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REVIEW ESSAYS / NOTES CRITIQUES

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David A. Wolfe

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André Gunder Frank, *Crisis in the World Economy* (New York and London: Holmes and Meier 1980).

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I

Introduction

THE CONCEPT OF CRISIS is central to Karl Marx's theory of capitalist development.[1] However, the meaning of crisis has been clouded considerably by the somewhat different contexts in which it is used. Crises are seen by Marx as regulatory mechanisms by which the internal barriers to the continued self-expansion of capital are overcome and the process of capital accumulation is able to continue. In this sense, crises are largely short-run cyclical phenomena which regulate the periodic fluctuations of capitalist economies. Crises are also analyzed in relation to the long-run tendency for the rate of profit to fall. However, the exact relation between this longer-run tendency and the more cyclical occurrence of crises has been the source of considerable debate. Further confusion originates with Marx's suggestion that the periodic occurrence of crises could be associated with the development of the political conditions necessary for the transition from capitalism to socialism.

This last aspect of crisis theory goes directly to the heart of Marx's political project. Embedded in his analysis is the notion that crises contribute to the evolution of the working class' appreciation of the chaotic nature of capitalist production. In their efforts to protect their economic well-being against the severe disruption of periodic crises, workers acquire the political understanding and practical experience necessary for the eventual overthrow of the capitalist system:

> . . . I am . . . convinced that the alternative rise and fall of wages, and the continual conflicts between masters and men arising therefrom, are, in the present organization of industry, the indispensable means of holding up the spirit of the labouring classes, of combining them into one great association against the encroachments of the ruling class and preventing them from becoming apathetic, thoughtless, more or less well-fed instruments of production. . . . In order to rightly appreciate the value of strikes and combinations, we must not allow ourselves to be blinded by the apparent insignificance of their economic results, but hold, above all things, in view their moral and political consequences. Without the great alternative phases of dullness, prosperity, overexcitement, crisis and distress, which modern industry traverses in periodically recurring cycles, with the up and down of wages resulting from them, as with the constant warfare between masters and men closely corresponding with those variations in wages and profits, the working-classes of Great Britain, and of all Europe, would be a heart-broken, a weakminded, a worn-out unresisting mass, whose self-emancipation would prove as impossible as that of the slaves of ancient Greece and Rome.[2]

The link between the objective reality and subjective perception of crisis in Marx's theory has its roots in the classical meaning of the concept.[3] In classical Greek historiography and drama, a crisis was used to denote a turning point or moment of decision in the life of an individual or society, when the capacity of the individual or society to reproduce itself was placed in jeopardy. The classical concept of crisis includes both an objective and a subjective dimension. The objective

[1] I am greatly indebted to the following people who have taken the time to read the first draft of this review and offer me their insights and criticisms: Rob Albritton, Jon Cohen, Gordon Cleveland, Duncan Cameron, Daniel Drache, Richard Day, A. Gunder Frank, Peter Hall, John Keane, Michael Lebowitz, Bryan Palmer, and Susan Pokorny. While I have not always accepted the advice they offered, I have benefited greatly from the re-evaluation that their reading provoked. Final responsibility for all errors must, as always, rest with the author.

[2] Karl Marx, "Russian Policy Against Turkey - Chartism," *New York Daily Tribune*, in Karl Marx and Frederick Engels, *Collected Works*, Vol. 12: *1853-54* (New York 1979), 169, quoted in Leszek Kolakowski, *Main Currents of Marxism*, Vol. 1: *The Founders*, trans. P.S. Falla (Oxford and New York 1978), 302-3.

[3] The following discussion is drawn from my treatment of this question in "The Crisis in Advanced Capitalism: An Introduction," *Studies in Political Economy*, 11 (1983), 8-9.

dimension involves the way in which the crisis appears as an externally determined phenomenon, following a course independent of the actions of the individuals whose lives it affects. The subjective dimension involves the way in which individuals apprehend and respond to the challenge posed by the crisis. Crises thus represent fateful moments when previous patterns of social relationships are called into question. As such they create the opportunity for individuals to perceive the possibility of alternative forms of organization. The subjective choices made by individuals in response to the crisis can constitute a critical element in the resolution of the crisis.

The significance of crisis for Marx's theory of capitalist development thus encompasses two radically different possibilities, that of renewal and that of transformation. In purely economic terms, Marx envisages crises as part of the cyclical process of renewal by which barriers to accumulation are overcome. But at the same time, he clearly sees crises as an important psychological agent (although by no means the only one) in the evolution of working-class consciousness, increasing the possibility of the ultimate transcendence of capitalism. Much of the historical debate within Marxism over crisis theory has centred around the possibility of purely economic breakdown of capitalism. However, as Michael Lebowitz has correctly argued, not only does this misinterpret the objective aspects of Marx's crisis theory, it fundamentally contradicts his view of praxis, the uniting of philosophy and the proletariat. "What in Marx's view made capital finite is that people become *increasingly conscious* that these barriers to capital as a form for the absolute development of human productive powers are inherent in capital. . . . Thus, it is conscious human beings who recognize that capital is its own barrier, who are the limit to capital."[1]

Despite the apparent lack of ambiguity in Marx's original formulation, the tension between the objective and subjective moments of crisis lies at the heart of most subsequent debates within Marxism. From the time of the Second International, the question of the role of economic crisis in the renewal or transformation of capitalism has remained problematic. The intensity of the debate has increased with the recovery of world capitalism from each successive crisis of the past one hundred years. In principle, every crisis involves an element of choice between the reconstitution of the relations of production in a manner which makes possible the renewed self-expansion of capital, or their transcendence through the qualitative transformation of the capitalist mode of production. The fact that each successive crisis has been resolved in the former rather than the latter fashion creates a profound dilemma for Marxism. Marxists have tended to respond in one of two ways: a ritual incantation that ultimately the reoccurrence of crisis will lead to the development of a subjective political consciousness on the part of the proletariat, or the acknowledgement that the relation between objective conditions and subjective consciousness is considerably more problematic than Marx originally envisioned.

What has notably been lacking in most Marxist analyses of capitalist crisis is the insight that crisis transforms capitalist relations of production, but in ways radically different than those anticipated by Marx. The real challenge for a contemporary Marxist theory of crisis is to incorporate the manner of resolution of past crises as an essential element of the theory. Such a reformulation of Marxian crisis theory requires an analysis of the way in which past crises have served to transform capitalist relations of produc-

[1] Michael A. Lebowitz, "Marx's Falling Rate of Profit: A Dialectical View," *Canadian Journal of Economics*, 9 (1976), 250.

tion and the potential implications of the current crisis. The goal of a critical review of current Marxist theorizing of capitalist crises is to transcend some of the sterility which has characterized past debates by analyzing the concrete role played by crisis in capitalist development.

II

Varieties of Marxian Crisis Theory

CONSIDERABLE ENERGY has been expended within Marxism on the extensive debate over the varieties of crisis theory derived from the different elements of Marx's work. A careful examination of these debates suggests that the disputes between the various interpretations have been greatly exaggerated and it is possible to incorporate them into a synthetic interpretation of crisis. This reconciliation, however, does not resolve the primary problem, the significance of crises for the development of capitalism and their impact on the evolution of the working class. This preoccupation with the debate between the varieties of crisis theory has contributed to the failure of Marxism to develop an adequate appreciation of the role which past crises have played in capitalist development; the interment of the debate may clear the way for such a project.

The lack of consensus among Marxists on the nature of crisis theory is reflected in the various typologies of crisis theory. In his study of Marx's economic theory, Paul Sweezy identified three variants of crisis theory: (1) crises associated with the tendency of the rate of profit to fall; (2) crises originating in the lack of proportionality between Departments I and II of Marx's reproduction schemes; and (3) crises arising from the chronic tendency of capital to restrict the consuming power of workers, thereby limiting the realization of surplus value in the sphere of circulation.[5] To this list, Anwar Shaikh has recently added a fourth variant: the profit squeeze generated by the conditions governing the expansion and contraction of the reserve army of labour.[6]

A recent study of Marxian crisis theory by Makoto Itoh suggests there are four major variants as well, but classifies them slightly differently. He argues that historically there have been two major variants, excess commodity theory and excess capital theory. Each of these in turn can be subdivided into two categories: excess commodity theory includes the disproportionality and underconsumptionist variants discussed by Sweezy and Shaikh, while excess capital theory includes the tendency of the rate of profit to fall and the overproduction of capital in relation to the available working population — under which the profit squeeze variant can be subsumed.[7] (94-5; 120-30) Following Itoh's classification, each of the four major variants of crisis theory — disproportionality, underconsumption, the tendency of the rate of profit to fall and the overproduction of capital — is analyzed in the following discussion.

The Disproportionality Thesis

THE FIRST OF THE FOUR variants of crisis theory, the disproportionality

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[5] Paul Sweezy, *The Theory of Capitalist Development: Principles of Marxian Political Economy* (New York and London 1970), chaps 9-10.

[6] Anwar Shaikh, "An Introduction to the History of Crisis Theories," in Economics Education Project of the Union of Radical Political Economics, *U.S. Capitalism in Crisis* (New York 1978), 219-40.

[7] Alternative classifications have recently been suggested by James O'Connor, "The Meaning of Crisis," *International Journal of Urban and Regional Research*, 5 (1981), 301-28, Thomas E. Weisskopf, "Marxist Perspectives on Cyclical Crises," in Economics Education Project, *U.S. Capitalism*, 241-60, and "Marxian Crisis Theory and the Rate of Profit in the Post war U.S. Economy," *Cambridge Journal of Economics*, 3 (1979), 341-78; and Erik Olin Wright, "Historical Transformations of Capitalist Crisis Tendencies," in *Class, Crisis and the State* (London 1978), 111-80.

thesis, historically figured most prominently in the debates of the Second International. Two of the major theorists of this period — M. Tugan-Baranovsky and Rudolf Hilferding — took the reproduction schemes of Volume II of *Capital* as the starting point for their theory of crisis. Ernest Mandel argues that they fundamentally mistook the function of the reproduction schemes in Marx's theory, namely "to prove *that it is possible for the capitalist mode* of production to exist at all." (1975, 25) However, Mandel's categorical dismissal of the thesis overlooks the fact that disproportionality appears as a necessary aspect of capitalist crises. The point of the production schemas is to demonstrate that the process of adjusting demand between the two departments is an extremely complex one and that the market is incapable of providing the information required to maintain intersectoral equilibrium. Disproportionality is as integral to the process of capitalist production as are crises themselves.

> To say that there is no general over-production, but rather a disproportion within the various branches of production, is no more than to say that under capitalist production the proportionality of the individual branches of production springs as a continual process from disproportionality, because the cohesion of the aggregate production imposes itself as a blind law upon the agents of production, and not as a law, which being understood and hence controlled by their common mind, brings the productive process under their joint control.[8]

Thus, capitalist crises *are necessarily* disproportionality crises, but this is not the equivalent of saying that crises originate in the disproportions between the two departments. The disproportionality variant of crisis theory occupies a position of largely historical significance, as few contemporary contributors to the Marxist debates over crisis theory adopt this position.[9]

The Underconsumptionist Thesis

THE SECOND VARIANT of crisis theory has continued to enjoy a broader base of support among Marxist theorists. The underconsumptionist variant was first articulated by Rosa Luxemburg in her critique of the disproportionality thesis. She argued that the real source of capitalist crisis lay in the lack of sufficient money to realize surplus value. The surplus value which is not consumed by capitalists, but which is added to the mass capital in order to increase production, lacks an outlet in the form of buyers of its products. Since capitalism is incapable of solving this contradiction within the confines of its closed system, the only solution is to seek new outlets in the form of external markets. Capitalist crises due to a chronic tendency towards underconsumption thus constitute the primary source of *imperialist expansion*. Luxemburg's thesis was the object of criticism from many sources, principally Lenin and Bukharin. The latter argued that her error was to confuse Marx's analysis of simple reproduction with that of expanded reproduction. In expanded reproduction, part of the capital expended takes the form of variable capital, that is, workers' wages, which provides the purchasing power to *consume the increased output*. Bukharin situated the source of underconsumption

[8] *Capital: A Critique of Political Economy*, Vol. III: *The Process of Capitalist Production as a Whole*, Frederick Engels, ed. (London 1972), 257.

[9] More extended discussions of the limitations of the disproportionality variant of crisis theory can be found in Itoh, 120-1, 136-7, Mattick (1981, 81-8), Sweezy, chap. 10, Shaikh, 228, and Russell Jacoby, "The Politics of the Crisis Theory: Toward the Critique of Automatic Marxism II," *Telos*, no. 23 (1975), 10-7. For a contemporary perspective which subscribes to the disproportionality variant, cf. Richard B. Day, introduction to *The Decline of Capitalism*, by E.A. Preobrazhensky, ed. Richard B. Day (New York 1985). Day has pointed out that the disproportionality thesis figured prominently in the writings of Lenin, Trotsky, and Preobrazhensky as well.

in the constant tendency of capital to strive for the creation of higher levels of surplus value while limiting the purchasing power of workers. He "thus purified the Marxist underconsumptionist theory by locating the fundamental contradiction in the inner production relation between capital and wage labour, rather than in the external relation between capitalist production and external markets. . . ."[10] (Itoh, 123)

The underconsumption variant was developed further in Paul Sweezy's *The Theory of Capitalist Development*. Quoting the work of Lenin and Bukharin approvingly, and drawing on the analysis of imperfect competition developed in the 1930s, as well as the work of Keynes, Sweezy incorporated the effects of monopoly capital and the role of the state into his analysis. The analysis of the relationship between the growing pervasiveness of oligopolistic competition and the tendency towards underconsumption was developed further in Joseph Steindl's *Maturity and Stagnation in American Capitalism*, first published in 1952.

Steindl started from the assumption that producers deliberately hold excess capacity for a variety of reasons. They are eager to be in on an economic upswing at the start of a period of expansion, and not wait until they can install the required productive capacity. Furthermore, producers tend to opt for capacity levels that leave room for a further expansion of their sales effort at a later date. Thus, the deliberate holding of excess capacity is the norm, rather than the exception, in modern industry. Oligopolistic industries also exhibit the characteristics of downward rigidity of prices and higher barriers to entry. Producers try to keep prices just low enough to exclude new entrants from the industry. The process of technological innovation tends to raise the rate of profit in oligopolistic industries, due to the differential cost advantage this affords the firms with the new techniques. The higher profit rates lead to a higher internal rate of accumulation in those industries and, ultimately, to a higher degree of concentration. Steindl concluded from this that ". . . . The rate of internal accumulation and consequently the net profit margin at given levels of capacity utilization will *tend* to a (maximum) level determined by the rate of growth of the industry, the rate of capital intensification and the rate at which existing production capacity is being eliminated." (51) His empirical investigation of the trend of profit shares in major industry groups in the United States from 1899 to 1939 confirmed this hypothesis. In those industries with high levels of concentration or substantial barriers to entry, the share of profits demonstrated a long-run tendency to increase. (80-1)

Proceeding from this microeconomic analysis to the macroeconomic level, he argued that the oligopolistic sector of the economy will exhibit a tendency for profit margins, at given levels of capacity utilization, to rise. The constant shift in the share of national income from wages to profits will create pressure on the level of effective demand and will lead to a reduction in the level of national income and output. Individual firms will try to adjust to this development by reducing their levels of capacity utilization. This strategy may benefit individual producers, but for the economy as a whole, it generates higher levels of excess capacity and a greater deficiency of effective demand. "The changes introduced into the economic system by the spread of oligopoly thus make it liable to react . . . to a *primary* decline of capital accumulation by a further retardation of growth." (123)

The fall in the level of capacity utilization and reduction in the level of effective demand places greater pressure on the profit margins of firms in the competitive sector than those in the oligopolistic sec-

[10] Other discussions of Luxemburg's and Bukharin's theory of underconsumption can be found in Sweezy, 178-86, 202-7, Mattick (1981, 88-95), and Jacoby, 22-9.

tor. This forces a larger number of small competitive producers out of business, increases the overall degree of oligopoly in the economy and accelerates the trend towards stagnation. Empirical investigation of these macroeconomic hypotheses confirmed his prediction of growing stagnation, reflected in a fall in the rate of growth of capital and savings, leading to a fall in the rate of profit. In an attempt to identify the primary cause of this fall in capital accumulation, he isolated the factor of maturity — the spread of a dominant pattern of oligopoly in the American economy, dating from the last decade of the nineteenth century. (191)

In the concluding chapter of the study Steindl addressed the question of the relation between his theory and Marx's theory of capitalist accumulation. Drawing on Sweezy, he divided Marx's arguments about the long-run tendency of capital accumulation and the theory of crisis between the law of the falling rate of profit and the underconsumption approach. After critically dismissing the falling rate of profit variant, Steindl suggested that the spread of oligopoly results in an increase in the rate of surplus value produced, but the realization of this increased surplus value depends on the existence of an adequate market. This can only occur if there is a corresponding increase in investment and capitalists' consumption. If this fails to occur, the increased surplus value merely results in the creation of excess capacity. In an oligopolistic economy, excess capacity can persist and exert a depressing influence on investment decisions, thus retarding the rate of growth of capital. Steindl concluded that his own theory could be viewed as an extension and elaboration of Marx's underconsumption theory. (245)

The appeal of Steindl's work derives both from the analytical rigour of his theoretical model and the meticulous marshalling of data to confirm its hypotheses. Although his theory was applied to an interpretation of data from the pre-World War II period, it exerted a strong influence on Marxist theorists throughout the post-war period. Baran and Sweezy explicitly cite Steindl's pathbreaking work as one of the formative influences in their own thinking.[11] Writing a decade and a half later, and with the experience of the post-war boom fixed prominently in their minds, they were concerned to explain the absence of the stagnation that Steindl had anticipated. This they did in terms of the various mechanisms put in place to absorb the economic surplus: the wasteful sales efforts of large corporations and the useless government military expenditures financed primarily through borrowing. Indirectly through Baran and Sweezy, Steindl's analysis has influenced a number of other prominent theorists.[12]

Given the lasting influence which Steindl's work has exerted, it is important to identify the shortcomings in his argument. First, and most important, is his tendency to conflate the cyclical and secular aspects of underconsumption. In his hands, the underconsumptionist thesis became a purely secular trend towards long-run stagnation, thus losing sight of the potential role of crises in overcoming the barriers to capital accumulation. The most obvious flaw in the stagnationist thesis has been identified by Steindl himself in the introduction to the revised edition of his book — the role played by the

[11] Paul A. Baran and Paul Sweezy, *Monopoly Capital: An Essay on the American Economic and Social Order* (New York and London 1966), 56.

[12] These include most notably James O'Connor's *The Fiscal Crisis of the State* (New York 1973), esp. chaps. 1-2, although in fairness, O'Connor is not without his own criticisms of Baran and Sweezy; cf. his "Baran and Sweezy's *Monopoly Capital*," in *The Corporations and the State: Essays in the Theory of Capitalism and Imperialism* (New York 1974), 43-54. The influence of Baran and Sweezy's economic analysis can also be found in Jurgen Habermas' *Legitimation Crisis*, trans. Thomas McCarthy (Boston 1975), esp. Part II.

state in sustaining post-war expansion. However, in contrast to Baran and Sweezy, he does not view unproductive military expenditures financed through borrowing as the primary contribution of the state. Following an argument advanced by M. Kalecki,[13] Steindl argues that it was the increase in direct government taxation of corporate profits and the recycling of this money into consumption through welfare expenditures that provided the level of effective demand necessary to offset the stagnationist tendency he had forecast. He further admitted that he had seriously underestimated the expansionary impact of the introduction of new technological innovations derived from wartime and post-war military research. The ready supply of war-generated innovations provided a powerful stimulus to expanded investment in the post-war economy. (ix-xii)

Another flaw in Steindl's argument, however, is his failure to allow for the possibility of mechanisms which could adjust the wages of workers in the oligopoly sector to the increases in productivity in that sector, more than offsetting the tendency for the profit share to rise. His complete exclusion of the role played by trade unions, as well as the system for regulating labour relations results in a one-sided analysis of the relations of production.[14] Consequently, Steindl's analysis precludes the possibility of the post-war form of intensive accumulation which involved the tying of mass consumption levels to rising productivity through the collective bargaining process. This pattern of productivity wage bargaining was closely tied in turn to the role of the Keynesian welfare state in sustaining the post-war phase of expansion in the advanced capitalist economies.[15]

The Falling Rate of Profit Thesis

THE THIRD VARIANT of Marxian crisis theory links the cyclical occurrence of crises to the tendency for the rate of profit to fall. This variant of crisis theory was originally articulated by Erich Preiser in the early twentieth century and was given its classical formulation by Henryk Grossman in 1929. Prior to Grossman's work, the theory of the tendency for the rate of profit to fall had not been included in any Marxist treatments of the subject as the primary factor in the theory of crisis. Drawing on Marx's discussion of the law in chapters 13 to 15 of Volume III of *Capital*, Grossman was the first to elevate this aspect of Marx's theory to the core of the theory of crisis.

In chapter 13, Marx discusses the rate of profit (r), expressed in value terms, as the total of surplus value (s) over the value of variable capital (v) and constant capital (c). This relationship can be reexpressed in algebraic terms as

$$r = \frac{s/v}{c/v + 1}$$

where s/v is the rate of exploitation and c/v is the value of the organic composition of capital. Marx argued that increased capitalist competition constantly compels capitalists to substitute mechanical power for human labour in order to increase productivity. This increases the ratio of constant to variable capital (c/v) and results in a rising organic composition of capital. Although this can be offset by increases in

[13] "The Economic Situation in the United States as Compared with the Pre-War Period," in *The Last Phase in the Transformation of Capitalism* (New York and London 1972), 88-93.

[14] J.A. Kregel, "Post Keynesian Economic Theory and the Theory of Capialist Crises," *Bulletin of the Conference of Socialist Economists*, 4 (1972), 71-2.

[15] Michel Aglietta, *A Theory of Capitalist Regulation: The U.S. Experience*, trans. David Fernbach (London 1979), 116-22, 190-208; a more empirical analysis of the trend of productivity wage bargaining is found in John Eatwell, John Llewellyn, and Roger Tarling, "Money Wage Inflation in Industrial Countries," *The Review of Economic Studies*, 41 (1974), 515-23.

the rate of exploitation (s/v). Marx suggested that this was unlikely to be sufficient to match the rise in the organic composition of capital and in the long run, the rate of profit would tend to fall. Grossman argued that this tendency of the rate of profit to fall would lead to the ultimate collapse of capitalism, but he emphasized that the inevitability of capitalist collapse in no way implied its automatic collapse. The value of an objective analysis of the conditions under which capitalism would collapse was to highlight the weak links in the system that could serve as a guide to the political actions of the revolutionary proletariat. Thus, in Grossman's hands the theory of crisis was transformed from a predominantly cyclical phenomenon into a secular tendency.[16]

Grossman's interpretation of Marxian crisis theory has exerted a strong influence over the contemporary generation of Marxist theorists, primarily through the work of Paul Mattick. Mattick maintains that Marx's analysis of capitalist relations of production in value terms is an abstract schema designed to grasp the fundamental relations of production in capitalism. They are not intended to directly explain market phenomena. (1981, 50) The key to capitalist development is the creation of sufficient surplus value to sustain the further expansion of capital. (1981, 54) Mattick outlines the theory of the tendency for the rate of profit to fall and argues that this can be averted only so long as the increase in the rate of exploitation is sufficient to offset the rise in the organic composition of capital. "Inevitably a point will be reached at which the greatest quantity of surplus value that can possibly be extorted from the diminished working class is no longer sufficient to augment the value of the accumulated capital." Mattick emphasizes that this line of reasoning *represents an abstraction from the empirical* reality of the capitalist economy. ". . . the tendency of the rate of profit to fall . . . is not a process observable directly in reality but a drive to accumulate manifested in market phenomena. . . ." (1981, 54-5) This analysis of capitalist relations of production suggests the historical limits of capitalism as a mode of production but does not determine the exact moment of its collapse.

The tendency for the rate of profit to fall is offset by the counteracting tendencies specified by Marx in chapter 14 (which are real phenomena). As long as they are successful, the tendency for the rate of profit to fall is not observed. Only when the counteracting tendencies are insufficient to prevent this is the fall in the rate of profit reflected in the actual outbreak of crises. Thus, in Mattick's analysis, the outbreak of cyclical crises are actual observable manifestations of the more long-run underlying tendency for the rate of profit to fall. The crisis situation consists of an overaccumulation of capital relative to the amount of surplus value produced and realized. The crisis can only be overcome through the reestablishment of a rate of profit sufficient to stimulate further accumulation. Real crises tend to manifest themselves first in the sphere of circulation as realization crises, but capitalist crises originate neither in the sphere of production nor in the sphere or circulation, but rather in the tendency for the rate of profit to fall.

Crises serve the essential purpose of restoring the conditions conducive to a resumption of accumulation by reestab-

[16] Jacoby, "Politics of Crisis," 33-8; Grossman's work is the source of a great deal of confusion among contemporary Marxists. Mattick tends to share Jacoby's interpretation of the intent of Grossman's analysis (1981, 100-21), while other writers, particularly Itoh (127-9) and Sweezy (209-13) see Grossman as developing a much more mechanistic theory. This latter perspective results from what Jacoby suggests is a confusion of Grossman's critique of Otto Bauer and his own theory of crisis. On balance, it seems that Jacoby's and Mattick's interpretation of Grossman does more justice to the author's original intent.

lishing the lost proportionality between surplus value and the production of capital. This is accomplished both through the destruction of a proportion of the value of existing capital and through an increase in the rate of surplus value. Mattick views crises as an inseparable part of the process of capitalist accumulation. "capitalist development is a process shot through with, and inseparable from, crises in which the requirements of the reproduction of the capitalist mode of production assert themselves in a violent way." (1981, 72) Mattick differs from Grossman *in his treatment of crises as* essentially cyclical rather than secular features of capitalist economies, but concurs in the view that they do not, of themselves, produce the final breakdown of the capitalist mode of production. History does nothing itself in the Marxian analysis of events; it is people who make their own history. "In principle in developed capitalism any great crisis can become the final crisis. If it does not, it remains the presupposition of further accumulation." (1981, 121) While recognizing the necessary connection between the objective dimension of crisis and the subjective dimension of political consciousness, Mattick makes no progress in specifying the terms or conditions under which a periodic crisis of capitalism might become the final crisis.

Mattick applies his theoretical analysis of the nature of capitalist crises to a concrete treatment of crisis tendencies in contemporary capitalism. He rejects the idea that the Keynesian form of state intervention played a role in sustaining the strong rate of expansion in the post-war economy. The real source of post-war prosperity was the destruction of sufficient amounts of capital during the years of the Depression and World War II to restore the conditions necessary for profitable accumulation. In the short run, the Keynesian form of state spending may have improved the investment opportunities facing capital, but in the long run, it exacerbated the crisis tendencies of capitalism. State-induced production is unproductive in relation to capitalist profitability and constitutes a drain on the total production of surplus value. It thus absorbs a portion of surplus value that can enter into the accumulation of private capital heightening the crisis tendencies. In this context, the Keynesian welfare state resorts to inflation as a device to resolve the crisis by raising the rate of profit through a devaluation of the level of real wages. State policies designed to regulate the economy are merely governmental *reactions to superficial market phenomena* whose root causes lie in the real relations of production. "State reactions are therefore just as blind as these processes themselves; if they coincide at all with the events underlying developments on the market, it is by pure chance." (1978, 44) The post-war form of state intervention, in part a response to the crisis of the Great Depression, has in turn contributed to the current crisis. Mattick maintains that a new form of state intervention in response to the current crisis would merely represent one more stage in the continuous course of capitalist crisis and decay, leading ultimately to the final crisis. (1981, 160)

Mattick's interpretation of Marxian crisis theory has strongly influenced the work of a number of contemporary Marxist theorists, who adopt the falling rate of profit variant.[17] This approach to Marxian crisis theory has been subject to criticisms primarily based on the empirical observation that, to the extent it can be accurately measured, the organic composition of *capital has not risen continuously in the* manner predicted by Marx.[18] These critic-

[17] This group includes, among others, David Yaffe, "The Marxian Theory of Crisis, Capital and the State," *Economy and Society*, 2 (1973), 186-232; Mario Cogoy, "The Falling Rate of Profit and the Theory of Accumulation," *Bulletin of the Conference of Socialist Economists*, 7 (1973), 52-65 and Shaikh.

[18] Sweezy, 100-5; Ronald Meek, "The Falling

isms are based on studies which have attempted to convert Marx's concept of the organic composition of capital, a value relation, into price terms. Consequently, their conclusions are questionable on the grounds of whether the statistically measurable categories used to test the proposition accurately conform to Marx's value categories. Most of the criticisms fall wide of the mark to the extent that the law was not intended to describe observable market phenomena, but rather, underlying value relations.[19]

The real problem with the falling rate of profit variant is that it emphasizes one aspect of the tendency at the expense of the other. Authors such as Mattick have tended to focus on the exposition of "The Law as Such" in chapter 13 of Volume III, at the expense of the equally important aspects of the theory involving the counteracting influences (outlined in chapter 14). As a number of critics have recently argued, the law, as originally expounded by Marx, must necessarily include both aspects. In his discussion of the role of counteracting influences, Marx stressed that they are as much a necessary part of the process of capitalist accumulation as the law itself.[20]

The law of the tendency of the rate of profit to fall describes, at a high level of abstraction, the process of increasing the social productivity of labour through the substitution of embodied labour for living labour. Whether this process actually results in a fall of the rate of profit depends on a variety of other factors, the counteracting influences, which operate at the level of surface appearances in actual capitalist economies. Any of a number of these counteracting influences could be sufficient in itself to offset the tendency for the rate of profit to fall. A special distribution of technological change — particularly one which results in the introduction of innovations in certain sectors of Department I, that is, innovations with a capital-saving bias — could result in a stable or declining value composition of capital throughout the economy as a whole. Lebowitz argues that the search for such economies would likely be heightened by a fall in the rate of profit.[21]

Another counteracting influence with the potential to offset the effects of the "law as such" is a rise in the rate of exploitation. A higher rate of exploitation was conventionally thought of in terms of an extension of the working day or an increase in the intensity of the work process. However, it could also occur by means of a refinement of the labour process through the adoption of scientific management techniques to generate greater productivity increases. Alain Lipietz, among others, argues that just such productivity gains (especially in the industries of Department I) underlay the intensive regime of accumulation that gener-

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Rate of Profit," in *Economics and Ideology and Other Essays: Studies in the Development of Economic Thought* (London 1967), 142; Geoff Hodgson, "The Theory of the Falling Rate of Profit," *New Left Review*, no. 84 (1974), 70-4; Weisskopf, "Marxian Crisis Theory and the Rate of Profit," 371.

[19] Ben Fine and Laurence Harris, "Controversial Issues in Marxist Economic Theory," in *The Socialist Register, 1976*, ed. Ralph Miliband and John Saville (London 1976), 163-7.

[20] John Weeks, *Capital and Exploitation* (Princeton 1981), chap. 8; Fine and Harris, "Controversial Issues," 167.

[21] Lebowitz, "Marx's Falling Rate of Profit," 244. David Harvey cites several other sources which support this interpretation of the significance of the counteracting influences, although he himself opts for a different interpretation. See his *The Limits to Capital* (Oxford 1982), 182. This point is similar, but not identical to the one raised by Hodgson and others who adduce statistical evidence to indicate that the long-run tendency has been for the organic composition of capital to fall. Lebowitz's point is a more contingent one which grounds the innovation process within the context of the given relations of production prevailing in the economy at a given time.

ated the substantial rise in the rate of profit during the long wave of post-war prosperity.[22]

The basic argument of these authors is that the combined effects of the "law as such" and the counteracting influences are indeterminate. The exact nature of the interaction of the two forces in particular economies cannot be clearly specified. Any of the various influences identified by Marx have the potential to offset the effects of the rising social productivity of labour on the rate of profit. The contingent nature of Marx's original argument undoubtedly accounts for the singular lack of consensus among most contemporary treatments of this question. David Harvey suggests that much of the confusion derives from the fact that Marx was *diverted from his original intention* of emphasizing the inherent instability of the capitalist mode of production to a more tangential proposition of refuting the position of the classical political economists. According to Harvey, the essential point which Marx intended to convey is that

> ... the dynamics of technological and organizational change are critical for the stability of capitalism and that the paths of change compatible with balanced growth are, if they exist at all, highly restricted. ... The necessary technological and organizational mix could only ever be struck temporarily by accident and ... the behaviour of individual capitalists tends to perpetually de-stabilize the economic system. This is, ... I would submit, the fundamental proposition that lies buried within the falling rate of profit argument.[23]

The Overproduction of Capital Thesis

THE FOURTH VARIANT of the crisis theory, the excess capital theory due to the overproduction of capital, has been presented in a recent book by Makoto Itoh, entitled *Value and Crisis*. In the central chapter of the book, he contrasts the earlier versions of crisis theory which Marx had developed in the *Grundrisse* and *Theories of Surplus Value*, with that presented in *Capital*. The distinguishing feature of the mature version of Marx's crisis theory is the emphasis placed on the *overproduction of capital relative* to the available working population. As the process of accumulation proceeds it occurs in a capital-widening, rather than capital-deepening fashion. In a period of prosperity, capitalists are likely to add additional productive capacity based upon existing methods of production, rather than engaging in the widespread scrapping of existing fixed capital and its replacement with equipment embodying newer techniques of production. The accumulation of capital under these conditions is accompanied by an increased demand for labour which necessarily results in a rising level of wages and increased pressure on profit rates. (109)

The important question is why the excess capital cannot be discarded at this stage of the accumulation process without producing a dramatic crisis. Itoh argues that it is not possible to comprehend this process without including the analysis of the credit system that Marx presents in Part V of Volume III of *Capital*. Marx observed that fluctuations in interest rates tend to be closely associated with the business cycle, low interest rates corresponding to the phase of prosperity, rising rates to the turn in the cycle, and the highest rates to the period of crisis. The rate of interest and the level of wages tend to rise together under conditions of prosperity as the demand for additional labour and money capital both increase. The mechanism which triggers the actual occurrence of crisis is the increase in speculative activities. As wages rise due to the over-accumulation of capital, market prices in those sectors with a lower organic composition of capital begin to rise reflecting the *higher wage bill. The higher level of* wages also increases the demand for consumption goods or the goods used to produce them, triggering a rise in market prices. As the prices of these commodities start to rise, unusual speculative stockpiling of them will begin to squeeze the credit system, tightening the money markets and putting upward pressure on

[22] "Derrière la crise: La tendance a la baisse du taux de profit," *Revue Économique*, 33 (1982), 206-7.

[23] Harvey, *Limits to Capital*, 189.

interest rates. The overproduction of capital thus causes three related developments: a rise in wages, increased pressure on profit rates, and higher interest rates. The profit levels of capitalists are squeezed by both the higher wages and interest rates. (109-13)

The tightening of credit undermines speculative operations first, resulting in cut-rate sales to pay outstanding bills. This in turn precipitates a decline in prices and a chain reaction of insolvency. Credit institutions begin to restrict the supply of credit to protect themselves, further constricting production throughout the economy and accelerating the decline in employment. The expansion of the reserve army of labour intensifies the downward pressure on wages and restricts the consumption of workers, further reducing effective demand throughout the economy. The crisis forces some firms out of business and gives other capitalists an opportunity to overcome the crisis because of the immobility of large amounts of fixed capital. "The superabundance of idle industrial capital, unused loan capital, and unemployed laboring population, or low rates of profit, interest and wages coexist, unable to combine in this period." (116)

In this situation, the idle capital is depreciated rapidly because it can no longer be profitably operated. As the surviving firms begin to amass new amounts of money-capital, they invest in new equipment incorporating new methods of production which generally result in a capital-deepening process. The firms which successfully reequip are able to commence profitable accumulation even at lower price levels. The proportionality between the departments of production is restored through the process of renewed investment and labour begins to be reemployed at lower wage levels providing a higher rate of surplus value. As relations among capitalists, and between capital and labour, are restored, accumulation resumes at a higher rate of profit, and the industrial cycle has run its course once again. The business cycle, thus presented, including the necessary outbreak of periodic crises, constitutes the mechanism within the capitalist mode of production for adjusting value relations between capitalists and between capital and labour. (116-8)

The variant of crisis theory presented by Itoh overcomes many of the limitations of the earlier variants. It presents a clear and cohesive view of the mechanisms by which crises operate to restore the conditions of capitalist accumulation. However, it still suffers from a tendency to abstract one aspect of the process of crisis from the totality of Marx's exposition of the dynamics of capitalist economies. More specifically, Itoh bases his interpretation of crisis theory on one aspect of Marx's exposition in chapter 15 of Volume III of *Capital*, while ignoring the discussion of the earlier part of the chapter. The discussion of crisis presented in chapter 15 is intended to be the culmination of much of the analysis which precedes it. It must necessarily be read as a logically integrated argument although the manner of exposition makes it difficult to do so.

The exposition in chapter 15 follows the main outline of the argument which has preceded in the previous two chapters. The first section recapitulates the argument that the pressure to increase the social productivity of labour, inherent in capital, also contains within it the self-destructive tendency to alter the conditions required for profitable accumulation. The second section indicates that this is not a unilinear trend, but one which can be offset by factors such as the raising of relative surplus value or cheapening the factors of constant capital. "The two elements embraced by the process of accumulation, however, are not to be regarded merely as existing side by side in repose, . . . They contain a contradiction which manifests itself in contradictory tendencies and phenomena. . . . From time to time the conflict of antagonistic agencies finds vent in crises."[24]

[24] *Capital*, Vol. III, 248-9.

Marx then proceeds in the third section of chapter 15 to deal with the specific form in which the crises generated by these contradictory tendencies manifest themselves — the relative overproduction of capital. This overproduction of capital is reflected in all the forms which have normally been confused for the different sources of Marxian crisis theory. In David Harvey's words, "The overaccumulation of capital in general can immediately be translated into particular manifestations of excess capital 'held up' in all of the states it assumes in the course of circulation." The typical cyclical crisis is characterized by the following phenomena — an overproduction of commodities; surplus inventories of constant capital inputs and partially finished commodities; idle capital within the production process; surplus money capital and idle cash balances; surpluses of labour power; and falling rates of return on capital advanced expressed as falling real rates of interest.[25]

Thus, what is at issue is not so much the question of which variant of crisis theory best reflects Marx's original intention, but rather, the need to recognize that all the variants have abstracted from his analysis of the process by which the inherent contradiction between the forces and relations of production are resolved. Most of the energy invested in the debates around crisis theory has arguably been directed to the wrong question at the cost of ignoring the real one. The history of capitalist development suggests that a more critical task for contemporary Marxist theory is to analyze the role that crises have played in the transformation of capitalist relations of production and ultimately, of the working class itself.

III

Long Waves and Economic Crisis

THE DEVELOPMENT of such an analysis requires a recognition of the fact that each crisis cycle experienced in the history of capitalism fundamentally alters the forces and relations of production that constitute the basis of the next industrial cycle. Some of the confusion in Marxist crisis theory has originated with the failure to incorporate these effects of crises as a basic element of the theory. Not all Marxist theorists have distinguished between the typical crisis cycle and the way in which crises have been transformed through the different stages of capitalist development. A notable exception to this rule is found in the work of Ernest Mandel. In three separate books written over the past decade and a half, Mandel has developed an analysis of the dynamics of capitalist economies, which integrates an interpretation of its crisis tendencies with the historical pattern of its development. Mandel grounds his argument in a version of crisis theory which does not reduce the outbreak of crisis to a single causative factor: "any single factor assumption is clearly opposed to the notion of the capitalist mode of production as a dynamic totality in which the interplay of all the basic laws of development is necessary in order to produce any particular outcome." (1975, 39) Mandel identifies six variables essential to an analysis of the outbreak of crisis: the organic composition of capital in general and in the most important departments; the distribution of constant capital between fixed and circulating capital; the development of a rate of surplus value; the development of the rate of accumulation; the development of the turnover time of capital; and the relations of exchange between the two departments. The central dynamic which links the interplay of these six variables is the "tendency for the various spheres of production and the various component parts of the value of capital to develop unevenly." (1975, 42) Mandel thus shares the view that crises are the embodiment of the inherent instability of the capitalist mode of production.

Mandel's most significant contribu-

[25] Harvey, *Limits to Capital*, 195.

tion to the recent development of crisis theory has been his systematic differentiation between the periodic upswings and downswings of the industrial cycle and the longer periods of capitalist expansion and decline which he associates with the fundamental transformation of the technological base. He maintains that most Marxist analyses have considered the movement of the average rate of profit in two different time frames: the shorter term of the industrial cycle (analyzed by Marx) and the life cycle of the capitalist mode of production (at issue in the breakdown controversy). A third time frame, that of the long cycle (or long wave) must be introduced to provide both a consistent theoretical analysis and to insure that theory conforms to existing empirical data.[26] (1980, 11)

The periods of expansion and decline associated with the long cycles correspond to changes in the organic composition of capital and the rate of profit on the basis of an existing level of productive technology. Each shift from the downward phase of the long cycle to an upswing is associated with the transformation of the technological base of the capitalist mode of production. The history of international capitalism consists of four such long cycles of approximately 50 years' duration: from the end of the eighteenth century to 1847; from 1847 to the beginning of the 1890s; from the 1890s to the World War II; and from World War II to the present.[27] (1975, 120-1)

The concept of the long wave in capitalist economic development dates from the work of two Dutch Marxists, J. van Gelderen and S. de Wolff, writing in the early decades of the twentieth century. The economist generally given credit for the pioneering work on the concept, however, is a Russian, Nicolai Kondratiev. Kondratiev's theory of the long wave was derived from his observation of trends in the fluctuation of nineteenth-century price series. The occurrence of long waves was explained in terms of the durability, production period, and investment amount of particular types of capital goods. The source of the long cycle is the tendency of these basic capital goods, including large plants, railways, canals, and other infrastructural projects, to be built in clusters. The tendency for capital investment to cluster is the product of the availability of loanable funds. At the beginning of the expansion period, the supply of loanable funds is large and available at low interest rates. As investment proceeds, the supply of funds dwindles and interest rates rise, causing the pace of investment to slacken. The decline in major capital investments triggers the long period of the downturn. The decline of investment in turn eventually generates a rise in savings, low interest rates, and falling prices, creating the conditions for a new upswing.[28]

While Kondratiev claimed to base his theory of the long wave on insights derived from Marx, his argument has not been universally accepted by Marxists. Kondratiev's conclusion that the fluctuations in investment levels over the long cycle represented deviations from a long-term equilibrium implied that endogenous factors within capitalism tended to restore

[26] Due to the terrible lack of consistency in the way the respective terms are used by different writers, in this review the terms long wave and *long cycle of roughly fifty years consists of an* expansionary phase and a contractionary phase.

[27] While Mandel is the most important contemporary Marxist theorist of long waves, he is merely one of a number of writers who have contributed to the revival of interest in this area of economic theory over the past decade. A representative sample of these different positions can be found in Christopher Freeman, ed., *Long Waves in the World Economy* (London 1984).

[28] J.J. van Duijn, *The Long Wave in Economic Life* (London 1983), 64-8. A similar account of Kondratiev's theory is provided in Richard B. Day, "The Theory of the Long Cycle: Kondratiev, Trotsky, Mandel," *New Left Review*, 99 (1976), 76-7.

the economy to its long-term growth pattern. Kondratiev argued that his theory of the long cycle was the logical complement to Marx's theory of the role of crises in regulating the shorter industrial cycle of ten years' duration. However, as Richard Day has noted, this position was rejected by Trotsky, who argued that long cycles were governed by the unpredictable occurrence of external events, such as the absorption of new countries and continents, the discovery of new natural resources, and superstructural factors, such as wars and revolutions.[29] Kondratiev's views were equally unacceptable to more orthodox Soviet critics who denounced the theory for its *bourgeois optimism*.[30]

One of the most important treatments of the question of long waves was provided in Joseph Schumpeter's classic study of business cycles.[31] Schumpeter treated the long wave as one of three basic *types of fluctuation in business activity* intrinsic to capitalist economies. For Schumpeter, the source of fluctuations in business activity was the innovation process. He regarded the process of innovation as essentially discontinuous. Innovations tend to appear in swarms due to the nature of entrepreneurial activity. The appearance of one or more entrepreneurs with the ability to develop and implement new innovations paves the way for others and initiates an accelerating trend. The variations in fluctuations between the three types of cycles — the short (Kitchen), intermediate (Juglar), and long (Kondratiev) cycles — is accounted for by the different impacts of different types of innovations. He associated the long cycle with basic innovations, such as railroads, electricity, and motor cars.[32]

Schumpeter's view of long cycles as an inevitable part of the capitalist process led him to the conclusion that a purely economic breakdown of capitalism was highly unlikely. Writing in 1942 in *Capitalism, Socialism and Democracy*,[33] part of which has been reproduced as *Can Capitalism Survive?*, he argued that depressions of the severity experienced during the 1930s occurred with periodic regularity in capitalism. They were in themselves part of the long cycle which reflected the process of creative destruction that imbued capitalism with its dynamic nature.

> These revolutions periodically reshape the existing structure of industry by introducing new methods of production . . . new commodities . . . new forms of organization . . . new sources of supply . . . new trade routes and markets to sell in and so on. . . . Thus there are prolonged periods of rising and falling prices, interest rates, employment and so on, which phenomena constitute parts of the mechanism of this process of recurrent rejuvenation of the productive apparatus. (8)

While Schumpeter was ultimately pessimistic in answer to the question he had posed, his reasons had more to do with the "superstructure" of capitalist society (a point which shall be discussed in more detail below).

Mandel has integrated the concept of the long wave with the theory of the tendency of the rate of profit to fall to explain why the rate of profit tends to rise over the expansionary phase and to fall in the contractionary phase. A persistent decline in the rate of profit over a lengthy period occurs when the counteracting tendencies are relatively weak and conversely, the expansive phase of the long wave occurs when the counteracting tendencies are at work in a strong and synchronized fashion. In his most recent work on the subject, Mandel draws an important distinc-

[29] Day, "The Theory of the Long Cycle," 71.
[30] Richard B. Day, *The 'Crisis' and the 'Crash': Soviet Studies of the West, 1917-1939* (London 1981), 54-5, 91-4.
[31] Schumpeter, *Business Cycles. A Theoretical, Historical and Statistical Analysis of the Capitalist Process*, 2 vols. (New York 1939).
[32] van Duijn, *The Long Wave*, 97-106.
[33] (New York: Harper and Row, 1942).

tion between the transition which occurs at the peak of the expansionary phase and that which occurs at the trough of the contractionary phase. While the long-run trends in the rate of profit accurately describe the trend of the wave once it is initiated, as well as the transition from an expansionary phase to the contractionary one, the end of a period of stagnation and the transition to a renewed period of expansion can only be explained by extra-economic factors. These factors include wars of conquest, extensions and contractions of the area of capitalist operation, intercapitalist competition, class struggle, revolutions and counterrevolutions, among others.[34] (1980, 21)

Mandel makes a significant connection between the shift in the phases of the long wave and periods of intensive technological innovation as well as variations in the intensity of class struggle. The shift from the downward phase to the upward one is associated with an intensive period of technological innovation.[35] The degree of innovation is greatly retarded during the downward phase of the long wave because the profit expectations of entrepreneurs are not high enough to justify the massive investments in new technology. When the expansionary phase commences and rates of profit rise, capitalists find a large reserve of innovations readily available for application. The application of these new innovations on a massive scale constitutes a sustaining factor of the expansionary phase. (1980, 25)

Mandel links each of the four successive long waves (and their associated technologies) with a different form of organization of the labour process. Each phase of an individual wave is also characterized by a different degree of stability in the labour process. The long expansive period in the upward phase of the wave is associated with relatively little change in the organization of the labour process. The existing form of organization is tied to the technologies which prevail. The adequacy of the rate of profit reduces the incentive for capitalists to undertake radical changes in the labour process and the relative prosperity of the period makes capitalists loath to precipitate the intensified class struggle which changes in the labour process would induce. The prevailing stability is upset during the downward phase of the wave. Class struggle intensifies as capitalists attempt to realize a higher rate of surplus value. Consequently, they are less concerned with the implications of wholesale changes in the labour process. Historically, major changes in the labour process are initiated in an experimental form towards the end of the expansionary phase and become generalized throughout the economy during the depressive phase. The outcome is partly determined by the intensity of working-class resistance. Thus subjective factors, not endogenous factors (such as the periodicity of the long waves) determine the duration of the depressive phase. (1980, 55)

Mandel applies his theory of the long wave to analyze the development of western capitalism since the end of World War II. The expansionary phase which commenced at the end of the war was the product of several factors. The most important was the suppression of real wage levels resulting from the political defeat of the working class at the hands of fascism and the reconstitution of the reserve army of the unemployed during the depression years. The consequent increase in the rate of surplus value was

[34] In drawing this distinction, it appears that Mandel has been sensitive to the criticism levelled against the ambiguity of his argument in *Late Capitalism* by Richard Day in "The Theory of the Long Cycle," 79-82, and has clearly associated his own position with that of Trotsky, as opposed to that of Kondratiev.

[35] Mandel shares this view in common with Kondratiev's original work, as well as that of Schumpeter, although he clearly differs in his interpretation of the source of fluctuations in the long wave, cf. van Duijn, *The Long Wave*, 93-111.

sufficient to stimulate a new wave of investment. The higher level of investment activity led in turn to an increased pace of innovation associated with the third industrial revolution and the long-term expansion of the market on a world scale. The expansionary phase of the wave was sustained until the late 1960s by the absorption of large numbers of foreign and agricultural workers into the labour force of the advanced economies. Class struggle over the rate of surplus value intensified in the late 1960s with the contraction of the reserve army of the unemployed resulting from the absorption of the readily available reserves of labour. This signaled the end of the expansive phase of the long wave. The intensification of inter-imperialist rivalry in the same period provided an additional constraint on the strategies available to capitalists. (1975, 168, 180, 442)

The end of the expansionary phase of the long wave was visibly manifested in the generalized recession of the mid-1970s. In *The Second Slump*, Mandel documents the specific nature and intensity of the recession. In so doing, he extends his analysis of long waves to include the specific characteristics of the downswing of the fourth wave. The depressive phase of the current wave poses a particularly serious threat for capitalist hegemony because of the exceptionally high level of organization, numerical strength and combativity of the industrial working class, and the political vulnerability of existing bourgeois regimes. The growth of inter-imperialist rivalry, the closely related shift of productive activities to the newly industrializing countries of Asia and Latin America and the growing recourse to protectionism further increased the severity of the recession. The generalized recession of the 1970s represents an attempt to force workers to accept falling real wages, a deterioration of working conditions, an intensification of the work process to extract a higher level of surplus value, and a loss of the basic protection against unemployment and poverty won in the post-war period.

The outcome of the current crisis depends on the result of the social and political struggles that will mark the coming years. To restore the conditions necessary for a resumption of profitable accumulation and the expansionary phase of the next wave, "the capitalists must first decisively break the organizational strength and militancy of the working class in the key industrialized countries." (1980, 113) This constitutes a much more formidable challenge for capital than it did in the 1930s. The attack on labour's strength and organization is likely to stimulate an increase in the level of class consciousness and the emergence of a new vanguard of radicalized workers. In Mandel's estimation, the great strength of his theory of long waves of capitalist development is that it does not preclude the possibility of a renewed wave of expansion in the early 1990s. However, he believes that the social and human costs of the defeat of the working class necessary for the resumption of growth will make the privation experienced during the Great Depression pale in comparison. While recognizing the possibility of such an outcome, he is convinced that socialism constitutes the only viable alternative open to late capitalism.

Mandel's resurrection of the theory of long waves adds an important dimension to contemporary Marxist crisis theory in its attempt to overcome the dichotomy between the short-run theory of cyclical crises and the debate over the long-run tendency of capitalism to break down. Further, his analysis of the link between the successive phases of the long wave, the acceleration of the pace of technological innovation, the reorganization of the labour process, and the variations in the strength, cohesiveness, and militancy of the organized working class mark a unique contribution to Marxist theory. Most importantly, Mandel's theory

suggests that the cyclical crises associated with periodic fluctuations in the trade cycle have significantly different effects than the prolonged periods of structural crisis associated with the depressive phase of the long wave. The more severe structural crises associated with the long wave tend to revolutionize the technological base of production and reorganize the *labour process itself as part of the process* which lays the basis for the next period of expansion.

In spite of the obvious significance of Mandel's contribution, it suffers from a number of limitations. While he insightfully recognizes the critical role played by structural crises in the reconstitution of the productive base of the economy, he does not acknowledge the equally important transformative implications they have for superstructural factors. This is reflected in his discussion of the post-war economic role of the state in *Late Capitalism*. He attributes the significant increase in the degree of state intervention to three factors: the shortening of the turnover time of fixed capital, the acceleration of technological innovation, and the enormous increase in the cost of major projects of capital accumulation due to the third technological revolution. While he acknowledges that the expanded role of the state is also linked to the "periodic emergence of [the working class] as an independent force in political conflicts," (1975, 486) he fails to see that the very form and content of state intervention in post-war capitalist economies is both a consequence of the resolution of the structural crisis of the depressive phase of the last long wave and a precondition for the expansive phase of the post-war wave.

His reluctance to afford an integral role to political and social factors in the emergence and resolution of structural crises is reflected in his criticism of David Gordon. Gordon argues that the resolution of a long-term structural crisis is endogenous to the system, but recognizing the importance of social forces in the outcome of the crisis, he insists that the "social structure of accumulation" contributes as much to the restoration of a long period of expansion as the narrowly economic factors.[36] Mandel rejects Gordon's argument in his insistence that "the outcome of the depressive long wave is not predetermined," thus missing the point that social and political factors are as constitutive of *long periods of growth as more narrowly* economic factors. (1980, 52) Consequently, he is forced to resort to two analytically different principles to explain the origins of the transition at the peak and the trough of the long wave, undermining the consistency of his theory. Although one can sympathize with his desire to avoid the criticisms levelled at Kondratiev, the resulting inconsistency is unnecessary. If one accepts the principle that the only limit to capital is conscious human subjects (as Lebowitz argues), there is no need to insist that the transition from the depressive to the expansive cycle of the long wave cannot be generated by endogenous factors, the concept of crisis signifies the dual possibility of transformation and renewal. Thus, the structural crisis provoked by the depressive phase of each long wave contains both possibilities. The important challenge is to assess the factors which contribute to one

[36] Gordon defines this concept as the simple social aggregation of the structures of the constituent institutions necessary for rapid accumulation, cf. his "Stages of Accumulation and Long Economic Cycles," in *Processes of the World System*, Vol. 3 of *Political Economy of the World System Annuals*, ed. Terence K. Hopkins and Immanuel Wallerstein (Beverly Hills 1980), 17. Much of the same argument is reproduced in David M. Gordon *et al.*, *Segmented Work, Divided Workers: The Historical Transformation of Labor in the United States* (New York 1982), chap. 2. The linking of social and economic structures of accumulation suggested in Gordon's work bears an affinity to the concept of regulation and the notion of crisis developed by Aglietta, *Theory of Capitalist Regulation*, 9-17.

outcome over the other in the context of a particular crisis.

Mandel's willingness to pursue such a line of analysis is seriously constrained by his political commitment. His insight into the relationship between the depressive cycle of the long wave, the reorganization of the labour process and the incentives to technological innovation offers an invaluable insight into the process whereby class struggle intersects with capitalist crisis to change and reproduce the mode of production. The extension of this insight can serve as the basis for an analysis of the role of crisis in the reconstitution and reorganization of the working class. However, his commitment to a traditional form of revolutionary Marxism precludes the possibility of such an analysis. In the end, he reverts to the assertion that the application of correct political practices by the working class can overcome the incomprehensible suffering that is necessary for the resumption of the expansionary phase of the next long wave. The implications of Mandel's analysis deserve a more substantial treatment than he has afforded them and they will be pursued in the last section of this review.

André Gunder Frank's analysis of the current crisis reveals many of the same concerns that characterize Ernest Mandel's writing. Frank integrates the discussion of crisis and long waves into the world systems perspective that he and other writers, such as Immanuel Wallerstein, have formulated in their work on underdevelopment. Frank agrees that the crisis which emerged in the 1970s is the manifestation of the "B" or depressive phase of the current long wave of capitalist growth. He is in general agreement with Mandel's periodization of long waves, commencing with the first wave in the 1790s and extending to the present fourth wave. He also agrees that the critical factor in determining the duration of the upswing and the transition from the expansive to the depressive phase of the long wave is the decline in the rate of profit occasioned by shifts in the capital/labour ratio. (1980, 21-4)

Frank does not draw the distinction Mandel makes between the endogenous nature of the factors contributing to the shift from the upswing to the downswing of the long wave and the exogenous nature of the factors triggering a renewed period of expansion. The downswing of the long wave is a period of extended crisis laying the basis for the expansion that follows. For Frank, a crisis does not necessarily signal the breakdown of the process of capitalist accumulation, but rather a turning point when existing social, political, and economic relations are transformed:

> The crisis is a period in which a diseased social, economic and political body cannot live on as before and is obliged, on pain of death, to undergo transformations that will give it a new lease on life. Therefore, this period of crisis is a historical moment of danger and suspense during which the crucial decisions and transformations are made that will determine the future development of the system and its new social, economic and political base. (1981, 111)

He analyzes the process of change which gave rise to the long wave of post-war expansion in terms of the same critical variables identifed by Mandel: the destruction of large quantities of capital stock by the Depression and World War II; the restriction of real wage levels by the experience of fascism and the Depression; and the reestablishment of a stable international financial and trading regime. The end of the expansionary phase was first manifested in the fall in the rate of profit in the late 1960s and accelerating in the 1970s. The resulting stagnation of the 1970s was characterized by falling levels of employment, rates of capacity utilization, productivity levels and GNP, exacerbated initially by government policies to prolong the boom and subsequently by more restrictive policies. (1980 chap. 3) By the end of the decade, the international capitalist economy was firmly embarked on a path of economic decline which bore

all the marks of a classic capitalist crisis. The prerequisite of a renewed wave of expansion is a radical reorganization of the technological and social basis of production: excess capital must be written off; costs of production must fall; technology and the labour process must undergo deep-seated changes; labour costs must be reduced; the spatial and sectoral distribution of production must be modified throughout the world; and the rate of profit must be raised through a massive social and political struggle between capital and labour:

> If world capitalism has again entered a major crisis of accumulation, as we believe, another major capitalist investment boom cannot take place until capital has succeeded in reorganizing capitalist production on a new basis — either with the willing collaboration of labor, or by obliging labor to accede against its will. (1980, 98)

One of the important contributions which Frank makes is to stress the extent to which the current crisis of capitalism is truly a crisis of the world capitalist economy. He analyzes in detail the growing integration of the eastern European economies into the world capitalist system (both as markets for western goods and technology and as production sites), thus reducing their degree of imperviousness to western crises. (1980, chap. 4) The crisis in the West is transmitted even more rapidly to the countries of the Third World through the international trade and payments mechanisms. The increased migration of capitalist enterprise to free production sites in southeast Asia, Latin America, and the other "newly industrializing countries" represents an important component of the capitalist response to the crisis. The emergence of the New International Division of Labour, that is, a world market for labour and production sites, constitutes part of the profound transformation of world capitalism occurring in the context of the depressive phase of the current long wave. A related feature of the current transformation of the world economy is the spreading rationalization of production in the industrial economies through the application of advanced technologies.

Frank differs sharply from most contemporary Marxist theorists of crisis in his willingness to accept that the current crisis may well result in a restoration of the conditions required for capitalist accumulation. While not denying the role which conscious human subjects must play in the revolutionary transcendence of capitalism, his reading of the current political shift to the right in the industrial economies, the resurgence of nationalist and religious sentiment in the developing economies and the growing integration of the eastern economies into the world capitalist system leads him to a pessimistic view of its current potential. He concludes that his "observations and formulations suggest that there is a single world capitalist system, which is undergoing another in a series of long cycle crises from which it is likely to be able to recover through far-reaching and deep-going economic, social, political and cultural readjustments." (Amin *et al.*, 1982, 161)

Frank's pessimistic conclusions regarding the likely outcome of the current crisis differ sharply from those of his recent collaborators, Samir Amin, Giovanni Arrighi, and Immanuel Wallerstein. Wallerstein shares Frank's interpretation of the nature of the long waves of capitalist growth while the other two tend to regard the concept as dangerously abstract and are concerned that it leads to an excessive "economism." While all four authors believe it unlikely that the current crisis will lead to a socialist transformation, Amin, Arrighi, and Wallerstein believe that the eventual demise of world capitalism is virtually inevitable. "They believe this to be so because they believe, as did Schumpeter, that it is capitalism's successes that will breed its failure; that the more capitalism expands, recuperates oppositions, and adjusts diffi-

culties, the more it is led into impasses from which there is no exit." Frank remains much more pessimistic; although he does not insist that capitalism is eternal, he fails to foresee the configuration of political forces on a world scale that can signal its demise. (Amin *et al.*, 1982, 243)

Without necessarily agreeing with all of Frank's conclusions, it is important to recognize that in many respects his view of the nature and role of capitalist crisis captures much of Marx's original intent. Crisis is a mechanism of adjustment which allows capital to overcome an internal barrier to its continued self-expansion. Crises are thus necessary in this functional sense for the continued self-expansion of capital, but such a regeneration of the accumulation process is not inevitable. Frank thus stands out from the majority of contemporary Marxist theorists in his willingness to recognize the continued self-expansion of capital as an equally logical possibility of a given historical crisis. He stops short of suggesting what form the reconstituted relations of production might take or the implications of the current crisis for the reconstruction of the working class, but his analysis points in that direction.

IV

Implications of the Current Crisis

MARXISM REMAINS BEDEVILLED by the ongoing tension between the two possibilities contained within the theory of crisis — that of renewal and that of transformation. Each crisis may potentially be resolved by means of a transformation or a reconstitution of the relations of production. However, much of recent theorizing has focused on the role of the current crisis in generating the preconditions for the transition to socialism to the exclusion of an analysis of its implications for the reconstitution of capitalist relations of production.

This blindspot in Marxist crisis theory can be attributed to the Hegelian influence on Marx. The Hegelian influence contains both analytical principles for the interpretation of history and incorporates elements of Hegel's teleological view of human development as involving progress towards the manifestation of reason in human affairs. Although Marx claimed to stand Hegel on his head in substituting his materialist dialectic for Hegel's philosophical dialectic, the teleological elements were carried over relatively intact.[37] In spite of the significant evolution of Marx's thinking over a 40-year period, the analytical basis for the revolutionary mission assigned to the working class remained firmly rooted in Hegelian teleology. The extrication of Marxist crisis theory from that teleology is a prerequisite for an analysis of the full range of possible outcomes to the current crisis.

The extension of Marxist crisis theory in the direction proposed requires a reevaluation of the historical significance of capitalist crises. The essential role of capitalist crises, particularly the structural crises associated with the depressive phase of the long wave, has been to transform the existing relations of production. In so doing, they revolutionize the nature of the labour process and alter the nature of the working class itself, in order to facilitate the continued accumulation of capital. The dynamic conflict between labour and capital has been the driving force behind the crisis-laden development of the capitalist mode of production. As James O'Connor has observed,

> Worker struggles were motors of capitalist development in the deep sense of strengthening

[37] André Gorz, *Farewell to the Working Class: An Essay on Post-Industrial Socialism*, trans. Michael Sonenscher (Boston 1982), 16-22; Anthony Giddens, *A Contemporary Critique of Historical Materialism*, Vol. I: *Power, Property and the State* (Berkeley and Los Angeles 1981), 73; a similar point is emphasized by Chantal Mouffe in "Working-Class Hegemony and the Struggle for Socialism," *Studies in Political Economy*, no. 12 (1983), 8-13.

a model of accumulation which in the course of crises periodically subverted the workers' own social bases of resistance by recomposing labor and the work force itself.[38]

The precise effect that crises have had on the reconstitution of the labour process and the working class has varied with each successive stage of capitalist development. Itoh notes that the nature of crises underwent a significant change during the late nineteenth century. The flow of British capital investments overseas, the commencement of the railway era, particularly in North America, and the growth of the iron and steel industries introduced fundamental changes in the organization of capitalist production and the international financial system. As a consequence of these changes, the depression which commenced in the 1870s proved to be longer lasting than previous cyclical crises. The increased returns on British financial capital invested overseas postponed the immediate financial impact of the crisis and delayed the process of depreciating and replacing existing excess capital. (141-2)

During this period of chronic stagnation, the expansion of productive capacity in German and American industry began to challenge the hegemonic position of British capital. The accelerating concentration of capital and the growing integration of financial and industrial capital through the rise of the joint stock company gave rise to the modern oligopolistic firm. Increased international rivalry between the major capitalist powers opened a new phase in colonial expansion, leading to the modern form of imperialism. Capitalist production was transformed by a radical restructuring of the labour process and the introduction of new technological principles, which represented an attempt to raise the rate of surplus value through an intensification of the rate of exploitation and the more effective subordination of labour within the production process.

The restructuring of the labour process was associated with the increased mechanization of manufacturing. Recent studies of changes in the labour process have distinguished between primary, secondary, and tertiary forms of mechanization. The diffusion of the steam engine during the mid-nineteenth century initiated the transition from manufacture to machinofacture and constituted the basis of primary mechanization. Towards the end of the century, the technical superiority of the internal combustion and electrical engines resulted in their gradual replacement of the steam engine. The most significant consequence of primary mechanization was the increase in the speed and scale of the transformation process as part of industrial activity.[39]

The increase in productive capacity resulting from primary mechanization generated a growing recognition of the limitations of existing transfer systems for moving components between the various transformative locales in the process. The overall efficiency of the productive process was further retarded by the significant conflicts which emerged in this period between groups of skilled machinists trying to maintain their traditional control over the labour process and management. The problems engendered by the lack of coordination of the transfer process and the conflict over control were gradually resolved in the early twentieth century by the introduction of the Taylorist principles of scientific management. This combined the systematic organization of work, the interchangeability of parts and the use of specific machines for the efficient transfer of different components of production through different parts of the process. Together these changes constituted the phase of secondary mechanization that propelled the upswing of the third long wave of

[38] James O'Connor, *Accumulation Crisis* (London 1984), 49.

[39] Rod Coombs, "Long Waves and Labor-Process Change," *Review*, 7 (1984), 678-9.

capitalist expansion.[40] Michel Aglietta denotes the organization of the labour process associated with the stage of secondary mechanization as "Fordism."

> Fordism further developed the mechanization of labour, increased the intensity of work, radicalized the separation between manual and mental labour, rigorously subjected workers to the law of accumulation and turned scientific progress against them as a power serving the uniform expansion of value.[41]

The resulting transformation of the labour process had profound implications for the development of the working class in the twentieth century. The mechanization of production greatly undercut the historical strength of craft workers and intensified divisions between craft and industrial workers. Combined with the defeats suffered by labour in the aftermath of World War I, and the rise of company unions, particularly in North America, these developments weakened the position of the organized working class. The higher levels of productivity generated by the greater mechanization of production meant that a smaller proportion of the active labour force needed to engage in manual labour in order to sustain a higher standard of living. The more highly differentiated division of labour between the design and managerial aspects of production, on the one hand, and the physical aspects, on the other, produced a radical transformation of the occupational class structure. Rather than growing continuously to become the numerically dominant component of the population, the industrial working class reached its absolute peak in most industrial countries in the decades from 1890 to 1910 (surpassing 50 per cent of the population in Belgium alone) and has declined progressively since. As Adam Przeworski has perceptively noted, the incontrovertible reality of this fact has altered the nature of working-class politics in the capitalist democracies forever.[42]

The reconstitution of the relations of production in the early twentieth century, itself a response to the last great crisis of the nineteenth century, laid the basis for the next crisis of the 1930s. The growing predominance of oligopolistic firms, coupled with the substantial rise in productivity occasioned by the process of secondary mechanization, produced a new form of monopolistic price behaviour which erected a barrier to the continued self-expansion of capital. By the mid-1920s, substantial excess capacity in the form of fixed capital had begun to reappear, particularly in the American economy. The problem of excess capacity was intensified by the restrictive effect that the oligopolies exerted on the consuming power of the mass of industrial and salaried workers. The existing excess capacity and restricted consuming power had led to a decline in the level of capital investment in the American economy by the decade of the 1920s. (Steindl, 166-7) At the same time, the excess money capital generated by the increased concentration of finance capital produced the great speculative boom that characterized the last years of the decade. The end of the boom in the stock market crash of 1929 signalled the onset of the crisis. The crisis, which originated in the United States, spread to the other capitalist

[40] Coombs, "Long Waves," 680; cf. also Mandel (1980, 42-6); O'Connor, *Accumulation Crisis*, 41-6.

[41] Aglietta, *Theory of Regulation*, 117-8; the concept of Fordism, while derived from Gramsci's use of the term in *The Prison Notebooks*, is based on the discussion in Christian Palloix, "The Labour Process: From Fordism to neo-Fordism," in *The Labour Process and Class Struggle*, CSE Pamphlet no. 1 (London 1976), 46-7; cf. also Mike Davis, " 'Fordism' in Crisis: A Review of Michel Aglietta's *Régulation et crises: L'expérience des États-Unis*," *Review* 2 (Fall 1978), 213-17.

[42] Przeworski, "Social Democracy as an Historical Phenomenon," *New Left Review*, 122 (1980), 39-40.

countries through the collapse of the international financial regime.[43]

The Great Depression of the 1930s was the most severe crisis experienced *since the advent of capitalism*. The crisis signalled a rupture between the new intensive regime of accumulation associated with the Fordist reorganization of the labour process and the prevailing mode of regulation.[44] The economic crisis of the 1930s was mirrored in the political crisis embodied in the rise of fascism and the ensuing military conflagration of World War II. While the resolution of the crisis depended to a large extent on the outcome of the war, the basis for the post-war return to prosperity rested upon the institution of a new mode of regulation corresponding to the Fordist regime of accumulation. The new mode of regulation emerged as a largely unintended consequence of working class resistance to the impact of the crisis. The rise of *industrial unionism in the United States* in the political context of Roosevelt's New Deal provided the impetus for the institutionalization of collective bargaining relations which guaranteed that the real wages increased in line with productivity gains in the post-war era.[45] An additional factor that contributed to the new mode of regulation was the concessions made by the state in the area of social reforms (symbolized by the Beveridge White Paper on Social Insurance and Allied Services in the United Kingdom) to secure popular consent for the massive mobilization required for the war effort.[46]

The resolution of the crisis of the 1930s, partly through the institution of a new Fordist mode of regulation, resulted in an extension and deepening of the role of the state in capitalist economies — referred to as the foundation of democratic capitalism.[47] The basis of democratic capitalism was a compromise which left *the investment decision-making process* in the hands of private enterprises while the state assumed responsibility for providing stable levels of employment and income. It included acceptance of a commitment to maintain adequate levels of support for those individuals unable to provide for their needs through direct participation in the labour market. This commitment was embodied in the institution of social insurance programmes to deal with old age, unemployment, ill-health, and a variety of disabilities. The ensemble

[43] See the discussion in Davis, " 'Fordism' in Crisis," 222-5; and Itoh, 144-9.

[44] Regime of accumulation and mode of regulation are terms employed by members of the regulation school of France. Regime of accumulation is defined as "a systematic mode of dividing and reallocating the social product, which achieves over a long period a certain match between the transformation of the conditions of production . . . and transformations in the conditions of final consumption. . . ." Mode of regulation is defined as "the ensemble of institutional forms, the networks, the explicit or implicit norms, which assure the compatibility of behaviours in the framework of a regime of accumulation, in conformity with the state of social relations, and thereby with the contradictions and the conflictual character of the relations between agents and social groups." Alain Lipietz, "The Globalization of the General Crisis of Fordism," Studies in National and International Development Occasional Paper No. 84-203 (Kingston 1984), 6, 8. The concept of mode of regulation employed by Lipietz bears a strong affinity to David Gordon's notion of the social structure of accumulation discussed above. While the concept of long waves is explicitly eschewed by members of the regulation school, it is possible to conceptualize the different regimes of accumulation and modes of regulation as corresponding to the various long waves of capitalist expansion.

[45] Davis, " 'Fordism' in Crisis," 225-9.

[46] Richard M. Titmuss, "War and Social Policy," in *Essays on 'The Welfare State'*, 2nd ed. (London 1963), 85-6.

[47] Adam Przeworski and Michael Wallerstein, "Democratic Capitalism at the Crossroads," *Democracy*, 2 (1982), 54; cf. also Joachim Hirsch, "The Fordist Security State and New Social Movements," *Kapitalistate*, 10/11 (1983), 76-80.

of new institutional roles for the state in democratic capitalism found its ideological rationale in the theory and practice of Keynesianism. The real genius of Keynesianism was its success in harnessing workers' reaction to the intensification of the labour process to tie the level of wages *and social consumption to increases in* productivity.[48]

The final element in the post-war reconstruction of the social relations of production was the creation of a set of financial and trading arrangements designed to stabilize international trade and investment under American hegemony. Symbolized by the Bretton Woods agreement, the post-war financial regime reestablished a stable system of currency exchange and a mechanism for balance of payments adjustment secured by the dominant position of the American currency. This new regime opened the way for increased international trade and investment, based on the increased export of American goods to overseas markets, and the spread of United States-based multinationals abroad. By the early 1960s, these multinationals found themselves competing with the transnational flow of European and Japanese capital, *resulting in an even greater degree of inte*gration and interpenetration of the capitalist economies.[49]

The post-war reconstitution of the social relations of production facilitated the fourth long wave of capitalist expansion. The transformation of the occupational class structure, initiated by the widespread diffusion of the processes of secondary mechanization, accelerated rapidly under the economic stimulus of the boom. The technological pattern underlying the fourth long wave was characterized by the growth of a new layer of white-collar workers between managers *and supervisors, and the reduction in the* number of manual workers required for a given level of output, although absolute increases in levels of output concealed the dimensions of this change to some extent. The changes in occupational structure were accompanied by similar changes in income distribution. The structure of wages established by the new institutions of collective bargaining insured that blue-collar wages increased in line with productivity gains, especially in primary labour markets. The complex hierarchy of salaries introduced by the new principles of management and the growth of white-collar occupations insured that the ranks of middle income earners began to swell. The changes in income distribution were also translated into changes in product demand, especially for mass produced consumer durables, which also helped fuel the post-war boom.[50]

Many of the institutional changes in the *post-war role of the state, especially the* universal provision of social programmes such as health care, pensions and family allowances, and the dramatic expansion of the institutions of secondary and higher education, reflected the changing political concerns of the newly emergent occupational groups in advanced capitalist society. The growth of the public sector, the rise of a white-collar salariat and managerial class and the increase in educational and other professional occupations, all created new social strata whose political interests were not necessarily compatible with those of the traditional industrial working class. The

[48] This point is made by A. Negri, *La class ouvrière contre l'état*, quoted in Moulfe, "Working-Class Hegemony," 16-7; a similar point is made by O'Connor in *Accumulation Crisis*, 202-4; cf. also the discussion in Lipietz, "The Globalization of the General Crisis," 10-4.

[49] This account draws on my discussion in "The Crisis in Advanced Capitalism;" cf. also Giovanni Arrighi, "A Crisis of Hegemony," in Amin *et al.*, and Lipietz, "The Globalization of the General Crisis," 14-7.

[50] Carlota Perez, "Structural Change and Assimilation of New Technologies in the Economic and Social Systems," *Futures*, 15 (1983), 366-70.

rise of these new social strata, the expansion of the public sector, and the institutionalization of working-class politics under the hegemony of social democratic Keynesianism called into question the political role ascribed to the industrial working class in Marxist theory.

One of the most astute students of capitalism, Joseph Schumpeter, suggested more than 40 years ago that the real threat to the future of capitalism might lie in its successes rather than its failures. As was noted above, Schumpeter was relatively optimistic with respect to the purely economic prospects for capitalism. However, he identified the supplanting of the classical role of the entrepreneur by the bureaucratized functioning of the oligopolistic firm as the main danger to the survival of capitalism. Equally threatening was the rise of a new social stratum whose social interests were fundamentally inimical to those of capitalism — the intellectuals. He recognized that the harnessing of science and technology to revolutionize the labour process placed a strong premium on the role of educational institutions. The value and reward systems of professional educators were not strictly governed by the capitalist ethos. He doubted the ability of capitalism to sustain full employment among this emerging social stratum, driving them towards an alliance with the labour movement to promote social policies conducive to their own interests. The outcome of this alliance would be the creation of a social atmosphere that "explains why public policy grows more and more hostile to capitalist interests, eventually so much so as to refuse on principle to take account of the requirements of the capitalist engine and to become a serious impediment to its functioning." (94)

While Schumpeter clearly recognized the potential significance of the changing social context of capitalism, he exaggerated the threat posed by the newly emerging social stratum. A growing number of writers in recent decades have espoused a view close to Schumpeter's in questioning traditional Marxist assumptions concerning the leading role of the working class in the process of socialist transformation. The newly emergent social strata, or new social movements, have been suggested as potential substitutes for the traditional role of the industrial working class as revolutionary subject. These suggestions have included state workers and state clients,[51] a variety of new social movements based upon "post materialist" values (such as the peace, ecology, and women's movements)[52] or the non-class of post-industrial proletarians.[53]

Most of these suggestions risk substituting a new form of teleology for the Marxist one they are so critical of. While careful to differentiate their view from that of traditional Marxism, these authors fall into a similar trap by assuming that these groups represent potential new agents for the transition to socialism. In so doing, they fail to acknowledge that these strata or movements may represent new social forces pushing towards the emergence of a new socio-political infrastructure, or mode of regulation, which could fuel the next long wave of expansion, in much the same fashion that working-class organization and resistance during the depression years contributed to the foundation of post-war democratic capitalism.

A critical assessment of the effect of the current crisis on the reconstitution of the social relations of production is necessary in order to assess the prospects for the emergence of such a new phase of capitalist expansion. The social relations of production associated with Fordism began to encounter their own barrier to growth in the late 1960s and early 1970s.

[51] O'Connor, *The Fiscal Crisis of the State*, chap. 9.

[52] Hirsch, "Fordist Security State," 85-6; Claus Offe, "The Separation of Form and Content in Liberal Democratic Politics," *Studies in Political Economy*, no. 3 (1980), 12-5.

[53] Gorz, *Farewell*, chap. 6.

The decade of the 1960s witnessed the intensification of inter-imperialist rivalry among the major capitalist powers. The existence of surplus capacity in key secondary manufacturing industries, combined with an increasing degree of international competitiveness and falling levels of productivity to put pressure on levels of profitability.

The extensive application of the principles of Fordism throughout the major branches of industry provided the key to the sustained increase in levels of output and productivity during the post-war period. By the late 1960s, however, most of the reservoir of productivity that could be tapped through the application of these principles had been exhausted. Capital's efforts to sustain high levels of surplus value extraction through the progressive scientization of the labour process encountered growing resistance from workers' organizations. Greater tightness in labour markets, coupled with the experience of two decades of steady rates of growth, produced a wave of worker militancy which manifested itself in the form of rising levels of absenteeism, contract rejections, wildcat strikes, and industrial militancy, symbolized most graphically by the events of May-June 1968 in France and the "hot autumn" of 1969 in Italy. The exhaustion of the possibilities of further productivity gains through the post-war intensive regime of accumulation imposed downward pressure on profit rates, signalling the onset of the current crisis.[34]

Faced with the deepening crisis of Fordism in the late 1970s and 1980s, capital responded in a variety of ways that threaten a restructuring of the labour process as radical as that which occurred in the early part of the century. The increased pressure on rates of profitability in the industrialized economies in conjunction with the growing efforts of a large number of developing countries induced the spread of Fordism to the periphery. The globalization of Fordism is directly attributable to the working of the post-war regime of accumulation. Two decades of productivity-linked wage increases in the industrial countries created a sufficiently large differential with wages in the developing countries to overcome the cost disadvantages of relocating to the periphery. Multinational capital is taking full advantage of the economies of scale created by the post-war revolution in transportation and communications technology to tap the vast potential reserve army of labour in the developing countries. Peripheral Fordism is described as the judicious combination of the traditional import substitution model of industrialization with a newer model of export substitution to take advantage of the opportunities to produce with cheap labour from export free zones for sale in the industrialized core.[35]

The spread of peripheral Fordism represents, at best, a limited solution to the current crisis. The trend towards "deindustrialization" in the core countries, in the context of the contractionary fiscal and monetary policies of the past decade, restricts consumer demand to the point where the increased production of the periphery cannot be absorbed. This raises the prospect of prolonged stagnation for the countries of both the core and the periphery.[36] Furthermore, the reimportation of these productive activities

[34] Lipietz, "The Globalization of the General Crisis," 21-2; evidence in support of this argument is presented in Lipietz, "Derrière la crise," 215-27, and Samuel Bowles, David M. Gordon, and Thomas E. Weisskopf, *Beyond the Waste Land: A Democratic Alternative to Economic Decline* (New York 1983), chap. 6.

[35] Alain Lipietz, "Towards Global Fordism," *New Left Review*, no. 132 (1982), 44-5; Folker Frobel, "The Current Development of the World-Economy: Reproduction of Labour and Accumulation of Capital on a World Scale," *Review*, 5 (1982), 542.

[36] Alain Lipietz, "How Monetarism Choked Third World Industrialization," *New Left Review*, no. 145 (1984), 71-87.

to the core countries through an ongoing process of technological innovation cannot be ruled out, with the prospect for even greater labour displacement on a *global scale*.[57]

The intensified pressure to further reduce labour costs, raise productivity levels, and restore profitability rates has provided the incentive for capital to take full advantage of recent technological developments in microelectronics and robotics. The common feature of these new technologies is the increased degree of control and flexibility that they provide management over the work force and every phase of the labour process. Taken together, they constitute the basis for the tertiary form of mechanization which may potentially provide the basis for the expansionary phase of the next long wave.[58]

The extensive application of the new forms of tertiary mechanization in a wide range of manufacturing industries will produce further changes in the occupational structure of the industrialized economies. As Gorz has recently argued, the current transformation of the labour process *is reducing the traditional industrial* proletariat of the nineteenth century to a small minority of the total population. Writing in the American context, Bob Kuttner has described the same phenomenon in terms of "the declining middle." On the basis of evidence currently available, he argues that job opportunities in the American economy are polarizing. There will be increasing concentration of jobs at the extremes of the occupational structure with a certain proportion concentrated in knowledge-intensive occupations involved in the design and management of more automated forms of production. At the other extreme will be a large number of jobs in both manufacturing and the service sector with low skill requirements, poor levels of pay, and little security of employment.[59] Although these predictions may prove to be excessively pessimistic, it is clear that the current crisis will *profoundly alter the nature and role of the* industrial working class. The implications of the current crisis for the recomposition of the working class place even greater obstacles in its path as revolutionary subject than have existed previously.

These trends in both the international division of labour and the restructuring of the industrialized economies raise the possibility of the emergence of a new mode of regulation as the outcome of the current crisis. However, Alain Lipietz suggests the emergence of such a mode of regulation is dependent on the political resolution of three related sets of problems: the immediate relations of production; the overall socio-economic relations; and a new international configuration. Two possible paths lie open for a post-Fordist reorganization of the labour process. It may further enhance the disjuncture between conception and implementation first effected by the practice of scientific management, *or it may promote the reintegration* of mental and manual labour leading to the opening of greater opportunities for workers to employ their collective intellectual capacities in the specialized design of more precision engineered products.[60]

The resolution of this first dilemma raises the second critical issue of who will benefit from the material gains wrought

[57] Rhys Jenkins, "Divisions Over the International Division of Labour," *Capital and Class*, no. 22 (1984), 46.

[58] Coombs, "Long Waves," 681.

[59] Gorz, *Farewell*, 69; Bob Kuttner, "The Declining Middle," *Atlantic Monthly*, (July 1983), 60-2. cf. also Eileen Applebaum, "Winners and Losers in the High-Tech Workplace," *Challenge*, (September-October 1983), 52-5.

[60] Lipietz, "The Globalization of the General Crisis," 39-41. Robert Reich asserts that changes in the latter direction are essential for the future survival and adaptation of the productive apparatus of the industrial economies, *The Next American Frontier* (Middlesex, England and New York 1984), 127-39.

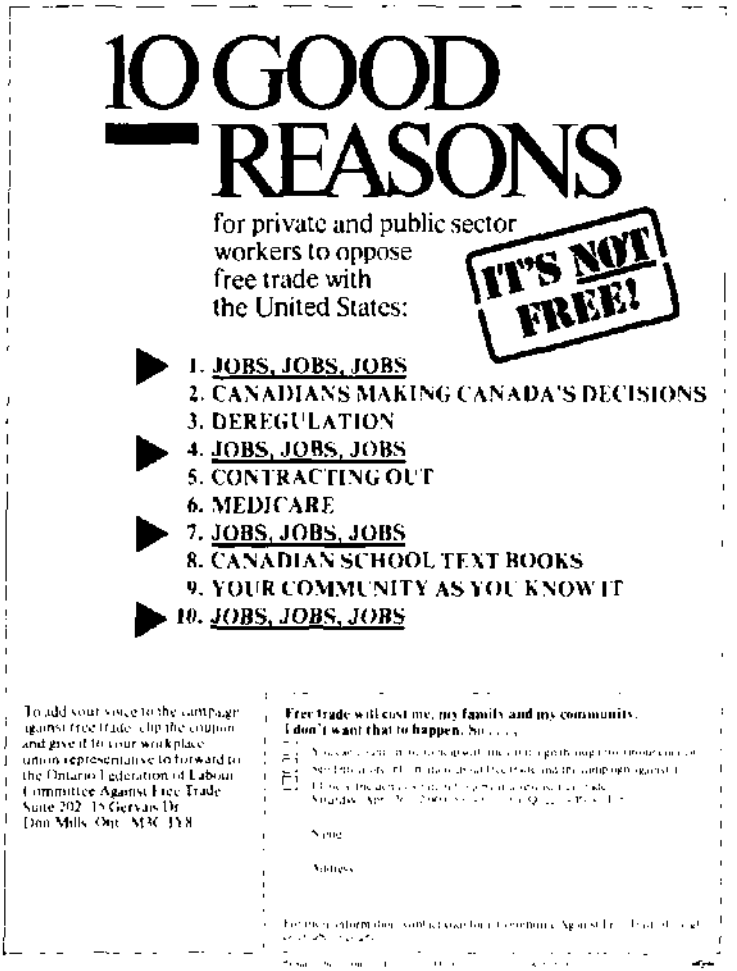
by the productivity increases of the new technological paradigm. It may result in the mobilization of even larger masses of fixed capital than currently, with the benefits directed to enhancing profits rather than final demand consumption. Alternatively, a new negotiated division of the benefits of productivity gains may provide the mass of workers with access to new consumption goods and a dramatic increase in consumption time, resulting from a substantial decrease in necessary work-time.[61]

The adoption of the more progressive solution to the distributional issue may pose major problems for the competitiveness of individual economies in the evolving international economy. Two alternative possibilities lie open. The competitive struggle for international economic hegemony may assume a chronic "beggar thy neighbour" character, in which the efforts of individual powers to sustain their own economies at the expense of others will produce prolonged stagnation. Conversely, the recognition of mutual interest may lead to the creation of new international economic institutions to accommodate the introduction of the more flexible form of national distributional policies, or, at worst, to facilitate a progressive delinking from the world economy of those nations which adopt the progressive path.[62]

The prospects outlined above are merely suggestive of the possible paths out of the current crisis. The challenge for a Marxist theory of crisis is to critically assess the probability for a reconstitution of capitalist relations of production along these lines against that of a socialist transformation. The historical development of capitalism has involved a complex process of transforming the mode of production on a social, technological, political, and geographic basis. The process of change arises from the contradictions that inhere in capitalist relations of production. Crises are the visible manifestation of those contradictions; but rather than signalling the conditions for the transformation of the mode of production, they have historically provided the impetus for a reconstitution of the relations of production. A Marxist theory of crisis which wishes to retain its relevance as both an analytical framework of capitalist society and a guide to political action must seriously address this possibility in the context of the current crisis.

[61] Lipietz, "The Globalization of the General Crisis," 41-2. The second alternative is enthusiastically embraced by Gorz, *Farewell*, 126-44.

[62] Lipietz, "The Globalization of the General Crisis," 42-3.



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