, Russia, Eastern Europe, Romania, China placed huge obstacles in the way of the development of Marxism. Let us not forget, by the way, that the main obstacle before us was precisely Stalinism, the Communist Parties in the West were a tremendous block on the development of the working class. In most countries, any radicalized youth would immediately go to the Communist Parties, despite the fact that theses had long since ceased to play a revolutionary role. On the other hand, the existence of a monstrous bureaucratic and totalitarian caricature of socialism served to repel the mass of workers in Western Europe and the United States.

But this period has now finished. The collapse of Stalinism and the monstrous betrayal of the old bureaucracy of the Soviet Union which has passed over to capitalism - a betrayal even more monstrous and repulsive than the actions of the leaders of the Second International in 1914 - has led to a collapse of the power and influence of Stalinism in one country after another. With a delay of half a century Stalinism has been revealed as a temporary historical aberration. The analysis and predictions of Trotsky made in 1936 in *The Revolution Betrayed* have been brilliantly confirmed by history. The rank and file Communist workers and youth are much more open to the ideas of genuine Marxism Leninism ("Trotskyism") than in the past. This is a fact of tremendous importance for the future.

But it is not sufficient to refer to objective factors when analyzing the weakness of Marxism for such a long period. As always, the subjective factor played a crucial role. For a whole historical period, the revolutionary movement was thrown back. During his lifetime Leon Trotsky played a tremendous role, defending the genuine ideas of Marxism-Leninism and rallying the scattered forces of Bolshevism-Leninism under the most difficult conditions. But after the death of Trotsky, the so-called leaders of the Fourth International proved totally unequal to the tasks. They made every mistake imaginable and destroyed the Fourth International before it could develop a serious base. In the few countries like Sri Lanka and Bolivia where they managed to build an important base, they made a mess of things. There can be no excuse for this. Those who are not able at least to defend the gains of the past will never build anything serious in the future. Today, all that is left is the priceless heritage of the ideas of Trotsky - ideas which retain all their original force and vitality - which we continue to defend in *In Defence of Marxism*. On this basis we can again regroup and regenerate the forces of genuine Marxism.

In the period of the post-war upswing all the revisionists have said that the working class was dead. Yet even at that time - at the peak of the upswing - we saw the magnificent revolution in France of 1968. This shows the future not only of France, but of all the developed countries.

Such movements will inevitably recur on a higher level in the period we are now entering into. To understand this, it is not at all necessary to accept Kondratiev's idea that revolutions occur only in ascending phases of capitalism (an assertion which is contradicted by historical experience). What is true is that in periods of full employment, there always tends to be a swing towards greater struggles on the industrial front. The reasons for this are obvious: the workers feel their power and become more confident to press their demands for a greater share of the wealth created by their labor. When the order books are full and business is thriving, the bosses frequently prefer to make concessions out of their fat profit margins, rather than face an interruption of production. Therefore, if the present boom continues for another one or two years (which is possible but by no means guaranteed), we will undoubtedly be faced with an upsurge of militancy on the shop floor, probably starting in the USA and spreading to one country after another.

Even in the course of the present boom, the contradictions have been growing all the time: the gross inequality and the insolent arrogance of the employers; the squeezing of the last ounce of surplus value from the sweat and nervous systems of the workers; the lengthening of the working day; the merciless pressure that has caused an epidemic of stress and nervous disorders; the blatant disregard for safety in the workplace; the undermining of union rights; the unprecedented concentration of capital and growth of monopoly and corporate power; the rising levels of debt; the slashing of state expenditure; the cuts and attacks on welfare, health and housing; the crushing weight of indirect taxes on the poor while the taxes on the rich are reduced to a minimum. All these things are preparing an almighty backlash in the not too distant future.

Of course, while the boom lasts, the capitalists have room for maneuver. It is a fact that as long as the gross income of families is perceived to be rising, and as long as workers can improve their living standards by getting into debt, they are prepared to tolerate many things - at least for a while. The idea that we can all get rich (or at least get a reasonable standard of living) by working hard gains the upper hand. People are prepared to sacrifice their time, their strength, their health, their family life and happiness, in pursuit of this illusion. In the life of society, illusions are very powerful things and can triumph over reality for some time. But in the end, reality always breaks through.

The boom of the 1920s, as we have pointed out, had many points of similarity with the present boom. Rip-roaring growth in the USA based on new technology, particularly the motor-car, new methods of production ("Fordism"), a soaring stock exchange, and a general mood of wild optimism and a feeling that the good times would last forever. And indeed, as long as the carnival of money-making continues, the illusion can be maintained. It grips the minds of all classes - from the strategists of capital and the politicians down to the man and woman in the street. But once the boom collapses, this process turns into its opposite.

Capitalism is not an eternal, God-given socio-economic system - as it appears to most people to be. The same illusion always existed in every period. Men and women always find it hard to imagine that people can live and work and think and act differently to how they do at the given moment. Yet all history shows just how easy it is for men and women to change the way in which they live, think, work and act. Indeed, human history is nothing more than the chronicling of such transformations. We marvel today at how humans like ourselves could ever have accepted cannibalism, slavery or serfdom. Yet our ancestors did so and would have found our own culture - the culture of capitalism - no less alien and incomprehensible.

No, capitalism is not eternal or fixed. In fact, it is less fixed than any other socio-economic system in history. Like any other living organism it changes, evolves and therefore passes through a number of more or less clearly discernible stages. It has long outlived its turbulent infancy and its confident and optimistic maturity likewise lies in the past. It has entered into a phase of terminal decline and decay which may last for some time - as the decline of Rome lasted a long time. And the negative consequences of this will bear down hard on the shoulders of humanity. In this phase of capitalism, the periods of growth will not ameliorate the contradictions on a world scale, but only exacerbate them to the nth degree. And the downswings will threaten the world with the most terrible catastrophes.

It is only natural that the capitalists and their tame tribe of professional economists and hired flatterers cannot reconcile themselves to this perspective. Like a decrepit old woman who cannot bear to contemplate her wrinkles in a mirror, they desperately search for the secret of eternal youth. They are prepared to clutch at any straw that feeds the illusions of their blindness and vanity. They saw the fall of the Soviet Union as proof that their system was the only possible system. They dreamed of a New World Order based on Peace and Plenty. They imagined that the present temporary boom meant not just a return to the days of their youth but the abolition of all crises. This does not even deserve attention as serious thinking. These are only the pathetic self-delusions of a decrepitude that refuses to look in the mirror. Such illusions are doomed to a rude awakening. And the awakening will not be long in making itself felt.

The development of the productive forces under capitalism is the prior condition for the real emancipation of humanity. A dazzling perspective opens up of almost unlimited progress. Having conquered the planet, the deserts, the poles and the oceans, the human race can reach out its hands to the stars. The prior condition for this is that the tremendous productive capacity built up by capitalism in its anarchic search for profit should be brought under the conscious control of society. The fantastic discoveries of science and technology must be used in a rational and planned way to serve the needs of humanity, not the greed of the few.

We do not think that Kondratiev was right when he said that technological innovations are made in a downswing of capitalism. But it is certainly true that the preparation of the proletarian vanguard, the creation and education of the cadres, takes place at all times and is particularly necessary in periods of "downswing" of the workers' movement. In a war, there are frequently periods of lull between two battles. The lull is deceptive. It is merely the prelude to a new battle. Serious armies do not sleep during such a lull. They conscientiously drill, clean their weapons, win new recruits, improve their lines of communication and logistic support and in all things prepare for the next battle.

In historical retrospect, the fall of Stalinism will be seen as just an episode: the anticipation of a far more earth-shattering fall - that of capitalism itself. Even in the course of the present boom, a new period in the history of capitalism is being prepared. A period of unprecedented and convulsive crisis on a global scale which will sound the death-knell of a foul and decaying system of oppression and exploitation and place on the order of the day the socialist transformation of society and the creation of a New Socialist World Order.