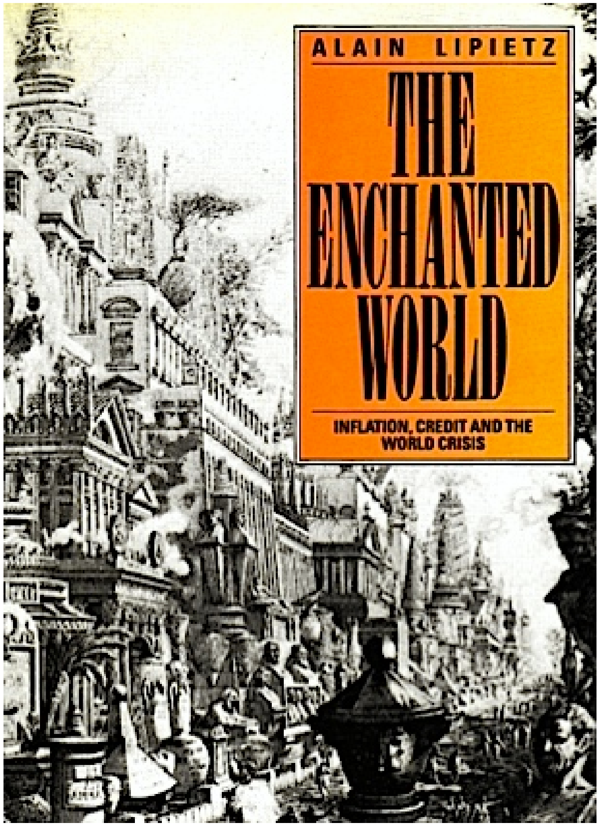
ALAIN LIPIETZ
THE ENCHANTED WORLD
INFLATION, CREDIT AND THE WORLD CRISIS

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Presentation

Alain Lipietz's book should not require any introduction or explanation: it is complete in itself, and at the same time it extends and concludes the analysis he put forward in *Crise et Inflation: pourquoi?* Like that book, this is a rigorous examination of the problems of money and inflation, which he conducts on the basis of ideas first put forward by Marx. Neither book, however, is in any sense a 'mechanical application' of Marx's formulations; rather, Lipietz uses the keys offered by Marx to reconstruct a theoretical field, to construct something new.

A book of this length does not of course provide enough scope to analyse all the questions raised by the work of reconstruction, but the problems he does analyse contain a number of extremely important lessons. I want to emphasize some of the fundamental points and draw attention to their concrete significance for the times in which we live.

First of all, this book restores the concepts of value and capital to their full meaning by developing Marx's analysis of *value in process*. Lipietz also shows how *values* and *nominal prices* are related, which he does by reinstating Marx's distinction between the *exoteric economy* — which is immediately visible and has its own apparent laws — and the *esoteric economy* whose workings cannot be seen directly. Only theoretical analysis can define the deeper laws which govern those of the exoteric economy and whose operation can wipe out any attempt to intervene on the basis of the apparent functioning of the economy. As the relations between these two sides of reality are brought to light, the nominal aspects of the economy acquire their full meaning. And taking account of them illuminates the importance of the role played by the exoteric economy in the dynamic of the capitalist mode of production — a dynamic which is also influenced by the changing forms of regulation of capitalism.

Marx therefore, so far from being merely a nineteenth-century economist, provides us with keys for the understanding of contemporary capitalism, even though it is very different from the one he knew. To see and grasp them, however, it is necessary to move away from one particular reading of Marx which endlessly goes over a few fragments of his vast oeuvre. Once off the beaten track, it is possible to see the full modernity and novelty of work that is now over a hundred years old.

The main thesis of this book will offend many Marxists, but it is essential to any understanding of the crisis and of inflation. Extending the analysis of value fetishism, Lipietz argues that credit money, bank money in particular, has now become 'real money', whose expansion is crucially important. It assures 'the *a priori* canonization of private labour as social labour', in what are obviously highly individual conditions, that give rise to specific contradictions.

The practical implications of this argument become very clear when we look at the unprecedented internationalization of credit money that has taken place over the last few decades, as exemplified in the expansion of the mass and economic role of special drawing rights and Eurodollars. The American balance of payments deficit fuels international credit money, which is recognized as fiduciary currency. At the same time institutions such as Eurobanks are springing up and privately issuing international credit money. Yet this whole edifice is terribly fragile, for the creation of credit money involves a loan for which repayment can always be demanded, even though the issuer of the money may be unable to repay. Hence the instability of the monetary practices that have grown up over the past few decades. On the one hand these have helped to lift monetary constraints and been accompanied by unprecedented expansion. On the other hand, as the objective economic contradictions accumulate, they become fraught with uncertainty and threaten to unleash a severe financial and industrial crisis. Prices have been allowed to drift further and further from the real conditions of production — a trend which always carries the risk of a 'return to reality', more or less dramatic according to the circumstances in which it imposes on prices the actual relations dictated by the conditions of production.

Lipietz shows that through the development of credit money, prices determine the value of the monetary unity, while the value of money depends on the laws governing incomes. Therefore it is these laws, and not the amount of money, that influence the rate of inflation.

This last argument is a crucial refutation of the fantastic quantitativist ideas which lie behind most of the monetary policies of Western capitalist countries. As Lipietz correctly says, inflation, even the current 'inflationary take-off', is not a disease in itself but the *symptom* of the exhaustion of a regime of accumulation. Nonetheless, the inflationary crisis does have its own effects, one of the most severe being the *investment crisis* that is among the sources of *rising unemployment*.

In discussing various policy orientations, Lipietz demonstrates that the structural forms established over the last decades have imposed a rigidity on the fall in demand which has so far stood in the way of cumulative depression. Here lie the origins of *stagflation*. He also shows that the present challenge to these forms *threatens to reduce mass income levels, and could open the way to a real depression*, first in some national markets, then on a worldwide scale. We would then be in a situation reminiscent of the thirties.

This analysis therefore leads to a condemnation of monetarist policies, which can only bring on a recession and fuel a new inflationary movement by putting up costs, upsetting economies of scale and further blocking investment. This in turn will lead to more business failures and a fresh increase in unemployment.

Lipietz also stresses the importance of rising interest rates, which express the difficulties of valorizing capital in conditions of monopoly regulation. As he rightly says, a rise in interest rates now plays the same role as falls in price used to. Through putting up interest rates, monetary constraint can restrict, even bankrupt, companies which are unable to sell their goods or are forced to cut their prices. This triggers, in particular forms, a process of devalorization of capital and annulment of the capitals in process which no longer fit into a coherent regime of accumulation.

Finally, the way out of the crisis and of inflation requires new technical and social norms to boost productivity and assure higher employment. Such new forms will not emerge, however, or at least not quickly, if recession leads to the collapse of anticipations. Relaxation does not solve anything any more because it does not open the way to new norms and the adaptation of the fetishized economy to new tendencies in the social division of labour.

Lipietz therefore shows that only a more flexible policy (neither monetarist nor laxist) would allow peaceful reorganization to take place, and by boosting productivity, could lead to the slowing-down and finally the end of inflation by creating the conditions of a new regime of accumulation. But that will also require new relations between men on a world scale, and new ways of living, which are a matter not just of technological progress but of movements in society.

These are a few of the crucial arguments put forward in this book. Nobody can fail to recognize their meaning and their importance.

Charles Bettelheim

Preface to the English Edition

In deciding to translate *The Enchanted World* after Michel Aglietta's seminal *Theory of Capitalist Regulation*, Verso/NLB has further increased the familiarity of English-language readers with what is sometimes called the 'French regulation school'. This preface is designed to give a succinct presentation of its fundamental concepts.

It should be said at once, however, that there is not *one* regulation school. There are a number of little streams which have either merged into larger currents or split up into even smaller trickles. The present work belongs to the current initiated by Aglietta's research on the United States and the CEPREMAP programme of investigation into the French economy. A clear, if sometimes subtle, distinction should be drawn with the current around Professor G. Destanne de Bernis—particularly with regard to our mistrust of 'general laws of capitalism' and our central preoccupation with various facets of the wage relation (rather than the allocation of capital among different branches of the economy). Yet the current in question here is itself far from homogeneous. At present, it is tending to divide between more or less Marxist tendencies—which give primacy to questions of production and to the organization and allocation of human labour and its products—and more 'culturalist' tendencies that lay stress on the general problems of socialization and social being.

A phase of relative homogeneity within this current may be situated between the years 1976 and 1982, with its origins in the end of Althusserianism and the onset of an open crisis. French Marxism drew from Althusserianism an emphasis on reproduction and a corresponding disregard of contradiction. In fact the reproduction paradigm, in Althusser's rather static reading of Marx, was already inadequate to conceptualize the model of capitalist reproduction that had been current in the West—a model characterized by combined dynamic transformation of the norms of production and consumption. Moreover, the Althusserian view, in which the phenomena of social-economic reproduction appeared to succeed in a near-spontaneous manner, did not provide a sound basis for explaining the deep crisis that became manifest in the 1970s.

In Michel Aglietta's early work the concept of reproduction developed in two directions. First it acquired a dynamic status in the concept of *regime of accumulation*. This referred to a systematic mode of distribution and reallocation of the social product, which brought about a long-run correspondence between the changing conditions of production (volume of capital investment, distribution among the different branches, and production norms) and the changing conditions of final consumption (consumption norms of wage-earners and other social classes, collective expenditure, and so on). The first great merit of Aglietta's work was that it demonstrated a succession of *different* regimes of accumulation in American history, and that it rooted the study of these regimes in the very heart of production, the labour process. Its second great merit was its understanding—not yet adequately developed—that regimes of accumulation *do not automatically* take on material reality. For only certain forces of coercion and institutional forms will assure the necessary cohesion of the strategies and expectations deployed by the agents of capitalist market economy; only then will these converge towards a functioning regime of accumulation.

The term *mode of regulation* refers to the ensemblement of institutional forms, networks and explicit or implicit norms which assure compatibility of market behaviour within a regime of accumulation, in keeping with the actual pattern of social relations, and beyond (or even through) the contradictory, conflictual nature of relations among economic agents and social groups.

In Aglietta's work, 'regulation' seemed to bend historically, in an almost functional manner, to embrace the new exigencies of regimes of accumulation. It was the CEPREMAP research of 1974-77 into the long-run economic history of France which brought out the idea of differences in the *modes* of regulation, themselves conceived as varied combinations of partial forms of regulation that could be situated by reference to 'competitive' and 'monopolist' poles. The choice of these two terms is perhaps unfortunate (as is the translation of the French word *régulation*, which evokes cybernetics or the 'homeostasis' of biological processes, by the English word 'regulation', which primarily conjures up the regulatory action of the state). In talking of a 'competitive/monopolist' opposition, we did not principally have in mind the greater or lesser concentration of power in the hands of particular economic agents. Our main concern was to contrast two situations: on the one hand, merely a posteriori social validation of the commodities and labour-powers offered on the market; and on the other hand, a high probability of validation guaranteed a priori by institutional forms and anticipated in the behaviour of social agents and groups.

It is evident that, in a regime of accumulation pertaining to monopolist regulation, the constitutive contradictions of social relations do not disappear, Nevertheless, the representational space of agents and groups grows sufficiently to allow scope for economic calculation (in nominal terms) and forecasting. It thus becomes possible to reconstruct an explicit theory of prices and incomes—a theory referring to this specific mode of regulation. But this in turn poses a problem for the Marxist labour theory of value.

In the framework of the research at CEPREMAP, I had the task of working out whether regulation theory had a basis in Marxist theory, while J. P. Benassy put forward a neo-Keynesian interpretation and the rest of the team concentrated on historical and econometric research into the successive regimes of accumulation, modes of regulation and crises that have developed since

1789. The main results of the latter investigations are set forth in Robert Boyer and Jacques Mistral's fine work, *Accumulation, inflation, crises* (Paris 1978). For its part, *The Enchanted World* is a kind of by-product of my studies from that time, focusing particularly on the passage from production to nominal phenomena.

The analyses of Aglietta and the CEPREMAP team, which took up and accompanied the work being done by Coriat, Billaudot, Granou and many others, later underwent major development with regard to the labour process and the field of national specificities and international relations. There were even a certain *rapprochement* with the more 'institutionalist' research of Delorme and André on the question of the state. However, the nominal aspect of phenomena (prices, incomes) was not subjected to further investigation, and as French Marxism entered into crisis, it became the centre of serious differences on the question of money that are discussed in the appendix to this volume. These differences, which ultimately refer to the relationship between regulation theory and Marxism, are a clear sign that *The Enchanted World* does not represent some 'orthodoxy' of a solid and homogeneous 'Regulation School'. In any case, what use would an 'orthodoxy' be to us? As Umberto Eco put it in *The Name of the Rose*, 'the only serviceable truths are instruments that can be thrown aside'.

Introduction

This essay is at once a counter-thrust against Marx's critics, a proposal for a research programme (into ideas first put forward over a century ago) and a topical warning against the profound threat to the world economy and its workers posed by monetarist policies.

A hundred years have elapsed since Marx died, and his theory has been increasingly narrowed in people's minds to an emphasis on 'class struggle', on the irreducible antagonism between rulers and ruled, exploited and exploiters. Which is quite right. Nobody can deny him the credit for bringing the fire of contradiction into the calm, harmonious mirage constructed by the earliest 'bourgeois' economists. The muted struggle was everywhere: in the heart of production, in the dense network of distribution, in the uncertain division of the labour product. And it sporadically broke out in strikes, riots, revolutions and wars.

Yet Marx's positive theory of the political economy of capitalism has inspired nothing but an accumulation of criticism. The great, almost inflationary wave of French Marxism in the sixties has ebbed away with surprising speed. Future intellectual historians, however, will surely not fail to highlight the political and ideological context that surrounded this reversal: the defeat of the major working-class struggles in Europe in the seventies, the collapse of 'socialist' models, the emergence of social movements going beyond the classical framework of Marxist thought, such as feminism. It was a context which clearly influenced intellectual thinking. These days you can only call yourself a 'Marxist' in inverted commas. But then Marx himself did say he was not a Marxist.

Our aim, however, is not to add another contribution to the general debate on the 'crisis of Marxism': it is more modest, and more specific, confined to the field of economics. In fact we shall focus on one specific area within economic theory, *the theory of value, price and incomes*. It is here that the speed with which Marx has been discredited among French researchers seems, in a sense, most surprising. The 'labour theory of value' — a term, by the way, never actually used by Marx — is now so disparaged that even people who have made the greatest contribution to it no longer want to have anything to do with it. While government spokesmen and the press assault our ears with appeals to 'productivity' as the answer to all our ills, as if the economic crisis came down to a problem about the time taken to produce commodities, the very idea of a link between their exchange-value and production time makes theorists shrink back in horror. And while the question of how the gains in productivity are to be divided between higher purchasing power, shorter working hours and increased profits is right at the heart of the debates over economic policy, concepts like 'the value of labour-power' and 'rate of surplus-value' (or 'surplus labour') are treated with suspicion even by people who made their reputation as Marxists.

The surprising thing is not so much the recurrence of anti-Marxist critiques from the 'dominant current' among economists, who are always bent on covering up the social antagonisms in capitalist production. Nor is it the silence of all those who think that somebody from the last century cannot have anything to say about contemporary economics, as if Newtonian mechanics had nothing to say about the flight of aeroplanes. The real paradox is that under the guise of a 'critique of political economy' there has developed a radical questioning of the foundations of Marx's analysis of the actual working of the capitalist economy. For Marx was not content to put struggle at the heart of social relations. He actually tried to answer the professional economists' question, 'How does it work?' Steeped in Greek culture, he knew that, as Hesiod said, 'there is not one kind of strife alone, but all over the earth there are two', that Harmonia was born of the marriage of Ares and Aphrodite, that conflict is not just the seed of death but the condition of life, and that opponents in society do not constantly exhaust themselves in an endless struggle, but that in everyday life they have to be, in a way, partners. Otherwise capitalism would have vanished from the earth long before *Capital* came to be written. Of course Ares always wins in the end: harmony turns into crisis, emulation and consensus into rivalry and war. But although contradiction really does lie at the heart of social relations, it must be resolved at least temporarily; in one way or another, it must be regulated.[1]

But what exactly must be regulated? What is the struggle over? Want and scarcity? Marx's answer is: works and days. And he constructs a theory of the capitalist economy which is not merely critical but *positive* as well; one which will explain how, within the contradictory framework of capitalist social relations, the time devoted by society to its material reproduction is allocated and distributed.

It is only a short step from 'positive' to 'positivism'. Marx's answer to the problem of the regularity of the workings of capitalism was soon replaced by a veritable Marxist economism, which opposed the naturalism and mechanicism of its opponents with an equally naturalist and mechanistic doctrine to the effect that commodites have a calculable value, as does labour power, that surplus-value can be arrived at by subtraction, the rate of profit by division, and so on.

Recent French critiques have begun, quite rightly, by concentrating their attack on this vulgarized version.[2] But in the intellectual context outlined above, they have gradually come to adopt an academic, 'Anglo-Saxon' attitude towards Marx's work, treating it as worthy of study but not reliable enough to be used as a touchstone. This has led them away from revitalized Marxism to a niggling marxology — even though this has involved playing down, or even denouncing, the intellectual debt they still owed the unfashionable Marx, or finding themselves new gurus.

As usual the first step was to question the 'labour theory of value', starting with the classic 'transformation problem'. From quite legitimate criticism of the 'algebraic' solutions proposed by British and Japanese authors, they moved rapidly to a rejection of the whole idea of a link between the value (or rather the price) of commodities and the struggle to appropriate part of somebody's labour time. At least this argument had the merit of attacking the major, 'substantialist' weakness of vulgar Marxism — which reduces value to a sort of immaterial yet quantifiable product of human labour, incorporated in commodities — and of restoring full weight to Marx's own declared starting-point, the value *form*. How does it happen that commodities and labour-power come on to the market with a 'value' that is demanded or 'self-proclaimed' by their owners? Any answer to this question has to raise the fundamental issue of how, despite the contradictory nature of the capitalist organization of production which sets economic units in competition with one other and sets available workers against the owners of the means of production, labour still comes to be socialized.

Unfortunately, the history of French Marxism during the seventies represents a see-sawing between excesses of 'substantialism' and 'formalism'. In the preceding years of structural-Marxist hegemony, the main thrust had been to criticize the contradictory nature of commodity relations and to blunt the element of conflict in exchange by laying stress on the reproduction of the relations of exploitation. The reaction, although positive in some respects, went to the opposite extreme. The debate on the 'forms of socialization' tends to ignore what is actually being socialized, the labour of dispersed and exploited producers. Just as there can be no substance without form, so there can be no form without substance. There are two sides to every social relation, what the relation consists of, and the form in which the agents involved in it perceive their own mode of entry.

The crisis of the 'labour theory of value' cannot be resolved simply on the ground of the phenomenal forms of the interaction of economic agents. Nor can it be resolved through a dogmatic return to vulgar Marxism. Commodity exchange and wage relations really do hinge on the allocation of labour time and the extraction of surplus-value — to forget that would be to fly far

from the material basis of social reproduction. But wage-earners and capitalists do not see things in those terms. Where social relations are concerned, the experience, perceptions, motives and expectations of those involved are as important as the dry post hoc analysis of the consequences. The relation people 'enter into' is not the one the theorists put forward. And while people do 'delude themselves' about the nature of their relations, the only one in which they actually participate and which governs their actions is the one they themselves perceive.

This world of perceived relations in economics is the world of prices and incomes, expressed in terms of money, and it is what Marx called *the enchanted world*. This may explain why so many Marxists have poured scorn on it. The present book, however, sets out to take 'the enchanted world' seriously — hence its title. I believe, in fact, that by exploring this enchanted world of prices proposed, profits anticipated and wages demanded, and its interaction with the disenchanted world of blind struggle for ownership of the social labour product, it will be possible to discover the key to the secret of crises, particularly the present inflationary crisis.

In the introduction to *Crise et Inflation:pourquoi?* I mentioned an image which has been haunting me since the crisis began — the image of a cartoon character who has gone over the edge of a cliff and carries on walking on thin air. This seemed to me to illustrate the position of the world economy, which continues to work 'on credit' while the actual ground on which post-war growth has been based (the regime of intensive growth centred on mass-consumption, still called Fordism) crumbles beneath it. How did the imaginary plane beneath the cartoon feet acquire its stability? How did it come to have split off from the 'ground'? What relation did it still have with the 'ground'? This essay, and its sub-title, embodies the current state of my thinking on these questions.

From labour we shall go on to examine value, price formation, money and inflation, with Marx's work providing a guiding thread along the way. I hasten to add, however, that this reaffirmation of Marx's contemporary relevance will not be just a pious reiteration of old orthodoxies, for the very simple reason that, strange though it may seem, there has been hardly any work on Marx's economic writings. The *Grundrisse* has only been available in French for about fifteen years, and it has revolutionized our understanding of Marx's concepts of fetishism, productive forces and labour. *Theories of Surplus-Value*, which has likewise been available for a relatively short time in a modern translation, is another crucial, though misnamed, document, being both Volume Four of *Capital* and the rough draft of the conclusion of Volume Three. Volume Three, which is unfinished, ends with some chapters on competition, and on the way in which social classes and individuals represent to themselves what they do and what they are within the economic relations of capitalism. That, therefore, is the place to look for the 'missing link' between the theory of commodity relations, exploitation, the dispossession of the direct producer — a hidden reality or object of esoteric knowledge, like the universal gravity behind the fall of an apple — and the exoteric world of everyday life, made up of codes, networks, conventions, institutions and incorporated norms,[3] the world beneath the cartoon character's feet which Marx called the 'enchanted world' of fetishism.

Reading these texts brings to light an incredible wealth of ideas. Although they have no great sophistication, their very language suggests the future mathematical theories which will, I am confident, provide the sophistication required to stand up, in the academic arena, to the denigration Marx's work currently receives from those who scarcely know it. Marx offers us keys, tools of such a level of 'performance' that the transposition of their use from his time to ours is fruitful and productive, despite the substantial changes undergone by the capitalist mode of production.

To demonstrate this fruitfulness is another purpose of this essay: but it is only an 'essay'. Therefore it is an appeal for a 'programme of work', the construction of a Marxist theory of the enchanted world. The theory of exploitation and of the basic forms of class struggle, and therefore *Capital*, Vol. One and Marx's historical works, are broadly adequate for movements in society and for the working-class and trade union movement. But if Marxism is to be re-established as a theory capable of providing a critique of contemporary capitalism, then this task

of elucidating phenomena must be properly carried through.

For however attractive such a programme might be to non-dogmatic Marxists, it would be absurd if its repercussions were entirely in the realms of theory. Quite apart from the fact that the 'crisis of Marxism' covers a vastly broader area, the crisis itself poses other, more alarming, problems. I have neither the vanity nor the capacity to try to solve them, even at the theoretical level. Yet it will be clear by the end of this book that a number of intellectual escape routes are blocked off, and that several anti-crisis policies, far from setting the cartoon character's feet back on solid ground, are threatening to send him crashing into the abyss. If this essay can help, even in a small way, to discredit disastrous policies founded on deluded analyses, it will be of far greater use than the mere rehabilitation of a nineteenth-century economist.

Often in the course of this book I shall use the pronoun 'we', but this is not an academic formality. I hope it may also be seen as an invitation to readers to share in these explorations of the 'higher slopes of capital', but primarily it reflects the wealth of collaboration, encouragement and criticism I have been fortunate enough to receive, although, to use the conventional expression, I of course take full responsibility for the form it has taken, and for any errors, omissions and contradictions.

The use of 'we' also, more simply, indicates the plural. The guiding thread of this essay is in fact an article I wrote jointly with my friend Ricardo Hausmann.[4] Many of the images, some of the arguments and the need for synthesis thus achieved are due to Ricardo, whose demanding collaboration and parallel work on the theory of rent have forced me to define my thoughts more precisely. I owe him a particular debt of gratitude.

I must also thank my friends and colleagues at CEPREMAP, co-authors of *Approches de l'inflation* (Paris, 1977, mimeo) especially Robert Boyer and Rosa-Maria Gelpi. I explained my debt to them in *Crise et Inflation:pourquoi?*, and the criticism and comment I received from Robert Boyer and Danièle Leborgne on the later stages of my research provided a daily stimulus without which this book would be the poorer. Equally stimulating were the comments of those who saw the intermediate stages, either as articles or seminar papers, and the discussions I had with colleagues following parallel courses of research. I would like to thank particularly Michel Aglietta, Suzanne de Brunhoff, Patrick Clawson, Mike Davis, Gérard Duménil, Duncan Foley, Bernard Guibert, Jean-Guy Loranger, Thierry Paquot, Philippe Von Parijs, Michel de Vroey, and others, and of course Charles Bettelheim who first encouraged me to explore the 'enchanted world', and who has been a continuing support.

Maryvonne Yvon and Christine Pillard deserve my particular gratitude for their work in deciphering what was often tangled and feverish thinking. And when I have sometimes felt isolated, trying to express intuitions which seemed impossible to communicate, the support and interest of Francine Comte, who encountered all the obscurities in this essay as it was being written, were crucial: to her, my fondest thanks.

Notes

1. In the introduction to Vol. I of my *Crise et Inflation: pourquoi?* Paris 1979, I provide an outline of Marx's dialectic, the concept of regulation, the relation between his critical approach and his positive approach, etc.
2. This critical current is represented in the Maspero series *Interventions en Économie politique*. Despite the divergent approaches, we might also mention in this regard Benetti and Cartelier, Lautier, Tortajada, de Vroey, and many others, as well as the latest work of Aglietta and Orléan. (See appendix to this book.) For a good, short introduction to the issues involved, see Gislain and Deblock, 'La monnaie et la force de travail, deux marchandises "particulières" ', *Interventions Economiques* (Montreal), No. 10., 1983.
3. The reference here is inevitably to Bourdieu, who has done so much to clear the way in the realm of sociology. See also the interesting analyses put forward by the Hungarian philosopher Márkus in *Langage et production*, Paris 1982.
4. *Esoteric versus Exoteric: the Forgotten Dialectic*, duplicated paper, CEPREMAP 8021, Paris 1980. This was in turn based upon the first volume of the report *Approaches de l'inflation* published in 1977 by the *Centre d'Etudes Prospectives d'Economie Mathématique Appliquées à la Planification*.

Chapter One

The Two Sides of the Economy in Marx

Understanding a text is a dialectical process between the author and his readers. As this develops, some aspects of the text which were originally of secondary importance come to the forefront, while elements which the author regarded as central are neglected or even entirely forgotten. Changes of this sort can clearly be seen in the ways in which Marx's work has been read over the years.

Marx devoted an important part of his work to the dialectic between the 'internal relations' that determine the dynamic of capitalism, and the manner in which they appear 'on the surface' to economic agents. Theories of value, exploitation, reproduction and so on belong to the first of these aspects which, being the more important, has been the focus of most studies. On the other hand, among the great majority of Marxist and anti-Marxist authors, whether academic or militant, study of the transition to the second aspect, which starts with the theory of fetishism and money, seems to have narrowed down for some time now to a focus on one relatively secondary point: the 'transformation problem'. This book will attempt to revive the dialectic, on which Marx laid so much stress, between these two aspects, which are sometimes called the 'esoteric' and the 'exoteric'.

There was a clear distinction for Marx between the real movement of things and their apparent movement, between their internal essence and their surface, and also between the laws governing the former and those which govern the latter. The distinction between the two levels and viewpoints lies at the centre of Marx's criticism of Adam Smith and Ricardo in *Theories of Surplus-Value:*

> Smith himself moves with great naiveté in a perpetual contradiction. On the one hand he traces the *intrinsic connection* existing between economic categories or the *obscure structure* of the bourgeois economic system. On the other, he simultaneously sets forth the connection *as it appears* in the *phenomena* of competition and thus as it presents itself to the unscientific observer just as to him who is actually involved and interested in the process of bourgeois production. One of these connections fathoms the inner connection, the *physiology*, so to speak, of the bourgeois system, whereas the other takes the *external* phenomena of life, as they seem and *appear*, and merely describes, catalogues, recounts and arranges them under formal definitions. With Smith both these methods of approach not only mainly run alongside one another, but also intermingle and constantly contradict one another . . . The one task interests him as much as the other and since both proceed independently of one another, this results in completely contradictory ways of presentation: the one expresses the intrinsic connections more or less correctly, the other — with the same justification and without any connection to the first method of approach — expresses the *apparent* connections without any internal relation.[1]

A few pages later (p.169), Marx refers to the distinction between 'internal' and 'apparent' connections as that between the 'esoteric and exoteric method of approach', and we shall use the same terminology here.

It needs to be stressed that for Marx the distinction between the 'internal' and 'the phenomenon' was quite clear. The 'internal' consists of all the objective social relations which structure economic life (commodity relations, wages, class struggle, etc.) and determine its dynamic — what Marx called its 'tendencies', 'immanent laws', and so on. The 'phenomenal' embraces all the representations created by economic agents in connection with their own behaviour and the conditions they face, but which are in fact dictated by internal relations. Positivists might argue against this position, saying that 'class struggle' and 'wage labour' have no more existence in actuality than the law of universal attraction, and that they merely constitute arbitrary ways of systematizing our perceptions. But if we are to understand Marx, we must adopt his 'realist' point of view.

There is, in fact, an analogy between the distinction as it operates in economics and that between the movement of celestial bodies and the way they appear to us from earth. The latter was the basis of the Ptolemaic and the former of the Copernican system. If we start from observation of the apparent movement, we will say that the sun rises and sets, and the stars rotate around us. And in economics, we will say that profit is a margin added to the cost of commodities.[2]

The Copernican system starts by observing and comparing these apparent movements, and then tries to reduce them to the real movement which gives rise to our perceptions. Hence the rotation of the earth on its axis explains why the sun rises and sets. But that is not all: the earth's movement round the sun, the inclination of the earth's axis and the movement of all the celestial bodies, make it possible to explain why the stars which we see from the earth move in the specific ways they do. In economics we would say that surplus-value is a fraction of the value added by abstract labour, and that the other social relations distribute this surplus-value between different social classes.

It is important not to confuse the esoteric/exoteric distinction with 'higher or lower levels of abstraction':[3] the former is, so to speak, transverse to the latter. The complexity of the apparent movement of the celestial bodies is produced by the complexity of their real, concrete motion, but for each isolated real movement, such as the earth's rotation on its axis, there is a corresponding simple apparent movement — in this case the movement of the sun and the stars round the earth. In the same way, the Marxist method 'rises from the abstract to the concrete' by combining more and more complex social relations so as to describe 'the physiology of the bourgeois system' (commodity relations, wage relations, the diversity of the possessing classes); but for each relation there seems to be a corresponding 'apparent connection', the successive combinations of which give rise to 'the external phenomena of life'. In the chapters that follow, we shall try to trace the parallel complexities of the esoteric and exoteric worlds.

The analogy has its limits, however. The Copernican system can explain the Ptolemaic, and as we shall see, the real movement and its esoteric laws in Marx can explain the apparent movement and its surface connections. Apparent movement, however, is not capable of explaining real movement. Yet in astronomy the Copernican system triumphed over the Ptolemaic and took its place. For Marx, although the esoteric explains the exoteric, the latter could never be reduced merely to the form in which the esoteric appears: it retains its independence and its own efficacity. Consequently, rather than an opposition between two views ending in the substitution of one for the other, Marx's distinction remains dialectical.

As far as economic agents are concerned, the independence or efficacity of external connections constitutes the only reality they come into contact with, determining their motives, their expectations, their behaviour and what Bourdieu[4] would call their 'habitus'. It is in this 'enchanted world' (*Capital*, III, p.806) that the actors play out roles which, though of course dictated by hidden social relations, do have a considerable contribution to make to 'reality' through the interpretation of them. In fact social relations have no material existence outside this network of institutions, the permanence of these ways of behaving and so on. If we drown this sensible reality in the concept of the relations which determine it, we shall ignore the fact that the whole reproduction of these relations involves the activity of agents in the representational space of the enchanted world. That would not be so serious if there were a point-to-point, historically unchanging correspondence (or at least as unchanging as capitalist relations themselves) between the internal connections and the way they appear. But such is not the case. The way they appear, their representational space, provides agents with a degree of freedom in action through which the contradictions of the relations which enclose them can be expressed.[5] In addition, the historical variations in the institutions and 'habitus' which ensure the reproduction of the same fundamental capitalist relations, depending on the mode of regulation in force (i.e., the historically variable mode of resolution of the contradictions which constitute those relations), implies profound divergences in the way the same 'fundamental contradictions' manifest themselves between, for example, one crisis and another. To ignore the laws of the enchanted world, 'the economy of exoteric connections', would therefore be to cut oneself off from understanding a large part of reality.

How was it that the distinction between esoteric and exoteric, so important to Marx, got lost in the course of the historic debates between then and now? Part of the answer is that circumstances were responsible: it is only contemporary capitalism which has actually asserted the autonomy of the exoteric, particularly in the current crisis. And the subjective conditions for this neglect need to be sought in the debate which set Marxists against other sorts of economists. After the collapse of the Ricardian school, for which the esoteric was essential, 'economic science' developed as a systematization of visible activity, of exoteric connections, and no longer attempted to grasp the essential internal relations. Marx denounced this sort of work as 'vulgar economics'. 'Vulgar economics actually does nothing more than interpret, systematize and turn into apologetics the notions of agents trapped within bourgeois relations of production. So it should not surprise us that precisely in the estranged form of appearance of economic relations . . . vulgar economics feels completely at home.'[6]

In rejecting the Ricardian theory of value, 'vulgar economics' retained not only its objective weaknesses but also its political implications which had been so little developed by the Classical economists: 'Mr Ricardo's system is one of discords . . . its whole tends to the production of *hostility among classes* and nations . . . His book is the true manual of the demagogue, who seeks power by means of agrarianism, war and plunder.'[7] This goes some way towards explaining the rejection of the esoteric by the dominant economists, but not why the majority of Marxists should have neglected the exoteric aspect. Three answers suggest themselves.

Exploitation only becomes visible from the study of real activities and internal relations, and its existence can be demonstrated by recourse to the esoteric part of Marx's work alone; and so there is no need to go beyond this level in order to denounce capitalism. But that was not enough for Marx. It was necessary to show how exploitation manifested itself in 'everyday life'

(*Alltagsleben*),[8] that is, in the fetishized world of visible activity. This second side of Marx's work has been neglected.

Then the positioning of the dialectic between esoteric and exoteric within the theory (at the very end of the Marxist theory of Capital) and in the texts (a few words at the end of *Capital*, III, but mostly in *Theories of Surplus Value*) has meant that this part of his work has remained little known or studied. To be precise, the distinction is there in Marx from the beginning of *Capital*, but it only becomes a major source of contradictions right at the end. Through most of the work Marx shows how the real essence of things differs substantially from their appearance; but it is not until those appearances become objective elements of economic reality that the real problems appear. The main argument of this book will be to study the 'enchanted world' for itself, starting from the material Marx left and testing it against the reality of contemporary society.

And, finally, because exoteric connections and the systematization of them are at the heart of 'vulgar economy' the idea has grown up among Marxists that to take such superficial phenomena into consideration would in some way vulgarize the science of society. Although this position is understandable in the context of the polemic with 'vulgar' economists, it is no excuse for ignoring such an important part of Marx's work, and of capitalist reality.

First of all, Marx's use of the term 'vulgar economy' to indicate those theories 'which feel particularly at home in the alienated appearances of economic relations' was intended to set the views of minor economists such as Carey against those whom Marx believed to have made fundamentally important contributions, Adam Smith and Ricardo. If we want to use the same term today to refer to economic theories which only deal at the level of exoteric connections, then we need to emphasise that they may be extremely sophisticated (as for example the use of theorems by Euler or Lagrange, and all the resources of econometrics).

'Vulgar' economics, therefore, thus defined, must not be confused with 'popular' economics, the way the laws of economics are presented in 'public opinion', which may or may not be educated. These versions mix up notions which we would call esoteric — for example, 'prices fall because the scale of production increases' — and others we would call exoteric — e.g., 'prices rise because wages rise'. This second category may also include 'vulgar Marxist' versions (e.g., 'prices rise because profits rise'). Moreover, popular economics can react to historic changes such as transformations in the forms of economic regulation, and even vary the reaction according to social class. Small shopkeepers will say 'If there's unemployment it's because the workers want too high wages', while the new, salaried middle class, steeped in Keynesianism, has little difficulty in accepting the idea that 'stagnation only continues because incomes are too low'.

It is also clear that since the esoteric/exoteric distinction is based on the difference between the standpoint of social relations and the direct standpoint of individual agents, it covers broadly the same areas as the macro/micro distinction. Nevertheless, most macroeconomic formulations remain at the level of the phenomenon and therefore come under Marx's heading of exoteric. For example, the basic Keynesian relation $dC = cdY$ (the increase in consumption is only a fraction of the rise in incomes) is an exoteric connection which only gains esoteric status through Cambridge interpretations of the sort put forward by Kalecki (i.e. workers consume what they earn, while capitalists save their income).

Nobody, therefore, should be surprised to find topics familiar to 'bourgeois' economists, particularly Keynesians, in the pages that follow. Some may see this as an attempt to give a Marxist gloss to the dominant political economy, while others may gain satisfaction from the proof that Marx pre-empted his critics and was 'therefore' superior to them. To my mind, though, it merely demonstrates how impossible it is in the study of social relations to separate substance and form, the esoteric and the exoteric, the critique of commodity relations and exploitation and the positive analysis of the behaviour of commodity subjects and capitalists.

I am convinced that there is no reason at the moment why a Marxist should not be interested in studying incomes (even if they are 'nominal', i.e. expressed in an institutional monetary unit, such as the franc), behaviour (even if it appears reducible to individual calculation of optimization), and anticipations (speculative or 'rational'); so all that remains is to start work.

In the next few chapters we shall construct the 'fetishized economy' of 'the enchanted world' until its independence becomes a reality, not merely in one specific theoretical field, but having an objective existence and its own efficacity. Chapter Two will outline the enchanted world corresponding to an ultra-simplified capitalist economy. In Chapter Three the enchanted world will grow in stability and complexity with the inclusion of more complex social relations, and the picture will be completed in Chapter Four.

Chapter Five will introduce the contradictions between the laws of the now independent enchanted world and the deep development of socio-economic relations. This contradiction resolves itself through crisis, which in the current operating conditions of capitalism takes the form of inflation (Chapters Six and Seven).

Notes

1. *Theories of Surplus Value*, Moscow 1968, Vol. 2, p. 165. Emphases added.

2. Negishi on the other hand sees Marx as Ptolemy, with the neo-classical economists as Copernicus! (See 'Marx and Böhm-Bawerk in the Theory of Interest', *Economie et Société*, Nos. 2-4, February 1980.) We hope that by the end of this essay readers will be convinced that the opposite is true.

3. Contrary to a widespread tendency (see for example Mattick, 'Some Aspects of the Value-Price Problem', *Economie et Société* No. 6-7, June 1981.) As Márkus very acutely says, 'the movement of Marx's thought in the *Grundrisse* is organized on the principle of rising from the abstract to the concrete, whereas in *Capital* the argument proceeds from essence to appearance; and these two pairs of categories are absolutely not the same, either in Hegel or in Marx' (op. cit., p.208). Nevertheless Márkus puts what seems to me an exaggerated emphasis on the fact that in *Capital* this distinction led to a 'naturalization of content and a phenomenologization of social form' (p.123). Even if this tendency (to set up a contrast between technically neutral 'productive forces' and the illusory appearances they take on in capitalist social relations) does exist in the Marxist tradition and has its roots in Marx (as I stress frequently in *Crise et Inflation*) we shall see here that substance and form are just the indissociable aspects of all social relations, production included.

4. 'Society exists under two inseparable forms: on one hand, institutions which can take on the shape of physical things, monuments, books, instruments and so on; and on the other the acquired dispositions, the durable ways of being or doing which are incorporated in the body (and which I call the habitus). The socialized body (what is called the individual or the person) is not in opposition to society: it is one of its forms of existence.' (Bourdieu, *Questions de Sociologie*, Paris 1980, p. 29). It goes without saying that the concept of 'habitus' is much broader than the 'economic habitus' we are using here.

5. This theme is developed more fully in *Crise et Inflation*, where I link the dialectic of reproduction and transformation in Marx ('Men make their own history on the basis of conditions that are given, inherited from the past') with his interpretation of the Epicurean 'clinamen'. Bourdieu's concept of 'habitus' is explicitly intended to take account of this. 'But why not just use the word "habit"? Habit immediately conjures up something repetitive, mechanical, automatic, more reproductive than productive. What I want to stress is the idea that the habitus is extremely productive. The habitus, in brief, is a product of conditioning which tends to reproduce the objective logic of conditioning, but by forcing it to undergo a transformation; it is a kind of transforming machine which makes us "reproduce" the social conditions of our own production, but in a relatively unpredictable way, so that we cannot pass simply and mechanically from a knowledge of the conditions of production to a knowledge of the products.' (Bourdieu, p. 134).

6. *Capital* Vol. 3, Harmondsworth 1981, p. 957.

7. H.C. Carey, quoted in *Theories of Surplus Value*, II, p. 166.

8. Since the work of Lefebvre and his followers the expression 'everyday life' has become a richer and broader concept than the very 'economist' sense in which it is used here. The two senses of the word are of course related to each other, and both to the concept of habitus.

Chapter Two

A First Look at the Enchanted World

In this chapter we make the first transition from the esoteric to the exoteric, on the basis of an economy reduced right down to the fundamental capitalist relations. We shall begin by briefly summarizing the three contradictory relations which constitute the essence of capitalism (at least, according to my analysis of it in the first part of *Crise et Inflation: pourquoi?*) and the fetishisms they give rise to. Then we shall go on to sketch a preliminary synthesis of these fetishisms by means of the 'transformation of the law of value' which will take us into the realm of wages, profits and prices of production.

This will be a fairly rapid overview. More detailed analysis of some aspects, particularly the origin of money in the development of the fetishism of value, and the famous 'transformation of values into prices of production', will follow in later chapters.

I. The Essential Relations of the Capitalist Mode of Production

The 'capitalist mode of production' does not exist. It is a construction of our thought, which refers to the regularity with which certain contradictory social practices are reproduced, contradictory because they simultaneously set human beings at odds with one another and unite them in a set of characteristic

social relations. The social relations we call 'capitalist' are far from exhausting the complex of practices which make up all actually existing societies. In fact other social relations or practices are the very condition of existence — the substratum, as it were — of capitalist relations: domestic life, for example, the relations between men and women, and so on. And the dominance of capitalist relations in turn permeates the other practical relations. Thus, to identify a society as capitalist is not to *reduce* it to the set of relations characteristic of capitalism, but at least to recognize that a great deal of social life is organized around the reproduction of these relations. Furthermore, capitalist relations are themselves subject to profound historical alteration and to major variations between one socio-economic formation and another, depending on the history of struggle and social movements. Finally, it is possible to make a more or less subtle analysis of the capitalist relations which actually exist.

In his central work, *Capital*, Marx said his intention was to describe an 'ideal' capitalism, without always assessing where his picture presupposed the existence of relations external to capitalism (like domestic exploitation) or embodied characteristics specific to capitalism, at that period, in England. One result of this has been that many of his supporters tend to see every institution, relation or practice that exists in capitalist societies as a deployment of capitalist relations (thus setting the family alongside businesses or banks), or else to measure actually existing capitalisms against the theoretical mode in *Capital* — that is, against nineteenth-century England, the golden age of capitalism 'in itself' — in relation to which our contemporary societies are degenerate forms, contaminated and deformed by struggle and social reform. In what follows we shall be abstracting both from the myriad of social relations and practices which have nothing specifically capitalist about them, and from the particular variable forms assumed by the characteristic relations of capitalism. It should be appreciated that this is a subjective morphography: there is always a degree of arbitrariness in this kind of exercise, and the only justification for it is the light it casts on reality.

The 'internal physiology' of the mode of production can be defined by three major relations which are also three major

contradictions, characterized by unity and opposition between two poles:
(a) the commodity relation, expressing the contradiction between social and private;
(b) the relation between capitalist and wage-earner from the viewpoint of economic property;
(c) the separation of the producer from the means of production from the point of view of 'possession', of the capacity to set productive forces to work.

Let us now examine each of the social relations, not just in the terms in which they appear in conceptual analysis (the esoteric point of view) but as they fetishistically manifest themselves to agents trapped within them (the exoteric point of view).

1. The Commodity Relation[1]

The esoteric view

The first component relation of any commodity economy involves a contradiction between the social nature of production and the private management of the economic units which, quite independently of one another, engage labour for society. This contradiction is resolved by exchange, which appears under two aspects:
(i) A commodity which is exchanged shows by the fact of its exchange that the labour involved in its production has been socially validated.
(ii) The owner of the unit which produced it thereby acquires a right to an equivalent part of the social labour product, produced in another unit of the division of labour.

These two aspects, validation and permutation, are not separable in barter-exchange, but a developed commodity economy cannot be founded upon barter. Therefore the society, or rather the state, has to choose (and thus exclude from the set of 'profane' commodities) a 'representative' of social labour, or 'general equivalent', which itself has no need to be validated, and this becomes money. Producers socially validate their labour by exchanging their product for money, and then assert their right over other products of social labour by exchanging the money for other commodities. This is what Marx calls simple *circulation*, which we shall represent as C → M → C.

The exoteric view

The right over a quantity of social labour takes the *form* of a *value* inherent in the product. To take the example Marx uses, people's perception is not that some need to produce a coat while others need to produce twenty yards of linen, but simply that '20 yards of linen = 1 coat'. In addition, as exchange is in fact carried out between commodities and money, the relation between the commodities themselves disappears and is replaced by the idea that each commodity has a value which is expressed in a *price*, independent of other commodities. Thus '1 yard of linen = 10 francs, 1 coat = 200 francs'. At this stage, however, value relates all commodities to one another at a given point in time, and from private labour establishes them as social products.[2]

Comment

The above account, of course, refers to what Marxist writings term 'the law of value'. There is the *substance* of value (socialized labour) and its *form* (a mysterious quantity assigned to the product, which enables it to be exchanged for other products). The esoteric/exoteric couplet is present even at this stage and it cannot be reduced to the distinction between substance and form, although the substance of value refers to what is basically socialized through the value form, and although value-form takes account of the starting point of externalization.

This form of value, as Rubin followed Marx in pointing out,[3] is in fact the starting point for all externalized social links in market societies: the direct stranglehold over a person's ability to work, rights over land-use, honour, faithfulness, all end up by having a price. This is why, after decades of which value was reduced to its substance, those who today tend to reduce value to its form, to a simple mode of individual socialization, find arguments so easily.[4] For our part, we are always aware that there can be no form without substance, and that what is at issue is the socialization of a particular expenditure of labour.

One serious consequence of this tendency to reduce value to its form is that value — or, to be more blunt, the measure of the quantity of value — is hidden behind the price.[5] There is indeed no other way for value to appear except in price: but that does not remove its relevance to the quantitative concept of substance. Let us consider this more closely.

Marx rightly distinguishes between two concepts of measure:[6] internal or immanent measure, and external measurement. Internal measure relates a quantity to its substance, and external measure relates one quantity to another quantity which represents the same substance. The internal measure of the value of a commodity is thus the quantity of abstract social labour necessary for its production. An external measure is the quantity of a representative of value (e.g. money) which can be exchanged for the commodity (its price). In the same way, physicists measure quantity of energy either by the substance of the energy (e.g. in kilogram-metres) or by a quantity of some form capable of being converted into energy (tonnes of oil-equivalent, for example). As we shall see, money is not the only external measure of value.

We are told that there is no practical advantage in measuring value in terms of labour. But this is not a point of view shared by economists at the macro-economic level who translate variations in production into variations in manpower requirements, nor by methods study departments which, within one economic unit, calculate the directly necessarily labour time, often down to the nearest second. Yet neither the practical worth of a conceptual magnitude, nor the possibility of measuring it is ever a necessary condition for its definition in theoretical analysis. This is derived only from the conceptual frame by means of which we apprehend the real.

In any case, our concern is to relate the movements of quantity measured by prices to the internal reality of the socialization of a quantity of labour that is produced and distributed. We shall see — it is at the centre of our argument — that this correspondence can only be reached at an extremely inclusive level.

This results from the form of value itself: the value of a particular commodity is not the actual time taken to produce it, but

the 'socially necessary time'. The amount of money for which it is exchanged does not therefore represent a particular amount of time. In addition, other social relations will intervene to *transform the value*, breaking the proportionality of the internal and external measures of commodity-values (the famous 'value-price ratios' which vary from one commodity to another). The amount of value represented by money cannot therefore be the value of the particular commodity for which it is exchanged, as that will depend on the commodity in question: it can only be the value of a 'representative sample' of all commodities consumed and thus socially validated, i.e. of a number of commodities proportional to the net product of the society. The structure of this net product is defined by the regime of accumulation which is in force.[7] If therefore we suppose a commodity economy where everything produced is regularly validated, we shall find the quantity of abstract labour represented by the unit of money (called *currency*) by dividing the quantity of labour needed to produce the net product by the price of that product.[8] We shall call this quantity the 'labour (or value) equivalent of money' (LEM).

Finally, of course, a commodity economy does not work with complete regularity. There will always be a mismatch between privately engaged labour and what can be socially validated. In reality, then, it may happen that for a while the relation between the realized price of the net product, and the corresponding labour used, will fluctuate around the LEM.

We shall return later to the question of money and discuss it at greater length.

2. Economic Property and Wage-Labour[9]

The esoteric view

This relationship, characteristic of capitalism, is based on the separation of the direct producer from the means of production, which are the monopoly of the capitalists. This separation appears directly in the division of value between C (the value of the means of production consumed) and VA (added value). In addition, the workers have to sell their capacity for labour to the capitalists, with the result that they only recover one part of VA i.e. V, the value of labour power, while the rest, S, surplus-value,[10] goes to the property-owning class as a whole. The rate of exploitation $e = {}^{S}/_{V}$ reflects the historically determined relationship of forces between the two classes.

The exoteric view

This relationship, and its consequences for the division of value, give rise to a new series of fetishisms. First, instead of wages being seen as the part of added value that is returned to the workers, the idea grows up that 'labour' has a price, which is paid. If that is the case, surplus-value has to come from somewhere else: the initiative of the capitalists, the productivity of the means of production, or something of the sort.

Comment

Here we come to a second key moment of 'externalization' which will soon lead us directly to the famous 'transformation' problem. For the moment, let us just consider one of the signposts. What can be said about the relation between the 'price of labour' and 'the value of labour power'? There are two sides to this question.

First, how much labour power must be bought in order to have the desired amount of labour? The full complexity of this seemingly trivial question was recently revealed by the struggle in France over the 39-hour week. We shall take a very simple example, in which all the firms in one branch operate according to the same production norms. In the production of one chair, it is necessary to add fifteen minutes of diverse sorts of labour —or at any rate fifteen minutes of abstract labour — to the value of the raw materials and means of production. If we then ask how many chairs can be produced with the labour of one worker for one day, any boss will immediately reply that it depends on the length of the working day, which in turn depends on the *real* breaks sanctioned by law or custom. In short, between the quantity of hired labour power (let us call it *m* for 'manpower') and the quantity of abstract labour supplied (l), there is an elastic relationship which turns on the length of the working day λ and the intensity ϵ of the work — that is to say, on two determinants of the rate of exploitation.

Note that once λ and ϵ are given, *m* serves as an external measure of l: abstract labour can now be measured by the quantity of a commodity, labour power! The difference is qualitative, but the relationship of measure is quantitative. In the same way forces or 'tensions' can be measured by extending a spring, so that one obtains the 'elasticity' of the spring or more generally (when one works in more than one dimension) a 'tensor of elasticity'. We shall give the name 'tensor of exploitation' to the linear mapping that assures a correspondence between the quantities of directly necessary abstract labour (in the different branches) and the amounts of labour power that need to be hired.[11] If the first are measured in hours and the second in days, the difference is immediately visible. If one chooses the labour normally provided in one day as the unit of abstract labour, then ϵ and λ are equal to 1, and the tensor T can be understood, as it is equal to the tensor unit I.

But it cannot be left there. We must also know the value at which a unit of labour power (for example, one day) actually exchanges. I discussed this at length in chapters six and thirteen of *Crise et inflation* and we shall return to it again. But it should be noted here that, strictly speaking, labour power exchanges for money, for a wage, s. Given the labour equivalent of money, one has the value w of the unit of labour power. The trouble is that the wage, which can in principle be exchanged for anything, is actually exchanged for a 'shopping basket' which is rather fuzzy but relatively determined by the 'consumption norms' in force. The measure of the value of this basket provides *another* measure of the value of labour power. In principle this would be the same if the exchange relations (in prices) were proportional to the value relations, or if the shopping basket was proportional to the social net product: in general, though, this is not the case.[12]

We therefore have *two* measures of the value of labour power (in abstract labour time). It is enough to be aware of this, and to make clear each time which one we are talking about. In that way we will avoid a number of traps in the transformation problem.

But for the time being let us note that the total value of labour *wm* provides us with a new external measure of added value, expressed this time as value, but as a different value; it is the value of the labour power that produces the added value! We pass from one to the other, given the three coordinates of exploitation: the value w of a unit of labour power, and the parameters of the tensor of exploitation, λ and ϵ. This 'curiosity' is at the root of Adam Smith's confusions between the (internal) measure of the value of commodities by 'embodied' labour and his (external) measure by 'commanded' labour. In a way which was partly legitimate, but also to some extent arguable and confusing, Marx had no scruples about explicitly using this 'external' measure in *Capital*, III, in connection with the organic composition of capital and the rate of profit. As an 'index' (to use his own words) of the labour 'set in motion' in relation to the 'dead labour' crystallized in the means of production, he used not VA (added value, the quantity of living labour), but v, the value of the labour *for the capitalist*.[13]

We can pause here, at the 'externalization' of this fraction of value which comes back to the exploited wage-labourer. The other fraction, surplus-value, will go through more extraordinary adventures. But before looking at these, we must point out the emergence of something stranger still, which makes the whole movement something of an odyssey. It concerns a new development of the value-form itself, 'value in process' or 'autonomous value', value destined for 'independence' etc. Although, strictly speaking, this fetishism can already be introduced in the account of the first fundamental relations, we shall precede our discussion of this by outlining the third fundamental relation of the mode of production.[14]

3. Dispossession

The esoteric view

The third basic relation, which Bettelheim calls 'possession',[15] has to do with the capacity to set productive forces to work during the course of the labour process. Through the expropriation of workers' skills, the systematization of social knowledge and the incorporation of this knowledge in the machine system, both the productivity of labour and the real domination of wage-labour by capital underwent considerable expansion. In the system of values — that is, in the allocation of social labour — the dynamic of this social relation is expressed on one hand by a fall in the unit value of each commodity (which can be translated either as a fall in the value of labour power at a constant purchasing power of wages, or as a rise in purchasing power at constant value, or any combination of the two), and on the other hand by a *tendency* of the organic composition of capital, C/VA, to rise, which reflects a greater allocation of social labour to the production of producer goods.

The exoteric view

This process creates a great variety of apparent movements on the surface of capitalist society: the increase in social knowledge, when it is incorporated in the means of production through the transformations and development of mechanization imposed on the dispossessed producers, does not appear as such but rather as growth in 'the productivity of capital', a new fetishism of the world of appearances. At the same time, however, we know that the tendency of the organic composition of capital to rise is expressed as a tendency of the rate of profit to fall.

Comment

We do not intend to go into this question at greater length, if only because the major part of *Crise et Inflation* is devoted to it. Socio-politically, as well as economically, it is clearly a fundamental relation of the mode of production; and it is also the one to which the founding fathers referred in the ambiguous phrase 'degree of development of the production forces'.

All that needs to be stressed here is that this 'class struggle in production'[16] determines the evolution over time of the fundamental magnitudes of value at the esoteric level. As this essay is concerned with the exoteric economy and its relation to the

you are referring to the Chapt automation Free time & communism (grundrisse) where Marx talks of the inherent contradict of capital to having labor as the sole measure of wealth and the constant attempt to decrease its value esoteric, we shall take as known and given the movement of the 'internal' quantities (gains in productivity, evolution of the composition of capital, growth of real wages etc.) — that is, what Marx calls the 'revolutions of value'.[17]

II. Birth of the Exoteric Economy

The result of the combination of the three relations and the fetishisms to which they give rise is a general restatement of the law of value. Two aspects of this may be distinguished: the first, to some extent phenomenological, is a change in the value-form itself; the second is a transformation in the measure of values, or more precisely exchange-values, the way that commodities are measured externally in money or in relation to one another.

1. Value Achieves Autonomy

Relations between men have taken a fetishized form since the earliest stages of commodity economy. By fetishism is meant the fact that all social relations between men at this level of organization of production take the form of relations between their products. One no longer says that Peter and Paul have shared the tasks by dividing up the labour, but that they have produced objects of the same value.

But then in a *capitalist* commodity economy a second level of fetishism appears. Value directly becomes the purpose of production. Two commodities are no longer said to have the same value. One says that the same value is metamorphosed from one commodity into another, and even that it can increase in the course of these metamorphoses.

A new economic object arises out of the exchange sequence A → B, B → C etc. which Marx calls '*(autonomous or independent) value in process*'. A whole string of commodities now passes through the hands of the economic proprietor in the process of circulation. We shall not be concerned here with the fact that this process is divided into phases, where the value of the 'value in

process' increases, even though most of *Capital* Vol. One is taken up with it.

Value and value-in-process are two separate phenomena. The first is essentially social and synchronic; it is an instantaneous 'map' of the social division of labour in the form of quantitative relations between products. The other is individual and diachronic: we talk about 'a' value which is preserved through time, or which grows, is wasted, and so on. The second, of course, is subordinate to the first; its substance is abstract labour — though taken as realized, either socially validated or destined to be so — and its form is a development of the simple value form, while its measure is the instantaneous measure of the value of the commodity in whose form it appears. But insofar as both are phenomena arising out of fetishism, they are equally real. Just as one can say that 'the successive oscillations of molecules on the surface of water appear as a wave', or conversely that 'the creation of a wave sets the molecules in motion', so one can say that 'in circulation commodities of the same value exchange' or that 'values-in-process are metamorphosed in parallel from commodity to commodity as they are exchanged for one another'.

In fact under capitalism the second fetishism is dominant and, with the development of what we call 'monopoly regulation', gradually acquires the greater coherence. In this system, the network of social production and reproduction actually appears as an interweaving of two sorts of value-in-process:

— capitals, in the classical form: . . . M → P . . . C → M' (i.e., money-capital, M, is exchanged for productive capital, P, which in the production process becomes commodity-capital, which is transformed into valorized money-capital, M');

— labour powers, in the form: → M → C . . . L → M (i.e., wages buy commodities, which are transformed in the system of domestic labour into reconstituted labour power, which is sold for wages).

But these (diachronic) autonomous values are in reality interconnected by exchanges of commodities and labour powers, governed by the instantaneous, synchronic relations of values. This therefore places constraints on the distribution of values-in-process among the different branches and sections of social production. In his study of the reproduction schemas in *Capital* Vol. 2 Marx explained these constraints as a function of the instantaneous relations of values.[18] It is thus the same thing to say, when the equations of one schema are followed, that they express a correct (i.e. socially valid) distribution of values-in-process among the compartments of the division of labour, as to say that they express a correct distribution of *living* labour among these compartments.

Take the case of simple reproduction, a pattern of accumulation in which each capitalist entrepreneur consumes the surplus-value and reinvests his capital with the same technology from one period to the next, and in which wages remain constant. In the department producing producer goods, and in that producing consumer goods, the sum of the measures of value-in-process, at the end of the cycle of production, is respectively $C_1 + V_1 + S_1$ and $C_2 + V_2 + S_2$. But the production of department I is validated by 'social demand' of the magnitude $C_1 + C_2$. Therefore we must write $C_2 = V_1 + S_1 = VA_1$. When this equality, which measures the value of consumption of constant capital in one department by the living labour of the other, is respected, it determines the distribution both of values-in-process and of social labour between the two departments. This duality in the meanings of the word 'value', as expressed in the schemas of reproduction, I shall call the *woof-warp duality*. Think of the way a scarf is woven. It will be nice and smooth with no creases or tears, if the threads pulled by the shuttle (the woof) lie neatly one beside another between the laterally arranged threads (the warp). The threads of the woof represent values-in-process, and those of the warp the succession of synchronic maps of the distribution of social labour measured 'in instantaneous value'. The duality holds as long as the norms of production and exchange stay the same, or vary together in fixed proportions. Otherwise 'holes' or 'lumps' will appear, expressing the fact that the values-in-process cannot follow their own logic of survival and growth at the same time as the relative relations imposed on them by the system of instantaneous values in a coherent regime of accumulation.[19] The whole secret of the crises and their form is contained in the impossibility of maintaining this warp-woof duality, because of the distortions (Marx called them 'revolu-

tions') of the system of instantaneous values, which are the expression of the realm of value of the class struggle in production and distribution. It is true that minor distortions are smoothed out by the regulatory mechanism of market prices. But the ominous tendencies of capitalist accumulation (a rise in relative surplus-value and organic composition, the tendential fall in the rate of profit) eventually produce a 'gradual accumulation of divergences which lead to crisis': this we shall return to at greater length.

The distinction, then, between 'value' and 'value-in-process' involves a real contradiction, and one which is fundamental to Marx's theory of crisis.

Read this in connec with Marx, in McLellan Karl Marx Selected Writings page 426

> Those who consider the autonomization of value as a mere abstraction forget that the movement of industrial capital is this abstraction in action. Here value passes through different forms, different movements in which it is both preserved and increases, is valorized. Since we are firstly dealing here simply with the forms of movement, we have not considered the revolutions that the capital-value may suffer in its circulatory process; it is clear however that despite all revolutions in value, capitalist production can exist and continue to exist only so long as the capital value is valorized, i.e. describes its circuit as value that has become independent, and therefore so long as the revolutions in value are somehow or other mastered and balanced out . . . These periodic revolutions in value thus confirm what they ostensibly refute: the independence which value acquires as capital, and which is maintained and intensified through its movement.[20]

And rather there is no labor left, & has no value anymore.

Let us leave aside, for the moment, these 'revolutions in value' and concentrate on one particular aspect of values-in-process, *revenues*. First of all, it goes without saying that values-in-process are always calculated in money. For example, the assets of a company, 'value in the most superficial stockbroker's sense' are constantly divided between productive capital (fixed assets and materials), commodity capital (stocks), and money capital (working capital). Yet the values-in-process, which capitalist and wage-earner possess, also exist, albeit in different ways, in the *form* of money: so they both talk about 'income'. For the wage-earner this is just the form in which the value of the labour-power he sells is returned to him, daily or monthly, which he then spends in order to reproduce himself: wages, in short. This is the transitory and cyclical, yet integral, form of his value-in-process.[21] For the capitalist it is quite the reverse, as revenue is the increase in value-in-process which he possesses, the growth of his capital. It is *profit*, which is therefore a continually increasing fraction of his value-in-process. It can be spent unproductively or *accumulated*, that is put back into his productive capital.

In each case revenue corresponds ('in the warp') to the value added by living labour over the period and divided between the value of the labour power and surplus-value. But matters are not the same phenomenologically, and that has consequences for the relative measure of values-in-process. Here we come to the heart of the transformation problem.

2. Wages, Prices and Profits, or 'Transformation'

From a qualitative point of view, the value of labour-power and surplus-value now appear in the form derived from values-in-process. Measured in prices, they represent revenue drawn either as the counterpart of labour sold (wages) or as return on tied-up capital (profit).

This phenomenal relation set up between the two parts of added value and the two 'factors of production' gives rise to another fetishism. In the previous section they appeared as a share of added value:

$$\mathrm{VA} = \mathrm{V} + \mathrm{S}$$
$$\text{with } \mathrm{S}/\mathrm{V} = e$$

Let us follow the convention of placing a line above the corresponding quantities as perceived by the agents and measured by price.

First, as we have seen, because of the fetishism of the second relation, wages appear as the price of a quantity $\overline{\mathrm{M}}$ of 'manpower' hired, giving a wage rate s corresponding to the price of the day's labour:

$$\overline{\mathrm{V}} = s\overline{\mathrm{M}}$$

$\overline{\mathrm{M}}$ is clearly derived from the quantity of abstract labour

required, giving the tensor of exploitation T, that is, the intensity and duration of the labour. The wage s is the monetary expression of w (the value of the labour power).

Profit S, then, relates to the price $\overline{\mathrm{K}}$ of tied-up capital, of value $\overline{\mathrm{C}} + \overline{\mathrm{V}}$.[22] As profit is a continual flow of revenue, it needs to be measured over a given length of time $\Delta\mathrm{T}$ (usually a year). We then get:

$$\overline{\mathrm{S}} = r.\,\Delta t.\,\overline{\mathrm{K}}$$

r being an 'annual rate of profit'.

The combined fetishisms of the second and third relations make this definitional relation appear as *causal*: the ownership of capital, and its productive nature, appear as the *cause* of the formation of a surplus, which appears as profit. So if all the capitals are correctly engaged in the division of labour, the annual rates of profit *must* be the same in all branches, and the 'competition of capitals' is assumed to provide for the formation of the *'general'* (or 'average') *rate of profit*.

We shall not be examining here by what concrete mechanisms the competition between capitals tends to achieve this equalization. They are an important issue in the theory of competition, and they also vary according to the mode of regulation of the inter-capitalist contradictions in force. Whether the capitalists accept market prices and abandon one branch when they decide 'it isn't paying' or 'some other branch is paying better', or whether they are in a position to fix a price which will yield the desired rate of profit, so long at least as 'there is a demand', they are likely to regard their private engagement of social labour to have been satisfactory if their profit is 'at least the same as others': which of course never happens, because of the 'revolution in the system of values' due to the class struggle in production and distribution, the constant emergence of new products and processes, and so on.

What should be stressed, however, is that this form of struggle between capitalists belongs to Hesiod's second type, a strife which assures the unity of capitalist commodity production. Thus, the actual operation of the 'law of value' in capitalist society — that is, the regulation of the private allocation of social labour by means of investing capital — involves not only the exoteric world of the reflection of the division of labour in the system of prices and incomes, but also the subjectivity and *motivation* of the capitalist agents — in this case, their search for the highest rates of profit, or at least one as good as the next man gets (and of course many other motives as well).

This (subjective) norm, under the constraint of social relations (particularly relations of values, but also relations of power between different capitalists, which are here assumed to be equal), thus creates a *system of normal prices*, which would be achieved in the end if the value relations were not constantly being 'revolutionized'. There is therefore room for a real 'exoteric economic calculus', which we shall now outline.

As profit is realized when commodities are exchanged between values-in-process, the relative prices of these commodities must be such that their sale covers the cost of the means of production (which are fixed in price as $\overline{C}$) and the wages paid out $\overline{V}$, and brings in a profit at the general rate, i.e.

$$\text{(I)} \qquad \overline{P} = (1 + r\Delta t)\,(\overline{C} + \overline{V})$$

It should be noted that we are talking about prices *relative* to each other, or to a given currency. It does not much matter whether the nominal prices thus defined (called 'prices of production') are expressed in francs or dollars or in any currency representing 3.1416 or 1,066 hours of abstract labour. The level of nominal prices will, of course, depend on the value-equivalent of the unit of money, which will be given greater attention below.

Let us 'bracket' this problem for the time being[23] and look at the relative price of commodities. The 'exoteric' equation or 'external connection' (I) set out above connects the 'price of labour', the price of the means of production, the rate of profit, and the price of the final commodity. In a simplified model of the economy in which each branch produces a commodity j by a 'technique' defined by the data a_{ij} of the quantities of goods i needed for the production of j and of the quantity of work mj there are clearly as many equations of this type as there are branches (let us say, n).

This system of n equations will obviously look very much like the system popularized by 'algebraic Marxism'[24] in its treatment

of the problem of prices of production. But beware! The right-hand side of the equation, if we are being exact, is expressed in the system of prices at the moment t_0 when the value-in-process is engaged in a productive form, while the left-hand side is expressed in the system of prices at the moment $t_0 + \Delta t$, when the value-in-process meatmorphoses from commodity produced into turnover.

The equation (I) can therefore only create a system of relative prices P_j which will be the same on both sides in cases where

1. production norms are constant during the process;
2. all commodities produced are realized;
3. the system of prices stays fixed in *level* — that is, taking the preceding conditions into account, when the value equivalent of money is constant.

For the simplified example where all the capital circulates during the unit of time of circulation we therefore arrive at the famous equations popularized by the neo-Ricardians:

$$p_j = (1 + r)\,[\,\Sigma\, a_{ij} \;\; + sm_j]$$

or, in vectorial form:[25]

$$\text{(II)} \qquad p = (1 + r)\,[p\,A + s\,m]$$

But, to be strictly accurate, type-I equations link up prices at different dates, which is quite normal in the case of equations of growth in 'capital' values-in-process. The exoteric connections, I, are thus *inter-temporal* connections. If we remove hypothesis 3 above, which does not apply at the moment in any respect, we will have to formulate equations of this sort:

$$\text{(III)} \qquad p\,(t_1) = [1 + r.\,(t_1 - t_0)]\,[p\,(t_0)\,A + s\,(t_0)\,m]$$

Whatever else, this is a new system of exchange relations established in the socialization of private labour engaged in a *capitalist* way.

Thus the second and third relations will react with the first: exchange relations will no longer be governed simply by the labour used but instead by the labour *engaged by capital*, the norm being equality of rates of profit between different spheres. So the fact that commodities are not exchanged as commodities 'pure and simple' but as 'products of capital' (*Capital*, III, p. 275) implies a transformation of exchange-values: the sun continues to rise and set but it rises higher in summer than in winter. The different movements come together to produce what appears to be one single movement, the formation of prices of production.

The study of these movements has gradually led us to the famous 'transformation problem', the classic *pons asinorum* of the transition from esoteric to exoteric, which, according to Marx, Ricardo glossed over because 'he wanted to produce science in advance of science' (letter to Kugelmann, 11.7.1868). Now that the problem has been correctly solved, some authors have been surprised at the apparently total independence of the system of prices from that of values.[26] We shall be considering more fully later on the firmness of fetishized appearances, which ought not to surprise us any more than that of the Ptolemaic system, or even Kepler's laws (which enable the trajectory of the planets to be calculated without knowledge of Newton's laws).

Prices certainly seem to mirror each other through external connections (I, II or III), given a set of 'technical' coefficients which represent quantities of commodities, including quantities of 'manpower' commodities *m*. What has happened to the quantities of social labour measured in 'labour-value'? What relation is there between prices and quantities of labour, which at present seem to be two quite independent systems of measurement, the second of only anecdotal interest and no practical use?

As soon as we get to grips with the fetishism of the 'price of labour', the illusion of independence disappears as we remember that the necessary quantity of manpower is only a function (given the tensor of exploitation T) of the quantity of abstract labour *l* needed by the production in question. 'Production norms' tell us that to produce a chair we need so much wood, so many nails and thirty minutes of abstract labour: and we are immediately able to calculate the value system of the commodities. They do not tell us how many times the labour power of a worker hired for a day could provide thirty minutes of abstract labour. Only when tensor T is known (and the value of the labour power) will it be able to write equations of types (I), (II) and (III). Therefore the system of prices of production is

logically *posterior* to the analysis which defines the system of values. Furthermore, whatever changes occur in the law of value as a result of the equalization (or non-equalization) of rates of profit, or because of the presence or absence of rent etc., these changes are limited: it is real commodities that are produced and exchanged, and the sum of their prices, which correspond to the revenue from their sale, can buy them and them alone. Marx deduced from this that some esoteric relations must act as a limiting constraint on the transformation of prices: total values must remain equal to total prices, and total profits to total surplus-values (up to a multiplying coefficient, depending on the value represented by the currency), and the rate of profit therefore depends on esoteric quantities.[27] Modern debates have corrected the imprecision of these formulations, but the esoteric conditions still appear as constraints on the exoteric demands.

This is the consequence of the 'woof-warp duality' explained above.[28] For if we take the values-in-process realized over a given length of time, they are measured externally by the price of the commodities turned out by the productive system over this period. These commodity flows are composed partly of the reproduction of the commodities which have been used to produce them, and partly of a net product. If production norms do not vary, the value added by living labour during the period will itself represent the value of this net product. It will be measured 'internally' in abstract labour time, and 'externally' in money, by the price of the net product. These two measures are very different (one is in hours, the other may be in francs) but their ratio is nothing other than the value-equivalent of money. When economists say that 'the sum of value is the sum of prices', they obviously mean that the currency chosen is such that its value-equivalent is 1. We only have to know how many francs represent one hour to call that quantity of francs 'new franc' and recalculate all prices in new francs. The price of every commodity cannot in general be equal to its value (let us say it will be equal to its 'transformed value'), but the value of what goes to each class (once the revenue is spent) will be defined by the rate of exploitation. It follows, intuitively, that 'the sum of profits must be equal to the sum of surplus-values' in *this* particular currency. And this is precisely what the calculus demonstrates, once the system of equations of the prices of production has been produced.

Yet enormous difficulties have arisen when Marxists (or anti-Marxists) have tried to resolve the system (I) which Marx treated in a somewhat cavalier fashion. Among other reasons, this stems from a difficulty pointed out earlier, there there are in fact two possible value measurements of 'the value of labour power' (and thus of the complementary surplus-value). The value of labour power can be defined either by the value-equivalent of the sum of money paid out in the form of wages, or by the value of what the wage-earner buys. One can use one or the other, but not mix both.[29] If this is not done, like is not being compared with like, and it is hardly surprising if it doesn't produce results. Some people then feel able to deduce a 'crisis of Marxism', no less.

Provisional Conclusion

Capitalist commodity relations, for a given state of the class struggle in production and distribution, determine the fractions of social labour allocated to different products, and reallocated (in the form of products) to different classes and different socio-economic uses (production and consumption). This allocation takes the form of value attached to products, which can still be measured by the corresponding quantity of labour ('instantaneous value'). But in the process of circulation this fetishism develops into the form of 'values-in-process', expressed as prices and circulating between capitalists and wage-earners. These values-in-process exchange commodities among themselves in accordance with relative prices, which seem to obey inter-temporal 'surface connections' apparently independent of the immediate allocation of social labour — although these surface connections are in fact always transformed forms of value-relations. It is in this 'enchanted world of surface connections', however, that the information and the motives of the commodity-capitalist agents are expressed.

The 'transformation' of internal relations (between the private labours which constitute social labour) into external connections (between prices and revenues) has been studied in this chapter by assuming the social validation of these labours and a stable value-equivalent of money. What happens when validation and stability are no longer guaranteed? This is what we shall look at next.

* * *

Note to the English edition: In the French edition of this book, the next chapter is devoted to the mathematical solution of the transformation problem. Since this has already appeared in English in article form (see reference below), it is omitted here and replaced with the translation of a less mathematical text on the value debate. (See the appendix.) For readers who are unfamiliar with mathematics and the *Journal of Economic Theory*, the following points may be of some interest.

The 'standard solution of the transformation problem' (Okishio-Seton-Morishima) involves from the very outset two key omissions:

(a) In referring to the 'sum of prices' and the 'sum of values', it does not make clear that these sums relate to the *net* product.

(b) Forgetting the difference in kind between l and m, it fails to mention the tensor T. This is not a serious mathematical fault, since the choice of units allows it to be tacitly implied through reference back to I. However, it underlies the Samuelson-type arguments about the 'pointlessness' of thinking in value terms.

Above all, the standard solution highlights the paradox that the sum of profits is no longer the surplus-value!

In reality, the standard solution accepts the second definition of the value of labour power, as the value of what is bought by the wage. (This implies that all wage-earners consume the same thing, or at least, in Roemer's version, shopping baskets of the same value.) But in that case we should not expect the sum of profits to equal surplus-value — for the structure of profit utilization is not the same as that of product utilization, which defines the labour-equivalent of money. Anyway, it may be shown that 'the sum of values of the uses of profit is equal to the surplus-value', and the rate of profit is precisely related to the system of values.

If one starts from the first definition of the value of labour power as the labour equivalent of the wage (which is nothing but the share of added value going to the wage-earners), then one can show quite easily that 'the sum of profits is equal to the surplus-value', in a currency where the LEM = 1.

My article ('The So-called Transformation Problem Revisited', *Journal of Economic Theory* No. 1, January 1982) develops in a systematic, mathematical form the insights of Dumenil and Foley regarding this 'new' solution. It resolves certain paradoxes of the standard solution, and draws a parallel between the two solutions while assessing the pertinence of each.

Notes

1. See the first section of *Crise et Inflation*.

2. While barter can be and is practised in all economies, it is not possible for commodity economies to function systematically on such a basis. They all work by means of money, and in addition to this institutions *similar to* money precede money itself in pre-commodity economies and are used as accounting money (as in centralized tributary empires), as circulation (of women between segments of linear societies), for hoarding, etc. This does not mean, however, that these institutions are money in the sense in which the term is used here, a means of substitution and validation in commodity economies.

The fact that there is no developed commodity economy which does not have money means that the institution of a commodity economy assumes that it is 'usual' to 'produce for others' without a precise customer in mind, thus that a social validation procedure based on exchange for money (rather than for desired use values) is already in operation. This institution precedes, and makes possible, the development of commodity relations, but this development changes first the functional role of money, then its nature and its form.

The result of this is that contrary to the logical movement from esoteric to exoteric (the relation between labours → the relation between things → the relation between things and money) of the sort we have just outlined, economic thought has to 'work back' from the illusion that value lies in gold (mercantilism) to the consciousness of the direct relationship between products: this is why it was only in the eighteenth century that people started thinking about barter exchange, whereas they had exchanged things for money since time immemorial.

3. I. Rubin, *Essays on Marx's Theory of Value*, Detroit 1972.

4. This tendency appears in different ways in Benetti and Cartelier (*Economie classique, économie vulgaire*, Grenoble 1975) on the one hand, and in Aglietta and Orléan (*La violence de la monnaie*, Paris 1982) on the other. We shall come back to this.

5. This is the case with the four authors mentioned above, all of whom deny the existence of a value conceptually distinct and quantitatively different from price.

6. In this, Marx is following Hegel. On this distinction and its commonest form ('embodied labour/commanded labour') see Marx's numerous comments on Ricardo and Bailey (for example, *TSV*, III, 133, 155-156, 163-65).

7. In *Crise et Inflation*, I gave that name to a permanent regime for the allocation of social labour and the reallocation of the product to different non-productive consumptions and to the transformation or expansion of the machinery of production. In 'Nouvelle solution au problème de la transformation' (*Recherches Economiques de Louvain*, December 1979) I showed that, in a situation where production norms are stable, the data of the rate of exploitation, the consumer preferences of different classes, and the rate of accumulation, define a regime of accumulation with the structure in volume of the net product (the net product being the production of a given period less consumption in constant capital over the same period).

The structure of the net product therefore performs a weighting function which enables us to calculate the 'average purchasing power in value' of the unit of money. This structure has no other special property, and has nothing at all to do with any commodity-standard à la Sraffa.

8. Throughout this essay we assume that value added by skilled labour has been reduced (by a procedure discussed in *Crise et Inflation*, p. 146) to a simple labour equivalent. Similarly we assume that the distinction between productive and non-productive labour (see Chapter 3) can be used unambiguously, whereas in fact it is much more complicated than this. Once these two problems of conceptual definition have been settled, the 'reduction of concrete labour to abstract labour' is no longer problematic if one thinks of 'abstract labour' in terms of 'abstraction from one particular branch of the division of labour'.

In this essay we are looking at a different sort of problem, raised by the hypothesis that 'everything which is produced is regularly validated'. But what about commodities which have been produced, and which are in stock, prices marked, waiting to be sold? Are they part of the value of the net product? This will be examined in Chapter 5. (My thoughts about the 'labour equivalent of money' have benefited a great deal from discussions with M. de Vroey and D.K. Foley.)

9. See *Crise et Inflation*, section II.

10. S, surplus-value, should not be confused with s, which indicates wage-rates.

11. If we set out in columns the quantities l_i and m_i, needed to produce the different commodities i, we get: $m_i = l_i/\epsilon_i\lambda_i$, and the vector of quantities of labour can be deduced from the quantities of labour necessary by $m = Tl$, where T is a diagonal matrix of coefficients.

12. The first measure of the value of labour power is w = s x LEM. If we call the shopping basket (vectorially) d and v the unit value of the commodities, we get the second measure: w = $v.d$. There is no reason why these quantities should be the same.

13. See *Crise et Inflation*, p. 302.

14. The fetishism of values in process is presented by Marx in Chapter 4 of *Capital*, I, as an introduction to the second section of the book which deals precisely with the second relation — economic property and wage labour. Most Marxists seem to have considered 'values-in-process' as a rhetorical expression or else a pedagogic tool. Yet Marx vigorously defended against Bailey the idea that the 'values in process and by winning their independence in relation to the fetishism of value'. (See. *Theories of Surplus Value*, III, p 155)

15. See C. Bettelheim, *Economic Calculation and Forms of Property*, London 1976.
16. A.D. Magaline, *Lutte des classes et dévalorisation du capital*, Paris 1975.
17. Marx analyses this aspect in chapter 15, 'Machinery and Large-Scale Industry', of *Capital* Vol. One, and in the chapter on automation in the *Grundrisse*. There has been a great deal written on this subject since the sixties (Braverman and Marglin in the USA, Coriat and Magaline in France, Panzieri, Tronti and Negri in Italy): see *Crise et Inflation*, section III. For a further discussion and more up-to-date statistical data, see Lipietz, 'Derrière la crise: la tendance à la baisse du taux de profit', *Revue Economique* No. 2, March 1982.
18. See *Crise et Inflation*, Chapter 9.
19. This analogy ought to be made more rigorous by using the formalism of differential geometry and differential bundles, and its extensions into catastrophe theory, which is the inspiration for this essay. As we shall see, some of Marx's arguments anticipate this formalism, sometimes in a quite extraordinary way.
20. *Capital* Vol. 2, Harmondsworth 1978, p. 185.
21. The fetishism is proportionately more developed when labour power no longer has to be sold on a casual basis, when employment is stable, and when wages are regulated by contract and paid monthly, and automatically adjusted by social benefits, etc.
22. In this essay we shall not be taking any account (with one or two exceptions) of the fact that different fractions of constant capital circulate at different speeds (fixed capital, circulating capital). But profit, in any case, relates to the total capital engaged, including fixed capital. (See *Crise et Inflation*, p. 160).
23. This does not in any way mean that real prices are formed by stretching a 'monetary veil' over previously determined relative prices. We are *already* in the fetishized world where everything is expressed as money, and *here* we are isolating the problem of the determination of relative prices.
24. See *Crise et Inflation*, Chapter 6, part iv.
25. Readers who are not mathematicians need not be alarmed: calculating vectorially allows tables of numbers to be treated as if each table was reduced to one number. Confronted with the vectorial equation you only have to imagine that the economy is reduced to one branch, and say that 'qualitatively' the equation does express the expected relation between prices, rate of profit, volume of constant capital consumed, wage, and quantity of manpower.
The notation is as follows: p, m, l, are the 'covectors' (or 'line-vectors') of prices, quantities of manpower, and abstract labour, and A is the matrix of a_{ij}.
26. See, for example, P.A. Samuelson, 'Understanding the Marxian Notion of Exploitation', *Journal of Economic Literature*, June 1976.
27. Intuitively, the general rate of profit must be an average of the 'internal rates of profit' of the different branches, weighted by the share of social labour assigned to the different branches, therefore by the structure of the net product, and the 'internal rate of profit' of each branch depends on the rate of exploitation and the relation between living labour and constant capital in each branch, therefore of A and l. The calculation confirms this.
28. We are provisionally assuming that 'the warp does not move', ie. that production norms, and therefore the amounts of labour allocated to each product, do not change.
29. Most of Steedman's criticisms of Marx in *Marx After Sraffa* (NLB, London 1977) rest on this sort of confusion. To give an idea, let us suppose that the prices of the things capitalists buy are systematically higher than their value (according to the LEM). We will find that the 'sum of profits' is greater than the 'sum of

surplus-values'. Let us also suppose that the workers do not all have the same shopping basket. With the same wage, they will not all have the same 'value of labour-power', and so it could be arranged for some to be 'exploiting' others!

Chapter Three

Other Social Relations Come into Play

Up to this point we have sketched out the externalization of a commodity economy with two completely homogeneous basic classes (all capitalists are equal, all wage-earners are equal). More precisely, we have shown that its unity takes the form of a 'representational space', the enchanted world of prices (of labour and commodities) and revenues (wages, profits), the relative magnitudes of which we have been able to assess as a function of the 'internal' data (production norms, exploitation rate). This two-character enchanted world is still very close to the hidden world of the distribution of social labour among the productive branches and between the social classes. The only difference is in the measurement of relative magnitudes (the minor 'transformation problem') and, more important, in the space of absolute measures (prices, not labour time). Yet it would be unfortunate if we moved directly to the determination of these nominal magnitudes — and therefore of the labour-equivalent of money — as the expression in prices of social contradictions. For there are other characters haunting the enchanted world, reflections of other social relations. Monsieur Banking Capital and Madame Real Estate and many more. Dancing their phantasmagoric round they may draw us delightfully away from reality, away from the sweat and mud of everyday production, away from works and days, weaving new surface connections among them-

selves that will give the world of fetishism its full coherent texture.

The three fundamental social relations do not, in short, exhaust the reality of capitalist society. There are others that have to be taken into consideration, which by their existence further extend the fetishized representation of society, and increase the distance between the real movement and the way in which it is perceived. The cycle of reproduction $M \rightarrow P \ldots C \rightarrow M'$, in particular, allows the gradual specialization of individual capitals which only want to be responsible for parts of the process. This is what leads to the appearance of bank and commercial capital.

I. Commercial Capital and the Margin

The esoteric view

In the cycle of productive capital $M \rightarrow P \ldots C \rightarrow M'$, the first two metamorphoses (purchase of the conditions of production, and production of commodity C) represent the normal activity of an industrial capitalist. The third metamorphosis, $C \rightarrow M'$, can be taken over by a different capitalist; this is the role of commercial enterprise.

Commodity exchange between these two capitals must be clearly understood. It does not socially validate the product C — indeed it anticipates it: it *antevalidates* production and *prevalidates* the income accruing to industrial capital.[1] In this way, the industrialist sees his production 'privately validated' and is able to use the corresponding amount of money to start off another production cycle. The period of rotation of capital is thereby reduced and the annual rate of profit increased. This advantageous development prompts industrial capital to give up a share of the newly produced surplus-value to commercial capital. But even if industrial capital can act as if the productive cycle was closed as soon as commercial capital had bought the product, that product is not yet *socially* validated. That is why industrial crises are preceded by commercial crises.

Commercial capital does not in itself add value to a product, it simply manages the C → M′ metamorphosis. The cost of this process adds nothing to the value of C: in fact it is deducted from M′. This is a 'cost of metamorphosis' which stems from the commodity form rather than from the necessary allocation of social labour to the production of a use-value. It is only its function in relation to the valorization of capital (accelerating its rotation) which justifies its receiving a share of the surplus-value. The wage-earners of commercial capital are also paid out of this surplus-value, but the profit appropriated by commercial capital is, of course, an inverse function of the wages it pays. Although the wage-earners of commerce are entirely unproductive, the antagonism between capital and wage-earners does not thereby disappear from this sector.[2]

The exoteric view

With commercial capital we seem to have a 'nominal capital' which, though not producing any surplus-value, demands the average rate of profit and gets it by adding a margin to its costs. Furthermore, because commercial capital historically preceded industrial capital and to some extent imposed its logic upon it, all profits appear as margins over costs. The margin itself appears arbitrary; it may seem to have been imposed for a given sector, or to vary with commercial policy. The mark-up (the marginal rate imposed by the vendor) is therefore an exoteric practical connection through which surplus-value is appropriated. But contrary to the kind of profit we saw in the last chapter, this appropriation has nothing to do with the production of surplus-value.

II. Bank Capital and Interest

The esoteric view

This time it is the 'closure' of the M′ → M cycle which becomes independent. The autonomization of monetary capital enables the industrial capitalist to minimize the part of his own capital which he needs to keep in the form of money in order to produce

a given amount of surplus-value. The consequent rise in his annual rate of profit induces him to give up a part of the surplus-value in the form of *interest*, i.e. 'a margin on monetary capital'. We shall not go into the relationship of forces between debtor and creditor which determines how large that portion should be, but it can confidently be said that it is generally less than the whole amount! The level of interest is a question of conjuncture, being influenced particularly by monetary policy.[3]

We shall be discussing in chapters six and seven how interest rates are determined. All that needs to be said here is that interest *must* be paid to the banker, like other production costs, although this is a part of surplus-value corresponding to labour that will not necessarily be validated. Fair enough: when a banker lends to a businessman he does, after all, assume *a priori* that the money will be correctly invested and finally validated.

The exoteric view

This new movement raises the fetishization and mystification of everyday life to new heights. Money seems to make money just because it is money, and the active nature of industrial capital, compared with the passivity of the owner of money, creates the impression that it is not the ownership of the means of production which enables profit to be made, but the more specific and more highly-regarded role of a good manager. So, it seems that part of the firm's operational output is pre-assigned to repaying the 'capital', and that the rest is recompense for the managerial skills and business initiative of the entrepreneur.

This breakdown of surplus-value between profit and interest has two important consequences for the composition of the fetish economy.

(a) Interest appears as revenue associated with the ownership of a value-in-process, existing in money form independently of how it is actively engaged: through it, capital 'lives oblivious of its metamorphoses'.[4] It is the exact counterpart, on the side of capital, of the 'abstraction' of labour. It is the permanent revenue of money in itself, as wages are the price of labour.[5] Thus, so long as it is 'updated' by the rate of interest, any permanent revenue can be related to the sum of money which, lent at interest, would bring in the same income.[6] This introduces a second external measure of value-in-process called 'value of fictitious capital': not the measure in money of the material elements which comprise it, but the measure of the sum of money which would have the same growth. Thus a real capital which no longer brings in the average rate of profit, but a rate substantially inferior to the rate of interest, turns out to have fallen below the value of its component elements (fixed capital and circulating capital). Apart from bankruptcies, this is the main form of 'devalorization' of capitals which no longer produce in accordance with the production norms in force.[7] More generally, all revenue (government bonds, for example, but also a retirement pension) can be seen in this way as revenue from *fictitious* capital, and the 'claim' on this revenue can be sold at a corresponding price.

(b) Esoterically, the payment of interest involves the transfer of a part of realized surplus-value. But in 'reality' the borrower is committed to paying the interest before he has tested the social validity of his products. Similarly, the lender ante-validates the realization of the product. But, unlike commercial capital, bank capital hardly runs any risk other than insolvency on the part of the borrower. It unconditionally receives its share of surplus-value on a value that has not yet been realized: its revenue is 'prevalidated', as are the wages paid by the entrepreneur, which correspond to labour that still has to demonstrate its social utility.

Because 'capital' becomes a factor of production whose remuneration is prevalidated, such remuneration appears as a *cost* to the entrepreneur and enters into the pricings on which his margin is calculated. In the last analysis, for the esoteric laws the rate of profit is deduced from the system of values and the interest rate remains arbitrary; but in the realm of exoteric connections, it is the interest which is given, and the company profit which fluctuates according to the 'success' of the entrepreneur's ventures.

III. Management Salaries and Supervisory Functions

The 'management skills' we were talking about earlier can be looked at in concrete terms as a series of functions ranging from

technical coordination of the work process to overseeing of the reproduction cycle of capital. These activities tend to be separate, and to be shared among a number of agents who collectively represent a power in the service of capital. Their income is a non-accumulated part of surplus-value which is prevalidated and appears in the form of wages.[8]

Thus, capital can be remunerated in three different ways:
— as interest on accumulated money;
— as company profit on value-in-process engaged in a particular sector;
— as the wages of managers and certain other employees, corresponding to relations of control and supervision.

The fetishism of everyday life is further increased by the fact that each of these revenues is governed by independent surface connections, which appear to be autonomously determined and which further obscure the single origin or surplus-value. Thus management salaries will seem appropriate reward for the level of skill involved, and will be determined on a hierarchical grid starting from the basic unskilled rate. Yet, Baudelot, Establet and Malemort have shown that wage differentials have no proportionality with the costs of training the various components of the workforce, from simple to complex labour.[9]

IV. Rents, Taxes, and the Revenue of Independent Producers

The more social relations are introduced, the more complex fetishism becomes. The following are a few examples.

1. Rent

Insofar as it is the economic expression of a social relation, rent (or, more broadly, income from land) is no more than the legal right to a fraction of surplus-value, the production of which requires control over privately-owned land. This distribution of surplus-value is not linked to scarcity: since free broadcasting began in France, the whole range of radio frequencies has become more saturated than many areas of land, but they are still (in December 1984) freely allocated by the public authorities. The right to use, or misuse the earth has been differently apportioned by the historical institution of private land ownership — hence the existence of rent and other revenue from land. As to its amount, that will depend on the general relationship of forces between landowners and capitalists, and the particular nature of the plot in question.[10]

The point here, though, is that, except in the case of share-cropping, the renting or purchasing of land once again appears as the cost of acquiring a factor of production, paid in advance of — or at least independently of — the social validation of the production carried out on the land in question. Once again, surplus-value is distributed before any validation has taken place, as a prevalidated revenue whose amount of which is governed by its own laws or surface connections of the type:

$$\text{Rent} = \text{R} \times \text{Surface}.$$

2. Taxes

The reproduction of the general conditions of social reproduction, from the maintenance of law and order to monetary policy, requires the State to perform certain functions and to raise the necessary revenue. Part of its spending can be seen as a collective expenditure of surplus-value (maintaining law and order); another part as collective management of variable capital (education, health, social security) or of constant capital (infrastructures). The esoteric nature of public expenditure is not important here.[11] This time the flow of incomings and outgoings is clearly governed by exoteric laws in the most legalistic sense of the word law — laws which are so exoteric, so obvious, that everybody is supposed to know what they are. Whether the revenues come from prevalidated activities (like all the taxes and contributions levied on production) or from already validated activities (like taxes on income or turnover, or value-added tax), these laws enter into economic calculation by increasing and consolidating the distance between esoteric and exoteric.

3. The Revenues of Independent Producers

In most capitalist formations there are some forms, even some modes, of production which are non-capitalist, although of a commodity nature. The corresponding products are sold in the market and are assigned a price which, to a greater or lesser extent, ensures that these forms can reproduce themselves. More particularly, it enables 'independent producers', or a section of them at least, to reproduce themselves as a class. Esoterically speaking, everything will depend on the degree to which these forms of production are integrated into capitalism.[12]

In the idealized case of the 'average' petty-commodity producer, his turnover must allow him to pay his production costs and leave sufficient net income to assure a standard of living equivalent to that of wage-earners with the same qualifications or skills (as in the well-known demand for 'parity' flourished by French *peasant trade unionism*). In reality, however, production costs vary widely from one independent producer to the next, and the price of the products is not always high enough for the whole class to reproduce itself. In that case, it will determine how many go to the wall, how many derive an acceptable net income, how many receive the extra capitalizable income to become 'go-ahead small employers', and so forth.

Exoterically — and with the same overlining conventions as in an earlier chapters — the product prices of petty commodity production are governed by a surface connection of the sort:

$$\overline{\text{P}} = \overline{\text{C}} + k\overline{\text{V}},$$

(where k is close to 1 in the case of stable articulation between the capitalist mode of production and petty commodity production).

We may note that if $k < 1 + \text{e}$, we get a general transfer of surplus-labour from petty commodity production to the CMP; and that if $\overline{\text{V}}$ is also lower than the average wage for a longer period of work, the absolute unequal exchange between sectors will be compounded by super-exploitation in the dominated sector. This is only possible (for example, in French agriculture) because the small producer does not really perceive his means of production as capital to be valorized at the best rate of profit, nor his capacity for work as a commodity to offer to whichever branch pays the most. He tries to survive as a small-scale independent producer, with all the cultural, psychological and other implications of that stance.

Once more we see that esoteric relations (i.e., the reality of class relations) are translated or filtered into exoteric economic laws only through the motives, 'habitus', and so on, that these relations impress on the way agents behave. Yet for the other social classes — and for the national accounting, which takes the small producer to be a boss who is also his own waged employee — a single model tends to run together capitalist and petty commodity production. According to this model, which is also fairly typical of the ideology of all those 'little fish with big ideas', prices represent the sum of the entrepreneur's costs and the income he pays to himself, due account being taken of his labour on the one hand and his ambitions on the other.

We could extend the examples almost indefinitely, even without going beyond a closed economy in which there is no exchange with socio-economic formations from other monetary zones. But let it suffice: we already have a closely-woven fabric through which prices are interrelated via a system of laws consolidated by custom, relations of forces, trade union norms, budget votes, decisions in Brussels, and so on. These laws determine prices (or at least supply-prices) in complete independence, it seems, of the allocation and reallocation of social labour which they are meant to regulate. Let us now survey this independence, which is the defining characteristic of the 'enchanted world'.

Notes

1. In this essay we shall try to use the term 'antevalidation' to refer only to the *a priori* acknowledgement of the social validity of privately-engaged labour, and the term 'prevalidation' for the assignment of a part of the corresponding value to one of its claimants, before the commodity is realised in money.
2. For a discussion of the productivity (and exploitation) of workers in the tertiary sector, see Lipietz. 'Le tertiare, arborescence de l'économie capitaliste', *Critiques de l'économie politique* No. 2, December 1980.
3. See J.G. Thomas, *Politique monétaire et autodestruction du Capital*, Paris 1981.
4. 'Nous vivons dans l'oubli de nos métamorphoses' is the first line of a poem by Paul Eluard.
5. And even, if you add indirect wages (sick pay, unemployment benefit, retirement pension) the 'permanent income of the wage-earner', independent of his engagement in concrete labour.

6. If a title brings in an annual income R, and if the interest rate is i, the title is worth $K = R/i$, since the sum R/i lent at that rate will also bring in R per annum. This is the calculation of discounted value.
7. J.G. Thomas points out that, allowing for inflation, the index of stock exchange values has fallen as low in the current crisis as it did in the 1930s.
8. See G. Duménil, *La position de classe des cadres et employés*, Grenoble 1975.
9. *La petite bourgeoisie en France*, Paris 1974.
10. On the theory of rent, see Lipietz, *Le Tribut foncier urbain*, Paris 1974, for the case of urband land, and R. Hausmann, *Oil Rent and Accumulation in the Venezuelan Economy* (PhD thesis, Cornell University, 1983) for that of oil. It will be clear that the study of rent has had a considerable influence on my thinking about the relation between the esoteric and exoteric realms.
11. See the very useful reference outline by Christine André and Robert Delorme, *L'Etat et l'économie*, Paris 1983.
12. See the study of the mechanisms of unequal exchange (by prices) between industrial capitalism and small-scale agricultural commodity production in Lipietz, *Le capital et son espace*, Paris 1977.

Chapter 4

The Solidity of the 'Enchanted World'

'Capital–profit (or better still capital–interest), land–ground rent, labour–wages, this economic trinity as the connection between the components of value and wealth in general and its sources, completes the mystification of the capitalist mode of production, the reification of social relations, and the immediate coalescence of the material production relations with their historical and social specificity: the enchanted, distorted and upside-down world haunted by Monsieur le Capital and Madame la Terre, who are at the same time social characters and mere things. It is the great merit of classical economics to have dissolved this false appearance and deception, this autonomization and ossification of the different social elements of wealth vis-à-vis one another, this personification of things and reification of the relations of production, this religion of everyday life.'[1]

In previous chapters we have shown how internal relations give rise to surface connections, how the esoteric creates the exoteric or, to put it another way, how Copernicus can explain Ptolemy. Yet we have not discussed the reasons why, unlike in astronomy, apparent motion cannot simply be reduced to a reflection of real motion. Neither have we looked at the 'function'[2] or effects of the enchanted world in the actual working of capitalism. We shall do that now.

I. Laws and Fetishism

First of all we have to emphasize certain aspects of Marx's theoretical system. In Marx's work, the conceptual study of modes of production, and in particular of capitalism, involves three different types of forces. First there are *immanent laws* which define the general *tendencies* of the system driving from its structure. Thus we have the tendency of the equalization of the rates of profit, the tendency of the organic composition to rise, and so on. These laws express the internal and necessary relations between the different elements involved in the essential relations of the mode of production, defining the imperatives of the reproduction of these relations. But because the relations are dialectical — that is, because they involve unity and struggle — their reproduction can only be maintained through 'a struggle which reproduces unity' and 'a unity which is achieved through stuggle'.[3] In the commodity relation struggle is represented by competition, which 'imposes the immanent laws of capitalist production as coercive laws external to each individual capitalist.'[4]

This brings us to the second kind of laws, the *coercive laws* which act as forces on the different agents, compelling them to play a certain role within the structure. Marx's analysis in *Capital* Vol. One is confined to this level.[5] The law of value is imposed on private agents from outside as 'an *a posteriori* necessity imposed by nature, controlling the unregulated caprice of the producers, and perceptible in the fluctuations of the *barometer* of market prices'.[6]

The picture is one of stable equilibrium, or a succession of stable equilibria separated at most by catastrophes (in the mathematical sense) and constantly being displaced and re-established by mechanical forces acting independently of the will of the agents. A cloud needs neither will nor consciousness in order to obey barometric variations: the gradient field of pressure, which determines wind direction, is enough.

If we remained at this level, we would still be able to reduce the exoteric to the esoteric. It would simply be the way in which individual agents inevitably represent the coercive forces confronting them.[7] But when Marx tries to develop an understanding of 'the process of capitalist production as a whole', in Volume Three of *Capital*, he has to look more carefully at how capitalists reallocate their cashflow[8] into one sphere or another of production or circulation. In order to understand this process he introduces a third level, that of *motives*.[9]

Different individual agents react to the coercive laws because they are in pursuit of particular aims. If, for example, rates of profit are equalized, this is primarily because the capitalists' main motive is to maximize their share of profit. Structural Marxists would argue that if they did not do that they would be wiped out as capitalists — which would seem to suggest that motives are just another way in which coercive laws appear to individual agents. This idea may have some validity in the case of other modes of production, and for the analysis of capitalism at a certain level of abstraction. The problem is that one of the characteristics which distinguishes a capitalist from a feudal lord or an oriental despot is that he controls, privately, and for private motives, the allocation and reallocation of social labour between branches and technologies. When capitalists calculate their sale prices privately, thereby demanding a portion of the aggregate social surplus-value, they effectively tamper with and influence the operation of economic law, while at the same time realizing it in their practice. Marx expands this point in *Capital* Vol. Three, where he devotes part of Chapter 12 to 'the capitalist's grounds for compensation'.

> As soon as capitalist production has reached a certain level of development, the equalization between the various rates of profit in individual spheres which produces the general rate of profit *does not just take place through the interplay of attraction and repulsion* in which market prices attract or repel capital. Once average prices and the market prices corresponding to them have been established for a certain length of time, the various individual capitalists become *conscious* that *certain differences* are balanced out in this equalization, and so *they take these into account in their calculations among themselves*. These differences are actively present in the capitalists' view of things and are taken into account by them as grounds for compensation.[10]

In this passage Marx rejects the mechanistic model of the 'barometer' which he used in the extract quoted above. There are similar passages in Volume One, the best known of which is the one where he contrasts the bee and the architect (see *Capital*, I, p. 284), and argues that what distinguishes human beings is that between their needs and environment, and what they do, comes the mediating stage of planning.[11] This is indeed a radical break with the mechanistic outlook of the nineteenth century, and more than anything else prevents him being reduced to the ranks of classical, or even neo-classical, economists. Marx does not see the economic agent, whether wage-labourer or capitalist, as a Pavlovian dog or a programmed robot — which is the conception permeating general equilibrium theory, with its functions of satisfaction to maximize and its random cybernetic processes of 'tâtonnement'. Marx sees the capitalist as a human subject capable of invention and gambling, opposed to the opacity of a world in which the future is unpredictable, using the data of the perceived world to orient himself, and weaving through his activity those worldly regularities which appear to us *after the event* as laws. But at the same time, by doing this, he is recreating deeper and more stable regularities hidden from direct consciousness — the social relations themselves. The capitalist's calculations, and the conscious perceptions on which they are based, stem entirely from the visible movement of the exoteric, which, as we know, is very different from the esoteric relations.

> The finished configuration (*fertige Gestalt*) of economic relations, as these are visible on the surface, in their *actual existence*, and therefore also in the *notions* with which the bearers and agents of these relations seek to gain an understanding of them, is very different from the configuration of their inner core (*Kerngestalt*), which is essential but concealed, and the concept corresponding to it. It is in fact the *very reverse and antithesis* of this.[12]

We can therefore say that the system of surface connections takes on a degree of autonomy and cohesion not solely because it is the form in which internal relations appear to individual agents but also because these internal relations are reproduced only *by means of* this behaviour (i.e., calculating prices) on the part of private entrepreneurs.

Now, we need to gauge the implications of price formation through 'the fixing of a supply price', as against price formation through fumbling blindly round an equilibrium. As far as the history of economic thought is concerned, we know from Marx that 'full-cost pricing' and 'mark-up'[13] were sufficiently widespread practices in his time for the nineteenth-century theorist to have some relevance to twentieth-century capitalism, where these practices are taught in business schools. He also suggests that, prices being fixed by the private calculations of businessmen, the adjustment can *a priori* be made 'by prices' (capitalists re-assessing 'compensations' — or superprofits — which they see themselves as able to impose), as easily as 'by quantities' (capitalists seeing that at such and such a supply-price they would lose customers, but preferring to regulate their debit on the desired marginal rate) — and very probably, in Marx's mind, by prices after quantities. From the standpoint of modern economic theories Marx would be a supporter of 'equilibria of disequilibria' i.e., 'non-Walrasian equilibria at fixed prices', or, more precisely, *at prices fixed by surface connections.*

In the 1960s and 1970s, more than a century after Marx wrote *Capital* Vol. Three, a number of unorthodox neo-classical works appeared on the 'micro-economic foundations of the macro-economy', showing the relationship between these situations and the money form on the one hand and the possibility of crises of realization, with general under-employment, on the other. Marx demonstrated both these things at the beginning of *Capital*, when in the metamorphosis C → M' he identified the *formal* possibility of crises and the inanity of Say's Law.[14] And in fact all we are doing here is elaborating our original comments on the *private* nature of social production in commodity economies: a contradiction which only makes full sense if the *real* autonomy of private agents is recognized, and if their freedom as subjects (including the freedom to set prices) is not deposed at the outset by the assertion that their labour must necessarily be social. This is the trap Althusserian Marxism has fallen into in France, its vision obscured by 'reproduction';[15] even the work of Benetti and Cartelier, though interesting, does not avoid it.[16]

It remains true, however, that while entrepreneurs set their own prices, their margin of freedom is extremely limited, not only *a posteriori* (when a quasi-equilibrium imposed by the

'transformation' of internal relations has been achieved) but *a priori* too, when exoteric connections are taken into account. We shall explain this next.

II. Surface Connections and Incomes

The distinction between economic laws as they relate to esoteric and exoteric connections has been a source of confusion ever since the times of Adam Smith. Marx studies the problem in depth in *Theories of Surplus-Value*, distinguishing two theories of (added) value in Smith, and even in Ricardo: the labour theory of value; and the theory of the trinity formula — the sum of wages, profits (or interest) and rent, costs of labour L, capital K and land T.

In *Capital* Vol. Three Marx mocks this 'trinity formula', which creates value by adding elements as unrelated as 'lawyers' fees, beetroots and music' (p. 953). But in fact the formula:

$$\overline{VA} = w\overline{L} + i\overline{K} + R\overline{T}$$

was the best that exoteric economies could come up with at the time. As each form of revenue follows different, initially autonomous laws, the only general rule that could be pronounced was that prices were fixed as the sum of revenues. Subsequently economists sought to describe the laws governing the autonomous formation of revenues. But the 'neo-classical synthesis' which identified the 'income of factors' with their 'marginal productivity' collapsed in the wake of the Cambridge controversies.[17] As we shall see, however, it is quite interesting to try to construct a theory of nominal prices based on the sum of their component parts.

Esoteric economics, which says exactly the opposite — that incomes are parts of the value produced by workers — operates at such an aggregated level that no individual agent can take it as an image of visible activity. Thus the autonomy of the different sources of income, seen from the surface, creates the illusion that prices are the sum of incomes and that there is, therefore, no conflict between classes:

> For [in the formula:] land–rent, capital–interest, labour–wages, for example, the different forms of surplus-value and configurations of capitalist production do not confront one another as alienated forms, but as heterogeneous and independent forms, merely different from one another but *not antagonistic*. The different revenues are derived from quite different sources, one from land, the second from capital, and the third from labour. Thus they do not stand in any hostile connection to one another because they have no inner connection whatsoever. If they nevertheless work together in production, then it is a harmonious action, an expression of harmony, as, for example, the peasant, the ox, the plough and the land in agriculture, in the real labour process, work together *harmoniously* despite their dissimilarities.[18]

Moreover, these costs are more than just data for calculations, as they represent payments which must be made in reality; they are not simply aspects of circulation, they are *in fact*, for the capitalist, the conditions of production. 'It is completely immaterial for the individual capitalist whether commodities are sold at their values or not, and so therefore is the whole determination of value . . . Wages, interest and rent, on the other hand, appear to him as governing limits not only to the price at which he can realize the portion of profit that accrues to him as functioning capitalist, the profit of enterprise, but also to the price at which he has to sell the commodity if continuing reproduction is to be possible.'[19]

The formation of prices as 'the sum of constituent elements' is therefore not only a rule of business accounting, it is also a coercive force in the capitalist's 'everyday life', and makes itself felt more and more strongly as the fraction of added value which has been prevalidated, or advanced before the actual sale of the commodities in the form of wages, rent, taxes etc, grows larger.

Transformation theory, it is true, does state that *ex post facto*, when the whole production has been realized, the sum of wages, profits, etc., is equal to the added value. But this is a different matter: *a priori*, every capitalist's supply price, which must at least cover costs, already includes almost all the 'added value': all he has to do is add his profit, which is itself subject to norms, even if they are less coercive than the need to pay the other elements.

III. Price Rigidity and the Antevalidation of Products

We now come to a crucial point: the more production tends to be prevalidated by the institutional forms current at a particular degree of capitalist development, and the greater the coherence and autonomy of the external connections (vis-à-vis the internal connections), the more rigid they become:

> The breakdown of surplus-value, that is, of part of the value of commodities, into these special headings and categories [interest, profit, rent] is very understandable and does not conflict in the least with the law of value. But the whole matter is mystified because these different parts of surplus-value acquire an *independent* form, because they acrue to different people, because *the titles to them* are based on different elements, and finally because of the autonomy with which certain of these parts of surplus-value confront the production process as its conditions. From parts into which value can be divided, they become independent elements which *constitute* value, they become *component parts*. This is what they are as far as market prices are concerned. They really become the constituent elements of the market price. How their apparent independence as conditions of the process is regulated by the inherent law and that they are only *apparently* independent, does not become evident at any moment in the course of the production process, nor does it operate as a determining conscious motive. Exactly the opposite. The highest consistency which can be assumed by this semblance of results taking the form of independent conditions becomes firmly established when *parts of surplus-value* — in the form of prices of the conditions of production — are included in the price.[20]

This remark is obviously valid for the large amount of wages that are paid to non-productive employees, and even for business mark-ups, inasmuch as capitalists claim the appropriation of the average profit and have the means to impose this 'condition'.[21] We shall come back to the question of whether this 'ossification' of a business's profit into a controlled margin is imposed with the rigidity of a tax. The extraordinary thing about this passage is its assertion that in one sense the exoteric laws, the ones on which 'vulgar' economics is based, *in fact constitute* prices. This seems in clear contradiction with the primacy that Marx attributes to internal relations.

But this 'dual explanation' is typical of Marx's whole approach.

The esoteric has to account for both the exoteric and the way the exoteric accounts for itself. Concrete reality, which is a fabric of social *relations* objectively linking all aspects to one another, takes the form of a series of reified 'factors' to which the various aspects of phenomena are subjectively referred. Wages and profit go separately to 'labour' and 'capital' — and not one to the other, as the expression of the wage relation, etc. But this 'pseudo-concrete' codified into a 'theory of factors' (to use Kosik's terms) does seem to render an account of itself; it is designed to do so, and all it has to add are the various 'factors' it encounters. Yet the 'factors' themselves are only moments of real contradictions, subject to internal relations hidden from the pseudo-concrete. This raises the problem of 'coupling', which we shall examine in the next chapter.

But first we need to look at the other side of the rigidification of prices. From Malthus to Rosa Luxemburg the 'critique of political economy' has been preoccupied with the very simple, very pertinent question of which incomes buy the part of the net product in which surplus-value is crystallized.[22] Capitalists exchange constant capital, and wage-earners retrieve the value of labour power, but what happens to surplus-value? If one must wait to see the revenues (profits) of which it is the counterpart, then there can be no way out of the problem. For surplus-value only creates them when the fraction of the product in which it appears is realized.

The core of the answer, of course, is that the 'statistical certainty' that surplus-value will be realized encourages the banks to lend capitalists amounts equivalent to the surplus-value they will realize — which *ipso facto* creates the purchasing power that actually realizes it and enables the capitalists to repay the circulating money thus issued by the banks. More precisely, by lending to investors, the banks enable them to realize the production of their suppliers. A fundamental relation can be demonstrated between the rate of growth and the amount of bank loans.[23]

Beneath this 'statistical certainty', however, there is a concrete reality. Prior to the banks' action, and without reference to it, other mechanisms contribute to the realization of surplus-value. Either realization occurs largely 'outside' capitalism (which is

Rosa Luxemburg's solution) or else part of surplus-value is already prevalidated, already has its counterpart in the form of purchasing power (which is the virtue Malthus sees in rent). Today, in addition to rent, or in place of it, comes the great mass of wages of non-productive workers, Keynes's government expenditure, and so on.

Increases in productivity pose, dynamically, exactly the same problem. If gains in productivity are introduced in such a way as to reduce the quantity of predistributed incomes, the growth of production that they involve cannot be realized in money.[24] This is the reason for the persistence of the 'deflationary gap'[25] in intensive accumulation: growth of productivity has to be *institutionally* accompanied by gains in purchasing power for the growing volume of production actually to be realized. We know that after the war it was principally the rise in wages that played that role, up until the crisis of the seventies.[26] And this rise in wages which came to be expected, almost obligatory, played its part in the increasingly discordant harmony of the exoteric economy.

* * *

We therefore have a twofold outcome. The greater the share of added value distributed in the form of prevalidated incomes, the more coherent and independent becomes the world of prices and incomes, the world of exoteric connections (which are also, of course, *intertemporal* relations, setting tomorrow's prices on the basis of today's). Moreover, the greater the probability of realizing the profit produced, the more steady accumulation becomes.

Having said that, we have virtually understood why the post-war economy expanded at such a fast and even rate in an environment of latent inflation, and why the current crisis appears in an inflationary form. Once the mass of incomes, prevalidated by means of a whole fabric of laws, customs, rights and other institutional forms, gives sufficient solidity to the intertemporal surface connections, the exoteric economy can start its inflationary flight.

Notes

1. *Capital* Vol. 3, Harmondsworth 1981, pp. 968-9.
2. This term should not be understood in the 'functionalist' sense. We are not saying that the fetishism is there *in order to* help social relations run smoothly (or that, as vulgar Marxism says, ideology exists to cover up exploitation). We first *derived* the exoteric from the esoteric via a structural causality: it is the effect on the consciousness of agents of the social relations which they sustain. Up to this point our perspective has been an 'Althusserian' one. Now, however, we shall show that social relations could not reproduce themselves *without* this fetishism (except in very different ways, with different fetishisms).
3. See the foreword to *Crise et Inflation* for a discussion of the dialectic of unity and struggle in Marx.
4. *Capital* (French edition), I, part 3, p. 32.
5. Here Marx is using the two approaches that had been developed by the physicists of his time. The immanent laws correspond to the Lagrangian view, in which a system, such as the solar system, is seen as developing towards the maximisation or minimisation of a particular function. The coercive laws correspond to the Newtonian scheme which sees the movement of the celestial bodies as controlled by a force which makes them move in elliptical orbits.
6. Ibid., p. 476. Emphasis added.
7. We would agree with Rancière (1965) when he says: 'The forms presented by fetishism are not forms distorted by speculation. They are the actual forms in which the capitalist production process exists for the agents of production.' Classical Althusserianism (as in *Lire le Capital*) remains within this reductionist perspective, although in Balibar you do find the idea of a *presupposition* of legal norms in economic relations.
8. I shall use this exoteric term to refer to what Marx calls paid-up capital: it is the flow of turnover, less the circulating capital necessary to keep up the same rate of production. It is therefore the sum of profits and depreciation of machinery, ie. what is really available to be reinvested in a new process, in another branch (the rest being 'tied' to the utilisation of existing assets).
9. Marx does in fact mention the latter use of the category in his analysis in Volume One: 'While it is not our intention here to consider the way in which the *immanent laws* of capitalist production manifest themselves in the external movement of the individual capitals, assert themselves as the *coercive laws of competition*, and therefore enter into the consciousness of the individual capitalist as the *motives* which drive him forward . . . (*Capital*, I, p. 433. Our emphases.)
10. *Capital* Vol. 3, pp. 311-12.
11. On this, see *Crise et Inflation*, the conclusion to section 3 (pp. 360ff.).
12. *Capital* Vol. 3, p. 311. Emphasis added.
13. There are two ways of setting prices by adding marginal rates, either by calculating it over a fraction of directly attributable costs, or on the general production costs of a commodity. Marx's letters to Engels contain extremely detailed questions about the management and accounting practices used in his father's business. Engels embarrassedly replies that the methods used by his father and his colleagues are much more empirical than Marx imagines.
14. See the conclusion to Benassy's article (1976). In general, the 'post-Keynesians' often achieve little more than a partial recuperation of Marx's analyses, sometimes sophisticating them, sometimes impoverishing them, in the process. Keynes himself owed a considerable debt to Marx, whose ideas came to him via the great Polish economist Kalecki.

15. I have long criticized the tendency of Althusserians not to 'read' the chapter on commodities, to deny contradiction, to reduce the activity of agents to a shadowy reflection of that of structures, and not to be able to understand crises. (See the foreword to *Crise et Inflation*.)
16. C. Benetti and J. Cartelier, *Economie classique, economie vulgaire*, Grenoble 1975; *Marchands, salariat et capitalistes*, Paris 1981.
17. See G.C. Harcourt, 'Some Cambridge Controversies in the Theory of Capital', *Journal of Economic Literature*, June 1969.
18. *Theories of Surplus Value*, Vol. 3, p. 503.
19. *Capital* Vol. 3, p. 1013.
20. *Theories of Surplus Value*, Vol. 3, p. 511.
21. In the draft chapter at the end of Volume Three of *Capital*, in which Marx uses some of his work in Volume Four on vulgar economics ('The Illusion Created by Competition', pp. 1010-1012) he puts this even more forcefully. 'Average profit plays a role in the price of production similar to that of played by wages in the commodity's cost price . . . This average profit has a practical bearing in the mind and accounting of the capitalist himself, as a regulating element, not only insofar as it determines the transfer of capital from one sphere of investment into another, but also for all sales and contracts involved in a reproduction process extending over a prolonged period. But insofar as it has this practical bearing, it is a magnitude fixed in advance, which really is fact dependent of the value and surplus-value produced . . . Instead of being the result of a division in value, it rather presents the appearance of a magnitude independent of the value of the commodity product, given in advance in the commodity's production process and itself determining the average price of the commodities; it presents the appearance, in other words, of a formative element of value.'

And Marx concludes: 'The secret reason why these products of the dissolution of commodity value constantly appear as the premises of value formation itself is simply that the capitalist mode of production, like every other, constantly reproduces not only the material product but also the socio-economic relations, the formal economic determinants of its formation. Its result thus constantly appears as its premise, and its premise as its results. And it is this constant reproduction of the same relations which the individual capitalist anticipates as self-evident, as an indubitable fact.'

22. This is the basis of Rosa Luxemburg's argument in *The Accumulation of Capital*, and it is also the one Emmanuel uses in *Le profit et les crises* (Paris 1974), despite his sarcasm about her.
23. In 'Realization and Accumulation in a Marxian Model of the Circuit of Capital' (*Journal of Economic Theory* No. 2, 1982), Foley sets this relation within a reproduction schema which clarifies delays in the production, realization and re-engagement of capital (whether realized or on loan). More broadly, genuine Keynesians were well aware that the creation of money by the banks was the condition of growth in production, and that one has to talk about 'credit multipliers' (see for example the noteworthy work by Denizet, *Monnaie et financement dans les années 1980*, Paris 1982). Because Rosa Luxemburg restricted herself to the absurd hypothesis of a pure gold-money, she constantly confused the real problem of the prevalidation of surplus with the purely technical problem of the 'money that has to buy back surplus-value'.
24. Which is the reason why Okishio's theorem is not relevant. He assumes

that real wages must remain fixed and from that deduces that it is impossible to introduce technical changes which would lead to a fall in the rate of profit. See Lipietz, 'Conflits de répartition et changement technique dans la théorie marxiste', *Economie Appliquée* No. 2, December 1980.

25. The expression belongs to Pierre Massé, general director of the French Plan in the 1960s. Quoted from M. Fourquet, *Les comptes de la puissance*, Paris 1980, p. 282.

26. This is the main contribution of the works on 'monopoly regulation', but the idea itself is very widespread; and it was by using it that 'auto-centred' and 'extroverted' economic spaces were first defined. It is essential to the 'monopoly regulation of intensive accumulation' that the rise in distributed purchasing power *anticipates* gains in productivity, and therefore that it functions by raising wages at constant prices (or prices that are increasing less strongly). In the competitive regulation characteristic of the nineteenth century on the other hand the (much slighter) gains in productivity were diffused by a 'price war', which brought with it a permanent risk of a crisis of overproduction. (See *Crise et Inflation: Pourquoi?*). This is why J.G. Thomas, having understood perfectly that the 'profit system' requires a parallelism between gains in productivity and purchasing power, is mistaken when he believes that that could happen 'with fixed wages and falling prices'. (*Politique monétaire et autodestruction du capital*, Paris 1981.)

Chapter 5

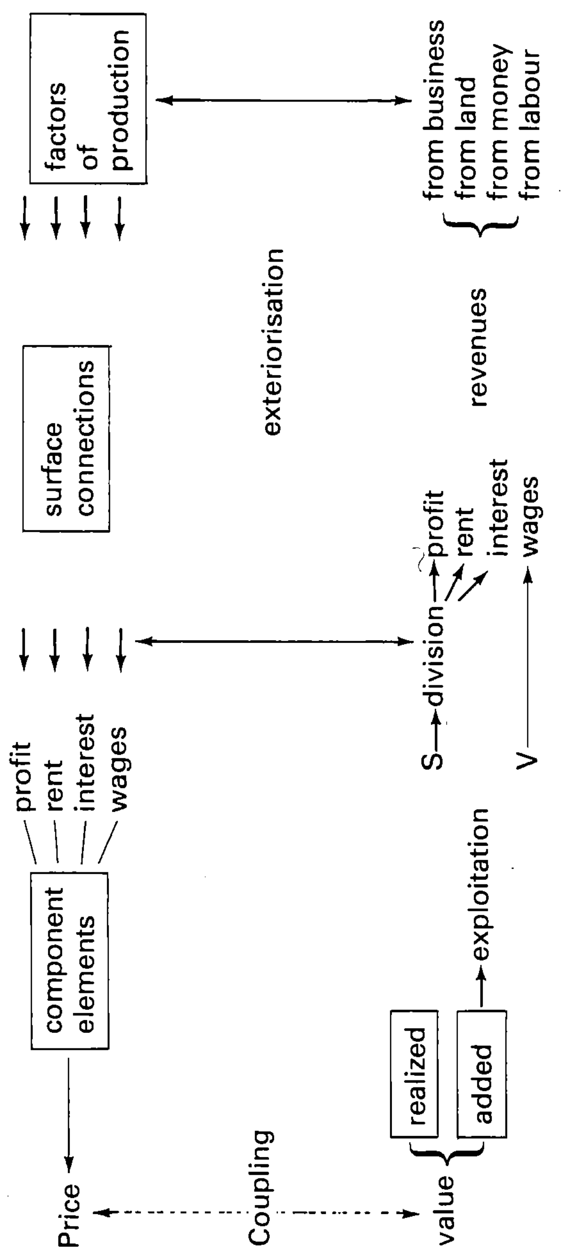
Esoteric versus Exoteric: the Contradictions

So far we have described an open loop. We have moved from the esoteric to the exoteric and studied various of its characteristic properties, notably its appearance of autonomy. Now we must try to close the loop, to make the exoteric compatible with its foundation. The transformations we have studied are represented in figure 1: added value is divided by the social relations, and the results of such division appear to be related to various 'factors of production' through surface connections: and the sum of the divided parts appears to constitute the supply price that has to be realized.

The different mediations discussed in earlier chapters give rise, in the exoteric realm, to a system of prices governed by different surface connections, each with its autonomy. After that, there can be no guarantee that the system of prices that measures the growth of values-in-process, the different revenues and the norms of commodity exchange, will be consistent with the immediate production of value and the prevailing norms of allocation and reallocation of social labour. Furthermore the price system may not develop in accordance with the same tendencies as the system of values, and there must therefore be a coupling process by means of which the two systems can remain mutually compatible.

In the very particular case of 'transformation' that we have been studying — even if it is extended to cover rent, but always

The composition of the exoteric economy



[figure 1]

with constant production norms and rate of exploitation — this compatibility is expressed in Marx's famous equations (if the sum of prices is equal to the sum of values then the sum of profits and rents equals surplus-value), whatever nuances may be introduced by the definition of the value of labour power. They express the fact that what is distributed through wages, profits and rents is nothing but added value, as it is broken down by exploitation and the conflict between capital and landowners. The seeming autonomy of the system of production prices is only a particular case of the self-consistency of the exoteric, and the verification of Marx's equations expresses the compatibility of this system with the system of values.

But in fact the system of norms of production and distribution is constantly being upset, and the adjustment of the exoteric structure of prices and revenues to changes in the division of labour means that the question of the esoteric-exoteric coupling has to be resolved.

This coupling, considered as a socio-economic process, was left out of account in exoteric economics and its neo-classical formulations. But Marxists have taken equally little heed of it, and failed to give surface relations the importance they deserve. This is all the more unfortunate as it is only at this level that a theory of crises can be developed. The internal connections and immanent laws express only the unity of the capitalist structure — that is, its reproduction. But there is a tension between what capitalism requires its agents to do for its reproduction, and the manner in which people are induced to act as a support of the social relations. And it is here that crises arise.

To put it more precisely, to the extent that the behaviour of agents belongs to the 'enchanted world' of fetishism while the compatibility of their acts with the reproduction of capitalist relations is governed by the internal laws of the mode of production, the contradictory relation between esoteric and exoteric is where the determinants of crisis will appear.[1]

A contradiction, however, implies both 'unity' and 'struggle' between two moments. When unity is dominant, reproduction goes ahead without any major problem. When divergences between esoteric and exoteric begin to mount up, it is the crisis which in the end has either to be re-establish unity[2] or to drive forward a transformation in the system of relations.

I. From Identity to Divergence

Having discussed the components of the exoteric in the chapter of *Theories of Surplus-Value* on 'Revenue and Its Sources: Vulgar Political Economy', Marx continues:

> Assuming that the production process repeats itself continuously under the same conditions, in other words, that reproduction takes place under the same conditions as production, which presupposes that productivity of labour remains unchanged, or at least that variations in productivity do not alter the relationships of the different factors of production; . . . In that case, *although it would not be theoretically accurate to say that the different parts of value determine the value or price of the whole [output], it would be useful and correct to say that they constitute it insofar as one understands by constituting the formation of the whole by adding up the parts*. The value would be divided at a steady and constant rate into [pre-existing] value and added value; and the [newly created] value would be resolved at a constant rate into wages and profit, the profit again being broken down at a constant rate into interest, industrial profit and rent. It can therefore be said that P — the price of the commodity — is divided into wages, profit (interest) and rent, and, on the other hand, wages, profit (interest) and rent are the constituents of the value or rather of the price . . . (What *value* is for the genuine economist, the *market price* is for the practical capitalist, that is, in each case the primary factor of the whole movement.)[3]

Let us look at what this passage is saying, which is as characteristic of Marx's dual political economy as of his epistemology. If all the production norms remain unchanged, including the norms of exploitation (productivity, length and intensity of the working day, and value of labour power), then the two systems, esoteric (the value system) and exoteric (the system of prices and revenues), are equally consistent and can be derived from each other. They possess the same legitimacy.[4] Both deal with the same data, 'everyday life'. All Marx says is that the first is 'theoretically exact' while the second is 'practical and right'. Their property of 'relative consistency' (in the logical sense) remains valid even when the value system is transformed, as

long as that happens without 'torsion'. In other words, the exoteric is to the esoteric like a mesh laid over a table, a map applicable to the surface it describes, as in the case of a plane or even of a cylinder.[5]

Take for example, a capitalist economy with no shareholders such that the total amount of surplus-value is paid to a pure capital and the rate of interest merges with the rate of profit. Let $S(t)$ be the esoteric structure of this economy at time t, i.e. the norms of production, rate of exploitation, structure of accumulation, etc. We know that for a structure of that sort defined at a given moment t there is a corresponding rate of profit of $r^*(t)$ and a wage-rate s , a system of prices, a rate of growth g etc.[6] And let us make the unit of value, incorporated labour, labour power and price, the quantities corresponding to the initial period of duration $\Delta t = 1$.

Esoterically we shall then have (taking L as the social labour expended during the unit of time):

$$VA_o = L_o \ (=1)$$

Exoterically the 'trinity formula' (binary in this case, as there is no rent) gives us:

$$\overline{VA}_o = s_o\overline{L}_o + r_o\overline{K}_o = 1$$

We are still overlining the quantities which appear in the 'enchanted world', with $\overline{L}$ representing the amount of manpower, giving, when the tensor of exploitation is taken into account, abstract labour $\overline{L}$, and $\overline{K}$ representing the amount of capital advanced.

If for the period 0, s_o and r_o are those deducted from S_o via the solution to the transformation problem (indicated by *), we then have the perfectly equivalent:

$$VA_o = L_o = V_o + S_o \text{ (esoteric)}$$
$$= \overline{VA}_o = s^*{}_o\overline{L}_o + r^*{}_o\overline{K}_o \text{ (exoteric)}$$

But what happens for later periods? Esoterically, the value added during period t depends exclusively on the quantity of labour incorporated in period t (as value is defined synchronically):

$$VA\,(t) = L\,(t)$$

Exoterically, however, the 'added value expressed in price' is derived from external connections which separately determine wages and profit which appear to evolve independently from period to period, diachronically:

$$\overline{VA}\,(t) = s(t)\,\overline{L}\,(t) + r\,(t)\,\overline{K}\,(t)$$

In the example studied here the rates of profit and wage-rates are all fixed, both at the esoteric and the exoteric level — that is, $r^*\,(S(t))$ and $s^*\,(S(t))$ are constant.

Thus internal measures (in value) and external measures (in prices) of the value added by labour increase in parallel with rate g. Mathematically:

$$VA\,(t) = (1 + g)^t L_o$$

$$\overline{VA}\,(t) = s^*\,(1 + g)^t\,\overline{L}_o + r^*.\,(1 + g)^t\,\overline{K}_o = (1 + g)^t\,[s^*\overline{L}_o + r^*\overline{K}_o]$$

thus $VA\,(t)$ always $= \overline{VA}\,(t)$

Put differently, the labour equivalent of money $LEM = L/\overline{VA}$, which is assumed from the start to be equal to 1 by the choice of units, remains constant. But note that this follows not from a *direct* definition of 'the value represented by 1 franc' (through, for example, the value and price of production of gold on one hand, the gold-price of the currency on the other), but from the *global* relationship between the esoteric and the exoteric.

Here we have a perfect correspondence between the surface connections and the system of values, which is the consequence of the commutativity of the diagram on the opposite page.

Note that the horizontal time arrows, which express the 'flow of time' by the variation of 'calendar time' t, in fact refer to two very different temporalities. In *Crise et Inflation*, the 'esoteric' time of the revolutionizing of the economic structure is called θ, and the 'exoteric' time of the circulation of values-in-process is called t. For present purposes, however, this is not a distinction of any importance, because the commutativity of the diagram does nothing more than express the 'uniformity of reproduction'. But Marx continues:

> This uniformity or similarity of reproduction — the repetition of production under the same conditions — does not exist. Productivity itself changes, and changes the conditions [of production].

$$\begin{tikzcd}
S_o \arrow[rr, "\text{esoteric}"'] \arrow[d, "*"] & & S\,(t) \arrow[d, "*"] \\
s^*_o,\, r^*_o \arrow[rr, "\text{exoteric}"] & & s(t),\, r(t)
\end{tikzcd}$$

> The conditions, on their part, change productivity. But the divergences are reflected partly in superficial oscillations which even themselves out in a short time, partly in a *gradual accumulation of divergences* which either lead to a crisis, [to a] violent, seeming restoration of the old relationships, or very gradually assert themselves and are recognized as a change in the conditions.[7]

As soon as we turn to the actual workings of capitalism, therefore, with its permanent transformations in the conditions of production and consequently in the system of values, the possibility of 'divergences mounting up' between value and price begins to develop, as if the values-in-process governed by exoteric relations, like the characters in a cartoon film, had continued their headlong course while the ground gave way beneath them. Sooner or later some adapting has to be done.

But what prevents the continued adaptation of the system of values and prices, and therefore also consolidates the mounting divergences, is the fact that the prices are arrived at by adding and distributing prevalidated revenues, that is, revenues corresponding to values which are no longer socially validated. The larger the proportion of prevalidated revenues becomes, the greater the rigidity of the intertemporal exoteric connections, and the more difficult adaptation becomes.

> Interest and rent, which anticipate surplus-value, presuppose that the *general* character of reproduction will remain the same. And this is the case as long as the capitalist mode of production continues. Secondly, it is presupposed moreover that the *specific relations* of this mode of production remain the same during a certain period, and this is in fact also more or less the case. Thus the result of production *crystallizes* into a *permanent* and *therefore prerequisite condition of production*, that is, it becomes a permanent *attribute of the material conditions of production*. It is *crises* that put an end to this apparent *independence* of the various elements of which the production process continually consists and which it continually reproduces.[8]

Now let us go back to our simple model. Let us assume that the 'preconditions of production' have grown 'rigid' in such a way that the rate of profit (or interest) and the wage rate are still presupposed as 'permanent attributes' — that is, as constants.

$$s(t) = s_0,\ r(t) = r_0$$

But this time the conditions of production and the *actual* rate of exploitation have changed between t_0 and t, so that after a succession of periods of expanded reproduction, the divergences have mounted up:

$$r^*[S(t)] \neq r_0^*$$

$$s^*[S(t)] \neq s_0$$

In general, therefore, the monetary revenue (equal to the price of the net product) for the period is no longer equal to the value added over the period:

$$VA(t) \neq \overline{VA}(t)$$

although value VA(t) still measures the social labour L(t) expended over the period. The 'incomes of factors' have become incompatible with the actual conditions of production. More generally, this happens when the 'accumulation of divergences' breaks the commutativity of the diagram:

$$\begin{tikzcd}
S_0 \arrow[r] \arrow[d, "*"] & S(t) \arrow[d, "*"] \\
s^*_0,\ r^*_0 \arrow[dr] & s^*(t),\ r^*(t) \\
 & s(t),\ r(t)
\end{tikzcd}$$

What happens then? The attempts of wage-earners and entrepreneurs to secure recognition of the social value of a given mass of wages and profit, determined by external connections, while the value added by labour is separately determined, are met by the following inequality:

$$L(t) \neq s(t)\,\bar{L}(t) + r(t)\,\bar{K}(t)$$

Formally, the equality can be re-established in very different ways:

either the production is not completely validated, in which case the two sides of the equation are equalized from below; or r (t) and s(t) are modified; or again the inequality is retained, and the value of the amount of money represented by the right-hand side of the equation is modified. In this case, the labour-equivalent of money:

$$LEM(t) = L(t)/s(t)\,\bar{L}(t) + r(t)\,\bar{K}(t)$$

has to change.[9]

In other (not very correct) words, the level of prices 'takes off' in relation to the level of values. Note that we are dealing here with the *general* level of prices and not with variations in relative prices (which are the subject of Marx's theory of market prices). In particular if, as is very often the case, the labour equivalent of money decreases, this cannot be attributed to an autonomous variation in the 'value of the franc'; it has to be understood as *the global result of a divergence between nominal incomes and value-product*.

At any event, it is crises which ultimately decide the social validity of prevalidated incomes and of the private engagement of labour on which they are based. And as we shall see, there is more than one way in which crises realize this, or — what comes to the same thing — more than one way for the systems of prices and values to readapt. It depends on the concrete processes through which the constraint of social validation manifests itself. In fact, although the fundamental relations of capitalism have not changed since the beginning, its mode of functioning or 'regulation' has altered considerably with the concentration and centralization of capital, the contractualization of the wage relation, the change in the role of the State, in the nature of money, and so on.

II. Monetary Constraint in the Case of Gold-Money

Historically speaking, Marx posed the question in these terms: what is it that prevents capitalists from imposing any arbitrary rate of rent or profit, given a certain level of real wages. He imagined two answers, two types of constraint.[10] One of these is still valid, the other is not.

Marx's second answer rests on a sort of 'monetary constraint in the *strict sense*'. Now, monetary constraint means that products need to be socially validated in the exchange C → M. Labour engaged privately in the production of C thereby sees itself paid with a right, materialized in M, over an equivalent amount of social labour. This social validation can take place, at the esoteric level, only if the private expenditure of labour is part of a coherent schema of reproduction. On the other hand, in 'the upside-down world of competition', this condition appears satisfied if the commodities are actually sold, at the desired price as it is derived from the surface connections.

For Marx, however, living in a period of gold-money, these prices are expressed in gold, or at least in currency convertible

into gold. In a situation where there is equilibrium between the different productions (that is, where all production is socially validated) the laws of transformation (possibly distorted by other social relations, in particular rent, which always affects the production of gold!) determine the relative prices of different commodities, including gold, as a function of the productive structure. And as the nominal price of gold is obviously fixed (money being defined by its equivalence to an amount of gold), the surface connections must be adjusted to ensure that nominal prices are equal to the corresponding gold prices (or to the equivalent in the different national currencies). Once real wages (or the rate of exploitation) are given, nominal wages and the rate of profit are also given. Since the laws of price formation express the rules for distributing different incomes, the stability of prices around a fixed point (prices in gold) simply expresses the internal coherence of production, distribution and consumption in society. Via the conditions of production of gold-money, the exoteric is constantly adjusted to the esoteric. Even if the prices seem fixed by 'the sum of their components', the sum, expressed in gold, is limited by the 'transformed' value: it is exchange-value against money.[11] Here we may speak in terms of constraint 'by the particular value of money'.

If we suppose that all productivity and therefore all values are constant, then a rise in the general level of prices expressed in gold can be explained simply by an inadequate supply of commodities: all production is validated (a boom). Since under these conditions there is a weak demand for means of validation — that is, for gold — the price of gold in relation to other commodities will fall, and concomitantly the prices of other commodities expressed in gold will rise. Conversely, if the supply of commodities exceeds the amount of revenues already validated as unconditional rights over social production (rights expressed in the form of gold-money), then the prices of commodities expressed in gold will fall (a crash).[12]

Thus, in a gold-money regime, the adjustment of divergences $VA(t) \neq VA(t)$ is temporarily deferred by a boom, and then eliminated by a crash in which $L(t)$, $r(t)$ and $s(t)$ collapse simultaneously, at the same time as the gold price of commodities slumps.

In the assumed conditions of gold-money Marx's argument is perfectly valid. It accounts for essential aspects of the dynamic underlying the oscillations in price level, characteristic of the business cycles of capitalism until the beginning of this century. Of course, we have greatly simplified the analysis. In reality there have never been producers of gold feeding 'the demand for money', increasing and decreasing their investment in the mines in accordance with the demand for means of circulation and payment. In fact the creation of money has always been the preserve of the State and the banking system. But at least in principle, and ultimately in reality, the worth of the money issued was always linked to the price of gold. Bank-notes were acceptable because they would be converted into official money, and that in turn was assumed to be convertible into gold. As soon as there was a commercial crisis, the money issued by the banks in anticipation of the realization of values-in-process no longer came back in the form of repayment. These monetary symbols, lent to debtors and put into circulation by them, came back to the banks with the demand that they should be exchanged for the 'real money' (gold) they were meant to represent. The only social sanction became 'having money' (or gold) rather than credit. Unable to pay, the banks followed the debtors in their fall.

But nowadays, even in international relations, there no longer seems to be any final exchange of the monetary symbol for the money commodity, gold.[13] Capitalism has passed into the era of credit money in which 'real money' is no longer a 'true' commodity. And yet the 'coupling' constraint remains effective. We are now in a tight corner, and we need to look at the fundamentals of money and the value it represents.

Notes

1. Studying the tendencies of capitalism which result from its internal structure (the tendency of the rate of profit to fall, for the organic composition of capital to rise, etc) cannot directly give us an understanding of the transition to the visible

stage of the crisis, ie a break in the normal progress of expanded reproduction. Yet as we shall see these tendencies remain the original cause of crises, in the sense that it is precisely they that develop the divergences we shall be studying.

2. 'It is just the *crisis* in which they assert their unity, the unity of the different aspects. The independence which these two linked and complementary phases assume in relation to each other is forcibly destroyed. Thus the crisis manifests the unity of the two phases that have become independent of each other. There would be no crisis without this inner unity of factors that are apparently indifferent to each other.' (*TSV*, *II*, p. 500)

3. Ibid., Vol. 3, pp. 517-18. Emphasis added.

4. This still comes as a surprise to Samuelson (op. cit.), a century later, when he realizes that the system of prices is totally consistent and independent of the system of values.

5. The image of a mesh over a surface is borrowed from A. Einstein (*La relativité*, Paris 1956). An example of a map which is not applicable to its surface is that of a sphere, where torsions and distortions are unavoidable. These problems are the subject matter of differential geometry. Once again, any correct formalisation of the relations between the exoteric and the exoteric would have to use this theory, and its extension, catastrophe theory.

6. See A. Lipietz, 'Nouvelle solution au problème de la transformation: le cas du capital fixe et de la rente', *Recherches Economiques le Louvain*, Vol. 45, December 1979.

7. *Theories of Surplus Value*, Vol. 3, p. 518. Emphasis added.

8. Ibid., p. 518.

9. Note that here the *measurement* of the social value of money starts to be disputed. We shall see that at the extreme (under state capitalism) the very *quality* of money, as unconditional right over output, is called into question — indeed, as one Polish minister put it, the ration coupon devalues the zloty.

10. These answers are set out in the section on 'Illusions created by competition', in *Capital*, III.

11. This is a well-known result of the theory of prices of production, in which the equations simultaneously (though in a hidden way) express the relations of value and the complete realization of the commodities. If we select the production of one of the branches to use as currency, all the prices, rates and incomes will be determined in absolute terms.

12. 'Exchange relation, however, may express both the magnitude of value of the commodity and the greater or lesser quantity of money for which it can be sold under the given circumstances. The possibility, therefore, of a quantitative incongruity between price and magnitude of value, ie the possibility that the price may diverge from the magnitude of value, is inherent in the price form itself. This is not a defect, but, on the contrary, it makes this form the adequate one for a mode of production whose laws can only assert themselves as blindly operating averages between constant irregularities.' (*Capital*, I, p. 196).

13. We were therefore surprised to find Ernest Mandel (*La crise 1974-1982*, Paris 1982) persisting in an attempt to prove that prices are falling in the current stagflation 'because' this happens in a crisis of overproduction! In order to do this he brings together various gold-money statistics and shows that between 1974 and 1980, because prices in dollars rose less quickly than the dollar gold price, the gold prices were actually falling. But during that period production was *growing* in all countries. Whereas the dollar price of gold was more than halved between 1980 and 1982, when output fell spectacularly.

In this incredible demonstration Mandel also tries to prove that the value of gold rose with differential rents, going so far as to unearth the absurd empirical law meant to link an ounce of gold to a barrel of oil, which he sees as based on 'the similar conditions of production of the two minerals'! In this way, Mandel leaves out of account not only the absolute rent accruing to the USSR and South Africa, but above all the erratic market-price of gold which varies according to the demand for gold as a *refuge-value*.

Chapter 6

Credit Money and Real Constraint

Many Marxists feel distrustful of credit money and are hesitant to consider it as 'real money', even in a regime where it is 'legal tender'. And there is a strong argument for their position, expressed in lapidary form by Marx in Chapter 1 of *Capital*: 'Gold confronts the other commodities as money only because it previously confronted them as a commodity.'[1]

This is often taken to mean that if 'real money' is to fulfil its function as a universal equivalent, it must at the very least appear in a particular commodity, a crystallization of abstract labour. If not, how could it express value?

But this condition of Marx's is not as constraining as it appears, and there is in fact a place in his theory of the value-form for a theory of pure credit money.

We may begin by setting down the *minimum* conditions required, in Marx's theory, for any institution to play the role of money. Since the money form rests on the fetishism of value, we shall examine both historically and theoretically how the development of this fetishism lies at the root of the transition from commodity-money to credit-money. We shall then be in a position to understand why, within a credit-money framework, the crisis can take the form of inflation.

I. The Development of Fetishism and the Development of Money

In Chapter Two we briefly restated the analysis of the nature of money contained in *Crise et inflation: pourquoi*? Let us now go further.

1. Value Form and Commodity-Money

Money as universal equivalent is a double symbol, giving substance to the two aspects of exchange. In the simplest kind of exchange:

$$xM = yN$$

yN (i.e. a quantity y of commodity N) has a dual role.

a) By the fact that it is exchanged for M it represents the social validation of the labour which has produced xM. As equivalent it therefore represents to the owner-producer of xM the social utility, the 'value quality' of commodity xM of which he is trying to rid himself after having produced it (or having acquired it for resale).

b) Insofar as it is obtained for xM, yN is the new property — the product of another department of the social division of labour — obtained in return for participation in social labour through the production of xM: it is thus the 'purchasing power' which remunerates its producer.

The vesting of commodity N with the dignity of universal equivalent, money, signifies that N itself no longer needs to appear in the 'relative' form, constrained to seek another equivalent that will acknowledge its social character. On the other hand, yN still possesses a 'purchasing power' that is expressed in an endless series of commodities of the same value — for 'transformed' this value may be.

We should note that the simplest experience of exchange[2] potentially endows any commodity with the character of equivalent, the capacity to validate the private production of another commodity and to embody its value. But it is the 'decision'[3] of society (in fact, custom or the State) which designates one particular commodity to be 'representative' of value. At least that is what happened in the relations between natural communities (that is to say, communities operating commodity exchange between each other but not within themselves), and when commodity relations emerged within ancient society; and this is still

the custom within the dominant groups who determine what shall be used as money either in countries that have been ravaged, such as Cambodia, or in prisons or concentration camps. As long as production 'for value' and more precisely 'for surplus-value' is not the rule (that is, as long as capitalism remains fairly undeveloped), exchange relations are organized around the circulation of a symbol which does itself have a value (salt, zebu, metal, tinned food or cigarettes). This symbol is the representative of the class of equivalence of commodities with the same value: to own it is to be able to obtain other things, and to acquire it (by selling) is the verification that what one had, or had produced, was socially useful. Commodity-money therefore corresponds to the first form of the fetishism of value, synchronic value: a commodity of this sort *has* value (and its owner 'possesses' this quantity of value). It must be remembered, however, that this fetishism reflects the fact that in order to produce the commodity, a certain quantity of labour which proves to be social has to be expended.

Now let us measure the conditions under which the privilege of being money is acquired. Money: the sole equivalent that is never relative, the only immediately social representative of private labour.

a) First, all the private labour whose product is exchanged eventually becomes social. But the labour which money 'represents' is 'canonized' as social by an *a priori* decision of society or its 'representative', the State.

b) Next, the privilege seems to be bestowed on the product (gold), but this is merely due to that fetishism which makes value a property of things. In fact, it is private labour which is canonized *a priori* as social.

If a commodity economy is so organized (or 'regulated') that to a certain extent non-validated commodities are 'prevalidated', then 'scraps of paper' representing these commodities, or even the private labour of which they are the product, can theoretically perform the function of money. Before we develop this argument further, however, we need to say a little more about the 'fetishism' through which social labour is perceived as 'value' and through which it becomes a 'representative'.

2. From the Consolidation of Values-in-Process to Credit Money

In Chapter Two we showed how, with capitalism, fetishism reached a new stage in its development, passing from 'synchronic' value to 'value-in-process'. There is a corresponding and logical development of the money form.

Synchronic value defines classes of commodities that have the same value. The operation by which one particular commodity (gold) is 'marked out and elected' from these classes of equivalence (usually by the State) establishes the money-commodity, and the fact that gold can be almost indefinitely divided and aggregated enables each class to be represented by a quantity of money of the same value. This money confirms the theoretical conditions of the money function, which can be sub-divided into three classical elements: a standard of prices; a means of circulation; and a means of payment and hoarding or 'reserve'.[4] As Marx pointed out, only the third of these involves the social form of 'real money', the capacity socially to validate private production without having been validated itself. Money stockpiled and sheltered from the exchange circuit (hoarding) still represents social value ('purchasing power'), and by circulating in settlement of a debt it sanctions a transaction whose validity had only been anticipated (means of payment).

Let us suppose that the 'process of reproduction' performed by values-in-process around the focus of capitalist production acquires a certain regularity. By that I mean that the 'dangerous leap' operated by every non-money commodity when it has to confront the test of social validation — that is, to realize itself in money — happens almost immediately: products are sold, labour power is bought. Values-in-process are then almost certain to be conserved (in the case of labour power) or to increase (in the case of capital).

This regularity, which can be anticipated because it is guaranteed by the machinery of prevalidation, is the essence of what we have called 'monopolist regulation'. The social conditions which accompany it, set out in networks and 'structural' or 'institutional forms', are as follows:

a) Contractualization of wage-labour, backed up by a system of indirect wages, such that wage-earners' incomes maintain roughly the same purchasing power, and when times are good (i.e. until the recent crisis), a steady growth parallel to rising productivity that comes with the extension of Fordism within the units of production.

b) Centralization of finance capital allowing groups not only to orient their production within the shifting map of the social division of labour, but even partly to overcome the distortion of the division itself.

c) State intervention to guarantee the two preceding conditions, as well as the new form of monetary creation at which we shall be looking later.

These conditions, which are in fact necessary in a regime of intensive accumulation, are explained in detail in *Approches de l'Inflation* and *Crise et Inflation*. I only mention them here to stress the extent of the social conditions involved in a paper-money regime.

Let us assume that they have been broadly realised, so that the *presupposition* of the regularity of the 'double mill'[5] has been confirmed, the force of labour being seen as 'safely' taken on, or at least solvent, and commodity capital as 'safely realized'. So when a proletarian is qualified to labour he earns so much a month, and when capital is engaged it brings in so much a year. No banker would hesitate to provide clients like this with means of circulation corresponding to expected incomes, nor would any central bank hesitate to guarantee means of circulation which had been so prudently secured as a genuine means of payment.

Things are not as simple as that, of course. But 'if everything goes well', that is:

— if the system of norms of production, exchange, consumption and distribution remains stable, or changes its shape 'without wrinkles or holes', and especially if the general rate of profit remains constant (at, for example, ten per cent),

— if every product is realized 'at its regulatory price'[6] without any problems, then it becomes the same to say that '4,000 Francs represents the value of so many grams of gold',

or: '4,000 Francs represents the value of a worker's shopping-basket of the same value as that quantity of gold';

or: '4,000 Francs represents the normal monthly income of a wage-earner with a given degree of skill who is allowed the consumption of that shopping-basket';

or finally: '4,000 Francs represents the normal growth over one year of 40,000 Francs capital, which might for example engage ten workers of the appropriate degree of skill for one month'.

In this way we move almost surreptitiously, thanks to the unchanging norms and to realization of production, from a definition of the franc by 'instantaneous values' to a definition of the franc by 'values-in-process'.

Value-in-process is a long series of metamorphosed forms which are always assumed to be realizable as money, and it is measured in terms of the amount of money into which it would be transformed in a 'normal' realization. Credit money is precisely the quantity of means of payment handed over by the issuing system to an economic agent on the basis of anticipated realization of 'value-in-process' currently held in non-monetary form (as commodity stock in the case of bills, etc.). It is precisely because *it represents a value in the course of realization* that credit money is able to play the part of 'real money', as a means of payment; it is embodied in a set of written symbols rather than in the *product* of human labour, but when it confronts particular fruits of private labour to be realized, as commodities, it still represents legal recognition of the social character of that private labour. The only difference is that instead of finished labour (gold production), the labour involved here is in the course of realization. Instead of the law being: Gold is exchangeable, it becomes: these values-in-process must be considered as realised!

II. The Origin and Logic of Credit Money

Economists by and large believe that the value (and 'validity') of gold is self-evident, that the value of legal banknotes has in the end also become self-evident, and that credit money alone, whether 'bank' or 'fiduciary', requires a higher degree of imagination and greater powers of abstraction and trust. And historically this is true. But in a world in which credit money has passed into everyday use its symbolic function is equally assured because it represents a certain experience and refers to a different 'referent': value-in-process.[7]

1. The Experience of Credit

There is a little parable which explains this very well. Imagine, with humourist Art Buchwald, a caricature of the American situation in which all transactions are carried out by cheque or credit card. Then suppose the government decides to impose drastic controls on credit and orders a return to cash payments. Supermarket chains have to run retraining schemes for their cashiers. The instructor on one of these sets up a role-play: Lizzie is the customer and Frankie is on the check-out.

> Lizzie said, 'I wish to buy this scale and I want to pay cash.'
> Frankie replied, 'It is $25.60.'
> Lizzie handed over three ten-dollar bills.
> Frankie inspected the money. 'May I see your driver's licence, please?'
> 'No, Frankie,' the instructor yelled. 'It is not necessary to ask to see a driver's licence when someone pays cash.'
> 'All right,' Frankie said. Then she turned to Lizzie.
> 'Do you have any other identification?'
> 'Wait, hold it,' the instructor said, jumping up. 'When a customer pays cash, you do not have to ask for identification.'
> 'How do we know the money is any good? Lizzie could be using someone else's cash,' Frankie said.
> 'We have to assume the money is good and that it belongs to Lizzie.'
> I could tell Frankie was upset. She took a pen to write on the ten-dollar bill. 'May I have your address and home telephone number?'
> 'Don't write on the money,' the instructor shouted. 'It will only confuse the next person who uses it. Just take the cash.'
> 'Shouldn't I call the Treasury Department and read off the numbers of the bills to make sure Lizzie isn't a deadbeat?'
> 'It's not necessary,' the instructor said. 'You see on each bill it says, "In God We Trust", so when a customer pays with cash we have to trust her.'
> 'You mean I don't even have to call my supervisor to initial the bills?'
> 'No, you don't. Just write out a sales slip and then deposit the bills in the register.'
> 'I don't think I'll ever get the hang of it,' Frankie said in tears.[8]

Frankie's tears offer us some consolation: it is just as difficult to understand value and the money-commodity when you are only used to credit money and values-in-process, as the other way round. But this piece of dialogue between two different interpreters of monetary symbols[9] will perhaps throw more light on the heart of the matter than did my earlier explanations.

In simple exchanges between commodities and money-commodity (and 'greenbacks' are as valid as gold) it is two supports of value that exchange. The crystallization of value in money (in its reserve function) is pre-supposed before its use as means of circulation. *You've got some:* you can buy. In the case of value-in-process (here the income of Lizzie, as someone running a waged household . . . if Lizzie was head of a business she would personify a self-valorizing capital), it is the owner who personifies the flow of income. *You are a such-and-such* (a wage-earner earning so much a month, a capitalist making so much cash flow a year): you can buy. The monetary symbols at your disposal are only the expression of your independent value-in-process. They are limited globally by a 'right to spend' over a certain period. The banknote, like the money-commodity, is a sign of value in itself, it represents a real, social value, and it would exchange by itself if it had a soul: it lives oblivious of its owners. Cheques, and all other forms of credit money, represent a value-in-process — maybe in the course of social validation but at all events *taken as realized* — which passes through the hands of its owner and may exist at the present moment in one of many forms (labour-power rented to capital, stocks of commodities ready to be sold, even investments on which one hopes for a return). Its owner anticipates or realizes the right to metamorphose it in part in the form of his or her purchase. For the cheque to be valid, it has to be signed (and have money behind it) because it represents an individualized value-in-process, even in an 'anonymous society'.

All wage-earners nowadays have access to this convention, which has become part of their habitus. They correctly interpret the symbol as a sign of their statistical right to spend so much each month, particularly if they are paid on a monthly basis, and if they are allowed an overdraft in proportion to their income. But the merchant capitalists, followed by industrialists and bankers,[10] who used their hegemonic position in the State to establish this form of money, knew long ago about these 'values', that statistically assure an income, and created the

beginnings of credit money in a decentralized (or, as Aglietta and Orléan would say, fractional) way.[11] The Amsterdam merchant could sign a bill of exchange in Venice because his Venetian creditor knew that his bank could transform it into a means of local circulation, and that his bank could negotiate it against a bank in Amsterdam where the merchant would deposit the proceeds of his subsequent sales: but he would still deposit this income in the form of gold.[12] When industrial capital succeeded in regularizing the flow-back of its capital in money form, and when finance capital started to include all the circulation of the money form of capital in its accounting, it became less and less necessary for money to be verified through exchange against a commodity, gold, that 'really' had value and was universally recognized as having it. It was sufficient for the central state authorities to issue monetary symbols that could be exchanged for the symbols issued by the banks, thus providing official ratification of the anticipated social validation of the valorization processes against which the symbols were issued by the banks.

2. Credit Money

We shall not examine the historical origins of credit money, beyond what we have already suggested about the underlying assumptions of the dominant classes on the circulation process — and therefore about its actual reality. If this process is punctuated and insecure, as in pre-capitalist markets, then each value-in-process will have to return every so often to the money-commodity form (which has value in itself, even if it is represented by a scrap of paper, because it is unconditionally exchangeable for gold). If the process is regular, almost predictable, as in developed capitalism and particularly monopolist regulation, then *credit* — that is, the acknowledgement of a loan which will 'surely' be repaid — can represent a value (in process), and on that basis credit money can be established.

Debt tokens can clearly be used as a means of circulation. A says to B: 'Instead of paying you 100 francs I shall give you my credit with C who owes me that amount.' But this is not a form of money as the debt token is not used as an actual means of payment: B expects that C will eventually pay him in 'real money'.

The credit bank saves B from having to wait. It *monetizes* A's credit with C: anticipating the realization in money of the value-in-process that C duly pledged, it provides A with monetary symbols that are valid as a 'real means of payment' and are accepted as such by B. Then the bank waits for C to repay A, who will repay it in turn. By *antevalidating* the credit with C, it has created a symbol which represents value-in-process.

But why should B accept the symbols issued by the bank as a means of payment?

Either (a) because it is exactly what B owes the bank himself; or (b) because he thinks he can go to the bank and change the symbols into other symbols which 'really' represent value — gold, for example.

Let us suppose, however, that B is trusting enough not to do either of these things. He now has credit with the bank. And he uses the symbols issued by the bank as money to buy a product from D, who will buy the commodity offered by C, who will repay A, who owes precisely that amount to the bank.

In this situation credit money functions perfectly as means of circulation ($A \rightarrow B$, $B \rightarrow D$, $D \rightarrow C$) and payment ($C \rightarrow A$), without ever having to be exchanged for 'more real' money, such as the money-commodity, gold.

The whole history of money can be summed up as the gradual granting of 'real money' status to what was initially the representative, in circulation, of 'real money' that did not circulate but remained ultimately the only method of payment.[13] As Levy-Garboua rightly says:

> New forms of money only appear very gradually, and are at first rarely seen as complementary to the existing forms: they appear more as 'promises of money' that are a technical device to make (real) money circulate. But as this technique spreads, its use, which was initially seen as a way of economizing on money, becomes more and more difficult to distinguish from 'real' monetary use. The perspective then switches round, and the instrument is soon recognized as money. The hierarchy of money forms is thus evolutionary and the limits of money somewhat blurred; some instruments may be analysed both as means of accelerating the circulation of money and as fully-pledged monetary forms.[14]

Now, it should be stressed that the example we gave above is completely unrealistic. We assumed that in a chain of creditors of the bank (that is, agents possessing the symbols the bank has issued) D validated C's labour, who (by credit) validated A's, who (by credit) validated B's, who finally validated D's with credit money. In short, the neat quartet of their private labours made up, as if by chance, a social labour.

But if D had not known C, or if he had gone to the bank demanding the true value of the symbols, then the bank could of course, have given him gold for his cheque and waited until A repaid his loan. But the bank could also have said to D: 'There's no need. We're sure this symbol represents some socially useful labour. Put it into circulation and it will end up in the hands of somebody who will find C's labour useful.'

It is obvious that if the bank has such self-assurance, it must be invested with some public authority! It is also obvious that two banks cannot perform the same function in the same economic space. For if A repays the credit advanced by bank X with a cheque drawn on bank Y, bank X will either have to ask bank Y for real money in exchange for it (to repay the cheques issued by A on X when they are presented), or else admit that Y has the privilege of monetizing a credit by decreeing that the labour it represents is socially valid, and therefore that the monetary symbols issued by Y really represent value. In the second case, bank Y (which becomes the *central bank* while the others are 'second rank') does more than *antevalidate* credits by waiting for the independent values they represent to return in the shape of 'already recognized money'. The bank itself sanctions the social validity of these commitments. It *pseudo-validates* them[15] — for example, by changing credits with bank X on value-in-process A for central banknotes which everybody has to accept as 'real money'.

The historical process occurred in two stages. First a central bank acquired a monopoly over issuing paper money that represented gold, which second-rank banks could exchange for their credits within specified rules. Then — essentially after 1914 — the central banks' banknotes and deposits were declared to be no longer convertible into gold; they became 'legal tender'. Suddenly any credit issued by the banking system potentially involved a corresponding central issue of money — a potentiality which could be realized at any time on the money market or by rediscounting.[16] Monetary policy therefore represents a judgement imposed by the central bank on the coherence of the choices made by the other banks in anticipating the social validation of the private labour set in train by their clients: it watches over the permanence of the 'warp-woof duality', at a global level.

Thus far our analysis has remained within a national framework. But the last function of gold-money in Marx was to serve as *universal money* among the different sections of the world economy fragmented by the existence of States — that is, zones characterised by homogeneity of the 'social bond', and therefore by a single currency. In fact, gold was recognized very early on as a universal money, but there was nothing 'natural' about that. Since 1945, we have been in a third, different stage of monetary history: the recognition of an international fiduciary money, from the dollar-standard to Special Drawing Rights. In reality it has been the mass of dollars held by foreign states ('foreign currency reserves') and then by individuals and private banks ('eurodollars') — dollars which initially corresponded to the US balance of payments deficit — which have come to be used as international credit money. This credit money has gradually acquired its own private means of issue, Euro-banks, an entirely natural accompaniment of the internationalization of production.[17] From the moment the dollar ceased to be convertible into gold (1971) the American central bank, the Federal Reserve, became a true instance of international pseudo-validation. The introduction of SDRs has at most allowed this international pseudo-validation to be legalized.

3. Money and Credit

It is not because money becomes credit money that money and credit become identical.[18] Money is a means of circulation and payment. Credit is *one way of using money*. Somebody who possesses money lends it to the owner of a 'value-in-process' who will be able to utilize it immediately, and in exchange the borrower will have to hand over as interest a part of the increase in the value-in-process.

The great 'contradiction of credit money', as Lévy-Garboua correctly points out,[19] is that any bank credit, even if it appears as a simple intermediary transaction,[20] is accompanied by the creation of credit money. And conversely it is not because the commodity economy needs credit that the banks create it. Like all private agents, the banks perform this social requirement because that is where their interest (in all senses) lies.

The monetary symbols which the banks supply to borrowers are indeed 'creations'; but since they will return to the banks when the borrowers have used them as a means of circulation or payment, the banks have to be able to exchange them either for monetary symbols issued by other banks, which represent other values-in-process, or for 'legal tender' money. The bankers' job is to make sure this can be done, in exchange for which they provide borrowers with monetary symbols and receive a rate of interest. Consequently all creation of money by banks is a loan.

On the other hand, when a bank lends money which it has or thinks it can get (in whatever form), this money is immediately deposited in the bank by the borrower, or else it is spent and thereby placed in another bank in the form of a deposit by the borrower's supplier. Whatever the circumstances, each new credit increases the mass of deposits in the banks as a whole, and therefore the amount the banks can lend — unless, of course, the depositors ask to withdraw their money in cash, in the form of central banknotes. All credits, therefore, create money; hence the rule 'credits make deposits'.

But we have just seen that there is a 'leakage': some depositors may prefer to keep part of their money in central bank notes. If they keep a tenth on average, the total amount of deposits cannot exceed nine times the total amount of notes issued by the central bank: this is the 'multiplier' theory which enables the central bank to fix the 'monetary base' (the 'real notes', so to speak, like 'real money') and thereby to fix the 'money supply' (the total number of symbols issued by the banks).

In reality, however, the opposite causality is at work. Once the monetary symbols have been issued on the occasion of a loan, they flow back into a bank which has to be prepared to deliver central-bank money if the depositor asks for it. The bank therefore offers to the central-bank the borrower's promise to 'realize his value-in-process', on the basis of which it has granted the loan by antevalidation. The central bank, relying on the other bank's caution and following norms which depend on the purpose, duration and other features of the loan, declares that the loan is a 'good' anticipation of the validity of the value-in-process which guarantees it (capital in the case of 'credit for the economy', national incomes in the case of 'credit for the Treasury', etc.); it pseudo-validates the loan, issues the corresponding official money-symbols, and lends them to the bank at a rate of interest.

As the issue of credit corresponds to a demand by productive capital (which anticipates its full valorization and realization), monetary creation no longer functions as a 'control variable'. It becomes literally *endogenous* to the economic system, and is limited only by the degree to which the bank is prepared to trust its customers' requests for credit or, to a very slight extent (as the recent experience of Great Britain and the United States has demonstrated), by a rise in interest-rates which may discourage borrowing, both by capitalists and wage-earners.

We therefore have to reject the theory according to which a 'multiplier' determines 'money supply' as a function of the 'monetary base' arbitrarily issued by the central bank. It would be more accurate to speak of a 'divisor': that is, an index of the proportion of bank antevalidations that are pseudovalidated by the central bank. The reason why this divisor has become larger and larger, and therefore that proportion increasingly small, is that values-in-process have grown increasingly autonomous under monopolist regulation.[21] Some quotient does remain, however, corresponding to the fact that no bank takes in exactly the same amount in deposits as it issues in credits every day, and that some customers want central bank money or, even worse, foreign currency. Central bank money, which represents officially pseudo-validated values, is therefore always necessary.

This is the area where 'monetary policy' comes into play, its aim being to allow 'sufficient' bank antevalidation without simply validating anything that comes along. It consists of:

(a) *altering the divisor:* the central bank may decide not to pseudo-validate indiscriminately, to refuse to refinance credits for more than eighteen months, to leave the banks to sort themselves out, but making an exception in the case of export credits because the government has insisted that labour engaged in work for export is socially valid;

(b) *altering the quotient*: the central bank may rule that the banks *must* keep a fixed part of their deposit in central bank currency, thereby forcing them to antevalidate no more than a fixed proportion of that for which they have already obtained pseudo-validation;

(c) *directly stipulating the dividend*: the most primitive approach (which capitalists don't like at all!) is the introduction of credit controls severely restricting the scope of the 'banking entrepreneur'. An approach which is meant to be more intelligent is to leave the money-market interest rate (the 'cost' of central currency loans to banks) to rise, in the hope that this will discourage the most risky borrowing and inopportune employment of social labour.

We shall not attempt here a detailed critique of all these 'instruments',[22] but merely stress how unstable this policy can be. It is fraught with unreliable and dangerous consequences: unreliable, because none of these tactics enables money supply to be controlled with any precision; and dangerous, because by making it impossible or too costly to monetize credit, it runs the risk of 'killing' socially viable values-in-process that rely on a temporary loan while their capital is immobilized in the form of productive capital. More generally, it dramatically poses the problem of the realization of commodities — for, as we have seen, realization can take place (in a closed economy) only if it is anticipated by the creation of credit money; hence the very severe industrial crisis in those countries which have practised 'monetarist' policies. We shall return to this point later.

It should be underlined once again that the international credit money is in fact the dollar. It is issued by the Eurobanks, which lend to states and big business on the 'basis' of dollars issued by the Federal Reserve against the American deficit. The divider between this base and the whole mass of euro-dollars is particularly high and unstable because the Federal Reserve[23] has practically no way of preventing new eurobank credits payable in dollars from creating deposits all over the world.[24] In fact, as

Michalet points out,[25] the only regulation of eurodollar supply beyond the risk taken on by the banks operates through the cost of credit, therefore through interest rates, which themselves depend on the Federal Reserve's own interest rate on American soil. The Fed's restrictive monetary policy therefore has repercussions for the world market, with all the familiar consequences.

III. Real Constraint

We can now return to the problem of 'coupling' which we settled at the end of the last chapter as far as gold-money was concerned. There, the realization (metamorphosis into money) of values-in-process was limited by the existing amount of the means of payment — which itself was limited (though not rigidly) by the quantity of gold guaranteeing the means of payment and determining their value.

In that situation there was a considerable risk of under-liquidity (i.e. an insufficient amount of means of circulation in relation to the volume and price of production needing to be validated). This is why the 'Banking Principle' that regards credit money as real money, even if it is inadequately backed by gold, prevailed in fact as early as the end of the nineteenth century. But without forced currency, the slightest panic could set off a general withdrawal of bank deposits, leading to bank failures and commercial and industrial bankruptcies.

1. The New Face of Monetary Constraint

With credit money, the monetary constraint $C \rightarrow M$ becomes much more flexible. It takes the form:

$$C \rightarrow AD \rightarrow M$$

Commodities are exchanged for an acknowledgement of debt (or for a cheque, i.e. a credit on a bank) and that is exchanged for central bank money; they are therefore simply antevalidated, then pseudo-validated, by being exchanged for a monetary symbol which is just the anticipation of a subsequent exchange that will allow the credit to be repaid. If C is productive capital,

the repayment will come when the user of C has sold his products; if C is a consumer durable sold on credit to a wage-earner, repayment will come from the wage-earner's future income. The final validation is realized when all repayments have been made. Thus, money issued to accompany the developments of values-in-process up to their final validation ends when that stage is completed. This characteristic has been systematically analysed by the post-Keynesian theorists of the 'monetary circuit'. But these theorists have not penetrated beneath the surface of the phenomenon: they have not gone so far as to look for the *real* conditions of closing the circle — that is, for the conditions of compatibility in the commitment of capital and the exchanges of income.[26] To use the warp-woof metaphor again, they have understood very well that credit money was created and absorbed in the very movement of the threads of the woof, values-in-process. But the conditions for the reabsorbtion of the money are the same as those for the repayment of credit: a new exchange of commodities. We know that commodity exchanges between values-in-process are governed by the structures of the warp, that is to say, by the reproduction schema in force at the time. The paying off of credit money, and the final validation of the transactions which gave rise to its issue, are therefore subordinate in the aggregate (rather than individually) to the reproduction schema which corresponds to the regime of accumulation in force.

This is the diffuse form in which monetary constraints operate within credit money. In place of the opposition between the commodity and gold, there is a *hierarchical* structure of credits and debts: this may be cleared between private agents, but in practice it has to be backed up by a 'last-resort pseudo-validation' which confirms the validity of certain credits in the same way that it once confirmed the exchangeability of gold. It follows that non-validation is expressed not necessarily in non-sale, but also in non-repayment of certain debts. Here lies the importance of the hierarchy, for if the central bank itself directly pseudo-validated production by issuing money, then the unconditional validity of its own monetary symbols would be immediately jeopardized whenever commodities failed to secure validation. A hierarchy of lending, on the other hand, makes it possible to devalorize credits selectively in the event that the corresponding production is not validated.[27]

In any case 'monetary constraint in the strict sense', which seeks to limit the quantity (measured in prices) of socially pre-validated values by those of effective means of validation (gold money), no longer exists. Nominal prices are acquiring an independence which is only limited by the rate of pseudo-validation ('monetary divisor') that the monetary system, under the control of the central bank, will accept. Given that a 'responsible' central bank will only pseudo-validate 'sound' credits, but that these are required by consolidated external connections, the level of prices fixed by some 'trinity formula' will determine the total amount of money the economy needs (and not, as the monetarists maintain, the reverse).

We do not mean to argue that credit money is perfectly elastic, only that it is no longer limited by the value of some exogenous 'monetary base' and that it is hardly limited either by central bank attempts to restrict the intensity of antevalidation through any increases in the money-market rates (as can be seen from the sorry experiences of governments applying this monetary policy who still see the quantity of their money soar). Our contention is that the issue of money is controlled by laws endogenous to the economic system.[28]

In other words, in today's monetary system the independence of values-in-process has reached such a point that they can increase nominally at a 'customary' rate, even at a 'desired' rate, as long as the prevalidated incomes are pseudo-validated by the monetary system.

The banks in fact give credit to capitalist enterprises according to their assets measured in nominal terms because they anticipate the realization of these assets at a price determined by the standard rate of profit. Similarly, they give credit to individuals such as wage-earners because they anticipate that their nominal incomes will remain stable or even increase. The credit money issued therefore depends on the growth in the total amount of nominal incomes or — what comes to the same thing — in the price of the national product, whose development is determined by intertemporal exoteric connections.

2. Coupling in Credit Money

Marxist theory, however, makes it quite clear that although a self-expansion rate of values-in-process can always be nominally realized, this does not imply that the system of prices is free, nor that everything is permitted if everything can be pseudo-validated. For, even with the consolidation of the 'accumulated divergence' between the system of values and that of ante-validated, then pseudo-validated, values-in-process, despite the autonomy of the exoteric level, *real* exchanges — the real commodity exchanges at a given moment — are still governed by the law of value. In other words, whereas capitalist industrialists, merchants and bankers have the impression that one adds margins on to costs to make values-in-process grow at a particular nominal rate, the synchronic and instantaneous relations between prices are in fact always determined by esoteric laws. If these laws disappeared, we would be left with a totally undetermined rate of expansion 'in value and in volume'.

> If the limits of value and surplus-value are given, it is easy to perceive how the competition between capitals transforms values into prices of production and still further into commercial prices, transforming surplus-value into average profit. But without these limits, there is absolutely no way of seeing why competition should reduce the general rate of profit to one limit rather than to another, to 15 per cent instead of 1,500 per cent. It can at most reduce it to *one* level. But there is absolutely no element in it that can determine this level itself.[29]

Let us examine in detail how real constraints are imposed. When we looked at monetary constraint in the strict sense, we said that the adaptation occurs in the exchange between commodities and gold-money. In the series of exchanges M → C → M → C . . ., the price of the commodities rises and falls and thereby regulates the real rate of expansion of the values-in-process.

But, as we said, such constraint no longer holds good for credit-money. Realization can take place at any nominal price. The contradiction between the system of values and the system of prices no longer appears in C → M exchanges but is displaced on to the M → C metamorphosis. To take an extreme example, suppose that entrepreneurs determine their sale prices by following the existing surface relations and unerringly succeed in transforming their commodity into money by selling it in the market. In this situation, if the surface relations no longer correspond to the system of values, then when entrepreneurs try to buy other commodities with the income obtained from the first sale they will discover that the same sum of money now buys fewer commodities: *the contradiction is smoothed out by inflation.* It is the same for the workers: it is no longer their nominal wage which varies broadly with the rate of unemployment; the problem is displaced on to their real purchasing power, in the transformation $M \rightarrow C$ which is where the contradiction is now expressed.

Going back to our simple formalization, we see that the external connections are now as follows:

s (t) = s(p) such that the real wage rate remains constant (nominal rate s grows with price p)

r (t) = R R being arbitrarily greater than r* (t) as derived from the relations of values at time t and by 'transformation'.

We now have:

$VA(t) = L(t) < s(t)\overline{L}(t) + \overline{RK}(t) = \overline{VA}(t)$

which implies that the value represented by the unit of money measuring the right-hand side has fallen: this is inflation.

Strictly speaking, this conclusion is only valid if inflation is 'broadly' defined as a fall in the value represented by money. As the value of commodities also falls with productivity, it is possible for their price to remain the same (latent inflation). But in post-war 'monopolist regulation', the purchasing power of wages tended to grow as well with productivity, so that what remained stable was the rate of exploitation. If, in this situation, the mark-up rate R imposed by firms is higher than the rate authorized by the rate of profit r* determined by the transformation, there will be inflation in the strict sense of a universal rise in prices.

Marx was obviously aware of this as a possibility, even if the exoteric connections in his time had not acquired the independence they have won in the twentieth century, the age of credit money. He wrote, in anticipation of mark-up and index-linked wages:

> Suppose that the general rate of profit and hence the average profit itself is expressed in a money value that is higher than that of the actual average surplus-value. As far as the capitalists are concerned, it is all the same whether they charge one another 10 per cent profit or 15 per cent. The one percentage covers no more actual commodity value than the other, since the inflation of the monetary expression is mutual. For the workers, however (we assume that they receive their normal wages, so that the rise in the average profit is not an actual deduction from the wage, expressing something completely different from the capitalist's normal surplus-value), the increase in commodity-prices resulting from this rise in the average profit must correspond to an increase in the monetary expression of the variable capital. In actual fact, a general nominal increase of this kind in the profit rate, and hence in average profit, over and above the level given by the proportion of the actual surplus-value to the total capital advanced, is not possible unless it brings with it an increase in wages and similarly an increase in the price of those commodities which form the constant capital.[30]

But of course Marx did not imagine that this inflationary spiral of profits, prices, costs and wages could continue for long; the constraint imposed by gold-money would not have permitted it. Yet he had discovered two of the main forces behind contemporary inflation, although it was not until the development of credit money that these were able to produce their full effect.

Let us suppose now that, for whatever reason, some employments of capital have become so notoriously impossible to validate socially that their commodity-products no longer have any hope of being sold except at such reduced prices that they do not even cover production costs, and that the bank refuses to give any new credit. This does not alter the fact that on the way to this situation purchases have been paid for and incomes distributed with earlier credit, and that therefore monetary symbols have been issued on the basis of mistaken anticipations. These symbols express nominal purchasing power against a value-product measured by a diminished quantity of social labour (diminished, because part of the privately engaged labour has not been socially validated). In this case, too, the value represented by the unit of money is reduced: this, again, is inflation.[31]

The labour-equivalent of money is therefore no longer determined by the value (even transformed value) of the commodity elevated to the dignity of money — a situation in which, as historians of gold-money have shown, the value of the monetary standard governs the general level of prices. With credit money it is, on the contrary, *the general level of prices, fixed by the (exoteric) laws of income-formation, which determine the value of the monetary unit*. This therefore gives:

LEM $(t) = \mathrm{L}(t)/\overline{\mathrm{VA}}(t)$, where

$\overline{VA}(t)$ is determined by distributed incomes and $\mathrm{L}(t)$ by the amount of incorporated and validated labour.

To the extent that the connections fixing incomes reflect a web of social relations more or less codified within each national framework, this is used to show that no *direct* action on the value or quantity of money can significantly affect the differential rates of inflation between countries, or the external parities of the national currency. There is no need to dwell on the importance of this point which implies that the best way to reduce inflation would be a direct policy operating on *all* nominal incomes.

From a theoretical point of view, incidentally, this deals a fatal blow to the 'theory of the monetary veil' according to which 'real relations', originally fixed in accordance with the labour theory of value, or the theory of utility and scarcity, come 'later' to be expressed in prices as a result of the arbitrary choice of a monetary standard. Relations have been expressed in prices since the first stage of commodity-fetishism, and the value of money eventually comes from the whole fabric of these relations, rigidified but still expressed in prices. We are a long way from the classical 'dichotomy'.

The apparently autonomous exoteric connections of 'everyday life' cannot therefore free themselves completely from the real movement on which they are based. The 'accumulation of divergences' between the systems of values and prices must manifest itself and be resolved in one way or another. Exactly where this happens, whether in the C → M sale or the M → C purchase, depends on the specific form of coupling between esoteric and exoteric, and that in turn depends upon what we have called *the mode of regulation*, and more particularly on the form of money it authorizes and calls forth.

In the flexible wage relation characteristic of competitive regulation, workers are hired on a daily basis, at a wage fluctuating

around normal purchasing power in accordance with the business cycle. Since, moreover, the firm here makes its production decisions in the dark and credit remains bound up with a money-commodity, the crisis takes the form of a collapse in prices: commodities can no longer be realized at the price set by the exoteric connections assuring the normal rate of profit.

But in monopoly regulation, as defined above, the system of surface relations becomes so coherent and consistent that values-in-process can continue to develop, and even formally to grow, without being stopped by limits imposed on their compatibility by the system of synchronic values.

The fetishized economy thus takes off into inflation, but even in its phantasmagoric flight, the law of value still operates: money only represents a right over labour which has really been expended and socially validated.

Notes

1. *Capital* Vol. One, p. 162.

2. Again, I am not insinuating that the historical institution of money derives from earlier experience of barter. What I am saying is that in a commodity economy the experience, the 'habitus', of exchanging commodities for each other or for money gives rise to the idea that money is useful, even necessary, and that any commodity could take on that role, however unsuitable or limited it may be. Children in school playgrounds use marbles, prisoners use cigarettes, etc.

3. This is one of the terms employed by supporters of the 'self-establishment of society' (Castoriadis, Gauchet), and I use it advisedly, although it is far from obvious what ectoplasm could fit the role of 'society taking a decision'. What actually happens is that some groups in society pursue certain aims, and others accept them, while other groups with different aims are beaten, and the state, the institutional form that has the monopoly of sovereignty, condenses compromises. One thing is certain, though, and that is that the designation of the general equivalent is a strictly social phenomenon (in the Durkheimian sense) and cannot be reduced to a 'composition effect' of individual preferences, whether 'mimetic' or not. Money is not designated as a result of speculative competition about an object, quite the opposite, it is designated by a consensus about a means.

4. The price standard, or unit of cash, is currency (francs); the medium of circulation enables commodities to be exchanged; the medium of payment and reserve is a symbol of value which can be kept separate from the circulation of commodities, but can intervene to rescue a debtor. We shall not go into the

(huge) problem of international money making it possible to exchange national currencies.

5. Marx's famous phrase, which does not appear in the English translation of *Capital*, refers to the motion of values-in-process in circulation round the central axis of production: the commodities which leave return in the form of money which buys more productive capital, wages that are paid out return in the form of labour power to be bought. This is the prototype of 'well-regulated production'.

6. A more general term than 'price of production', this refers to the exoteric expression by price (the result of surface connections) of the reproduction of social relations, especially existing power relations, by ensuring the revenues seen as 'normal' (including rents, taxes, and so on).

7. This account is based on, and extends, the analysis of the money commodity by Philippe (*Contribution à l'étude de l'intérêt heuristique de la distinction ésotérique/exotérique*, unpublished thesis, Nice 1982), which is itself based upon Pierce's semiotics and Piaget's psychology.

8. 'The Joys of Cash: In Bills No Trust', *International Herald Tribune*, 5 June 1980.

9. R. Marty ('Champs d'interpretants', *Versus*, 1982) would say, using a terminology similar to Bourdieu's, that they do not belong to the same 'field of interpretants'.

10. See the account by P. Grou (*Monnaie, crise economique*, Grenoble 1977) of the relation between the evolution of money and the succession of hegemonic social blocs. On gold particularly see D. Innes, 'Capital and Gold', *Capital and Class* No. 14, Summer 1981. It is essential to understand that as the form taken by money develops in parallel with social regulation, regression is always possible where there is national or international deterioration. So, for example, when disaster hit Cambodia the people had to return to a very crude form of money commodity. Similarly when the US banks froze Iranian assets in 1980, there was a loss of confidence in fiduciary money (dollar deposits) and the price of gold shot up.

11. See F. Braudel, *Civilisation matérielle, économie et capitalisme*, Paris 1979.

12. See M. Aglietta and A. Orléan, *La violence de la monnaie*, Paris 1982.

13. In the history of economic thought, this is the substitution of Banking Principle for the Currency Principle.

14. In V. Levy-Garboua and B. Weymuller, *Macroéconomie contemporaine*, Paris 1979.

15. Pseudo-validate here does not have quite the same sense as in de Brunhoff and Cartelier ('Une approche marxiste de l'inflation', *Chronique Sociale de France*, April 1974). They use 'pseudo' to mean that the values represented are not really validated. In the situation here, they still are not *really* validated, but they are treated as if they were, until they come to be . . . or not.

16. See *Crise et Inflation*, Chapter III, where the explanation is based on the example of rediscounting private drafts. The 'money market' is a more modern and flexible form. But central banks monetise state credits as well as private ones. The apparent differences between the American system and the French one (in which the second-order banks are indebted to the central bank) has to do with the *direct* financing, in the USA, of government deficits by issuing money, whereas in France the government is indebted to second-order banks, which then resell Treasury bonds to the central bank. In 1980 in France the 'counterparts' of the total amount of money were made up of 85% 'economy credits' (to business and households), 10% 'Treasury credits' (ie to the State), and 5% gold and currency. Twenty years ago, the first of these accounted for only 60%, and at the moment the 'Treasury credits' are increasing again.

17. See C.A. Michalet, 'La dimension monétaire et financière de capitalisme mondial', in *Les Eurocrédits*, Paris 1981.

18. See J.G. Loranger, 'Le rapport entre la pseudo-monnaie et la monnaie', *Critiques de l'Economie Politique* No. 18, March 1982.

19. In Lévy-Garboua and B. Weymuller, op. cit.

20. i.e., when the bank thinks it is lending money it 'already has'. But this money stems from another bank's lending: overall there is not only mediation but actual creation. (See Lévy-Garboua and Weymuller, op. cit.)

21. See Gelpi, in *Approches de l'inflation*, Vol. III, and her unpublished thesis *Méchanismes de la création monétaire et régulations économiques*, Paris XI, 1981. The same conclusion is reached by Thomas (op. cit.) and it also formed the basis of de Brunhoff's 1971 critique of the concept of 'money supply'. The term 'divisor' may have been suggested to V. and L. Lévy-Garboua ('Le comportement bancaire . . .', *Revue Economique* No. 2, March 1972) by Le Bourva.

22. The reader may consult, *inter alia*, J.G. Thomas, *Politique monétaire et autodestruction du capital*, Paris 1981.

23. The practice of the Federal Reserve Bank since October 1979 has been to aim for a certain increase in the total amount of money, and only to intervene in the money market except in reference to this quantitative objective, regardless of the strain this puts on interest rates. The results of this have been:

— Interest rates have become very unstable, because they need increasingly large variations in rate in order to influence the total amount of credits (Potier, 'Les réactions du système financier américain aux variations récentes du taux d'intéret', *Banque* No. 408, Jan. 1981).

— In fact it is possible to show that, in the short term, no matter how high the rate, a slight of borrowers (and creditors) can even increase the total amount of money (and destabilize this policy) if they expect higher interest rates to be offset by the effects of inflation (Grandmont, *Money and Value*, 1982).

— At all events, the American financial system is becoming increasingly adept at dispensing with pseudo-validation offered them at too high interest rates. Financial innovations like N. O. W. accounts and 'Money Market Mutual Funds', which allow you to transfer instantly from savings to liquid assets and vice versa, accelerate the circulation of money (ie the number of transactions that can be realized with the same amount of credit money, which is in fact a more sophisticated form of antevalidation) and thus more than offset the restrictions imposed on pseudo-validation.

24. For a discussion of the extreme instability of this system, see D. Cohen and P. Ewenczyk, 'L' Instabilité du système monétaire international', *Economie et Statistique*, October 1980.

25. 'La dimension monétaire . . .', op. cit.

26. In practice, the theory of the monetary circuit held by Keynesians such as Denizet (*Monnaie et financement dans les années 1980*, Paris 1982) and more clearly by Parguez ('Ordre social, monnaie et régulation', *Economie Appliquée*, vol. 34, no. 2-3, 1981) and Schmitt (*Monnaie, salaire et profit*, Paris 1975) ties in with our definition of credit money representing values-in-process. Parguez goes so far as to couple the conditions of evaluation of credit money with the completion of the process of capital commitment, yet without explaining the underlying schema of reproduction. Schmitt, on the other hand, has a mistaken idea of the schema of reproduction, and gets involved in various contradictions, which Rachline ('La nature de la monnaie', *Revue Economique* No. 3, May 1982) correctly picks up, such as how the appearance of profit can be explained, or the increase in production, in real terms and in money. Here again, it has to be said that the

fetishized economy is indispensable to the working of esoteric relations, but cannot be understood without reference to them.

27. On this, see Aglietta and Orléan (op. cit.), especially their account of German hyper-inflation in terms of systematic pseudovalidation. The situation of the eastern-bloc countries can be seen as a direct and general pseudo-validation. In this case, a stock of unsaleable commodities can accumulate in the state's stores, at the same time as there are shortages of commodities which are in demand but not produced (particularly a shortage of capital goods wasted in useless production) and an accumulation of distributed but unusable money. As prices are fixed by the administration (the simplest sort of external connection!) the money stays frozen in forced savings.

In a stimulating and amusing essay, '(Resource-constrained versus Demand-constrained Systems', *Econometrica* vol. 47, no. 4, July 1979), the Hungarian economist Kornai contrasts 'hard budget constraint' (without credit) in which 'we can spend only as much money as we have . . . If we invest badly, we shall die of it', and the 'soft budget constraint' where 'the main thing is to acquire material and capacity, and money for it will be found in the same way . . . If there is a loss, the state budget will take it over'. 'Soft constraint' can guarantee both full employment and commodity shortages.

28. See CEPREMAP, *Approches de l'inflation: l'exemple français*, duplicated report, Paris 1977; and Lévy-Garboua and Weymuller, op. cit.

29. *Capital* Vol. 3, p. 429.

30. Ibid., pp. 280-81.

31. Soviet-type state capitalism is a very individual case of this, which we following Kornai (see note 27) characterize by a 'hyper-soft constraint'. All production there is antevalidated by the state, which also fixes the prices. Divergence cannot even be resolved by inflation (except in some eastern bloc countries, following recent reforms). M cannot therefore even be transformed into C: the crisis takes the form of generalized shortages with 'contained inflation'. For applications of this problematic to crisis in the USSR, see Bettelheim's *Class Struggles in the USSR* and Lafont and Leborgne, 'L'Accumulation du capital et les crises dans l'URSS contemporaine', duplicated paper, CEPREMAP no. 7910, 1979.

Chapter 7

Inflation in Monopolist Regulation

The increasing autonomy of external connections in the context of monopolist regulation throws considerable light on a number of phenomena in contemporary capitalism. Traditional Marxist analyses (which too often rely on a literal reading of Volume One of *Capital*) have been incapable of dealing with these correctly, either because they have clung to the esoteric laws without discussing the way they appear 'in everyday life', or because their conceptual approach only applies within the context of competitive regulation and gold-money.

We do not claim to develop a theory of inflationary crises in this chapter.[1] We only want to show how Marx's too little known distinction between the esoteric and the exoteric can shed new light on our understanding of such phenomena, and in the process show that he is more relevant today than is usually thought.

I. Stagflation

From the fifties to the mid-sixties increases in wages and nominal profits more or less kept pace with gains in productivity. Nominal prices also stayed relatively stable. But from the mid-sixties onward the regime of intensive accumulation showed signs of running out of steam, and in fact people began to talk in terms of a 'crisis of Fordism'.[2] Productivity gains no longer made up for the increase in the technical composition of capital, and working-class resistance prevented a rise in the rate of exploitation through reductions in real wages.

1. The Crisis of Fordism and the Esoteric/Exoteric Divergence

What results from this? The decline in the real conditions of profitability brings with it, at the esoteric level, a fall in the instantaneous 'rate of return' on capital (surplus-value over committed capital) which, if the value of money were to remain constant, would mean a fall in the rate of profit. There is nothing catastrophic in that in itself. As Rosa Luxemburg said in 1913, arguing against those like Kautsky who looked toward a peaceful transition to socialism with the gradual decline in the rate of profit, there is not much chance that capitalists will grow demoralized and throw in the sponge. First of all they try to maintain their rate of profit *nominally* by passing rising costs on to the sale price via the mark-up rate.[3] This does not always mean that they retain their rate of profit in fact — for, if prices go up faster than wages, demand slows down and disposal of the products is threatened. Conversely, if wages 'catch up and overtake prices' to ensure a general rise in purchasing power, in accordance with the earlier exoteric connections (rise in wages = gains in productivity + rise in prices), then an outlet is guaranteed but increased business costs will tend to balance out the rise in sale prices.

We can now at last explain that image of the cartoon character running over the edge of a cliff into mid-air. The ground can be interpreted as the esoteric world of value relations; our Pierrot Lunaire as the sum total of values-in-process; and the imaginary plane on which he runs as the enchanted world of modern capitalism itself, a net woven by monopoly regulation, with its control over wage increases, its management of mark-up rates, and its credit money. The cliff-edge is not as sharply defined as it would be if, after a certain point, values-in-process were no longer able to increase by supplementary surplus-value; a caricature situation that Marx called 'absolute over-accumulation'. In reality the ground has registered a slight decline, a continued deterioration in the conditions of profitability, since the mid-sixties, but nominal incomes continue 'as before'. We can clearly see Marx's 'gradual accumulation of divergences', whose central, 'generic' role in the development of different forms of crisis was examined in Chapter Five. In fact, either values-in-process can be allowed to increase nominally, on credit, in which case the 'net' gets further and further from the ground; or else genuinely compatible value relations can be brutally reimposed. In either case, the crisis stems from the fact that, *with prices that are considered 'normal'*, (and which are determined by external connections, for example, guaranteeing a 'normal' rate of profit), the distributed incomes can no longer validate production. This is what Marx calls 'relative over-accumulation'.

When the rise in nominal prices catches up with the fall in the 'rate of return', this may lead to a realization crisis in which production levels stagnate or decline, and unemployment rises. This is what happened between 1974 and 1983, when all the major capitalist countries in turn adopted 'austerity' policies designed to make the workers pay for the crisis (or, as they put it, to counteract the oil crisis by making households pay for the oil shock). For a period, however — and until the late '70s, to an extent that differs from country to country — the rise in nominal 'cash flow' continued to prevent the collapse of profit rates, while the working class succeeded in maintaining its standard of living, and, in some countries, even improving it. This 'accumulation of divergences' manifested itself, as Marx said it would, in the form of inflation.

This does not mean that we should see the two 'Marxist' explanations of the crisis — 'the fall in the rate of profit' and 'the contradiction between production and realization' (i.e. a general excess of potential supply over social demand) — as being in the kind of stark opposition that Malinvaud drew between 'classic unemployment' and 'Keynesian unemployment'.[4] For, as soon as prices are fixed by firms trying to impose their mark-up, the one leads on to the other. The internal relations no longer assure more than a declining rate of profit, and the attack on real wages by a rise in nominal profits stifles demand. It is not possible to have sufficient demand and sufficient profitability at the same time.

It should be noted that in 1930 the crisis of overproduction was a direct one: productivity gains would have assured a rise in the rate of profit, but wages did not increase strongly enough to constitute sufficient demand. In the case of the present crisis, however, the root is the decline in profitability, and the reactions of states and capitalists to this decline lead to stagnation in world demand.

There is therefore some truth in Malinvaud's insistence on tracing the 'classic' nature of the current crisis in 'the falling rate of profit'.[5] Yet his problematic is entirely 'exoteric'. First the fall in profits is attributed to the excessive level of other distributed incomes, wages and interest. It then provokes a fall in investment, and as the cost of labour relative to that of capital (i.e. the relation between wage rates and interest rates) is too high, this leads firms to choose 'capital-intensive' investment and thus to create fewer jobs.

Now, the econometrics of investment was until recently used to argue more for Keynesian unemployment:[6] what principally determined investment was the situation and outlook of demand rather than realized profits. The relative costs of labour and capital were also of only moderate importance.

The basis of the problem is that class struggle within production forces management to introduce more and more mechanization and robots, even if there is no clear micro-economic advantage, in order to extend their control over the labour process and eliminate 'workers' microconflicts'.[7] This can be readily seen today with real wages stationary or falling, interest rates soaring upwards and the 'capital/labour substitution' continuing apace. It is this movement itself which is bringing down the general rate of profit, sharpening the struggle between business profits, bank interest and wages.

2. The Two Inflationary Spirals

Let us leave on one side the question of insufficient demand and investment, and therefore production — for, although it is the most serious and distressing problem in the current crisis, being at the root of unemployment, it would take us beyond the scope of this short essay. We shall concentrate instead on the *inflationary* nature of the crisis, which stems from the great power and very high degree of autonomy of the external connections shaping the development of nominal incomes. Their autonomy is maintained by the strength of the institutions of monopoly regulation, particularly the rule of credit money.

Ideally the schemas in Chapter Five should be sufficient to bring out the contrast between, on the one hand, esoteric development of the productive structure S(*t*) such that rises in productivity, purchasing power and the composition of capital lead to a fall in the profitability of capital (in the rate of return in value), and, on the other hand, the persistence of surface connections tending to maintain a stable nominal rate of profit and a rise in 'customary' purchasing power. The mathematical problem would be too complex, although there can be no doubt about the inflationary character of the result: it would simply be a struggle in the area of nominal incomes for a bigger share of a 'cake' that never grows fast enough. The same idea can be grasped by simplifying esoteric and exoteric development. We need only assume that the esoteric structure remains stable (with no changes in productivity, the purchasing power of wages, or technical composition), but that exoteric connections are based on a company mark-up that is too high (i.e. greater than the one reached by calculating the rate of profit through 'transformation'). The model proposed by Nikaido and Kobayashi can be interpreted in this way.[8]

These authors take the familiar production-price equations (in the Sraffa tradition), but instead of looking at them as equations of price equilibrium they treat them as growth equations of 'values-in-process'. This they do by dating the prices:

$$p_t = (1 + r)\, A p_{t+1} + s_t l.$$

The rate of profit r is not seen here as an unknown quantity (dependent on internal relations: in this case s and the Frobenius root of matrix A) but, on the contrary, as given at an arbitrary level: the mark-up deemed to be 'normal'. Furthermore, S_t is considered to be a function of prices, such that wages catch up prices with a delay dependent on the labour market. We can recognize this as a variant on the simple model put forward in Chapter Five. The prices equation is, moreover, in the form of equation (III) in Chapter Two.

In these conditions, analysis of the differential equations shows that if mark-up r is greater than the 'real' rate of profit (as it is determined by the esoteric laws, i.e. r* in our model), then stagflation is inevitable.

This model, it must be noted, does not include fixed capital — a serious limitation, since the inflationary spiral of 'profit/cost of living/wages' is in reality combined with the spiral affecting department I, 'depreciation allowance/price of capital goods'.

For, when we look at constant capital, we find the same phenomenon as that which leads to latent, and then open, inflation with variable capital, when the nominal rate of profit exceeds the return in value. In fact, alongside the falling value of consumer goods (more or less compensated by the rise in purchasing power), the other principal 'counter-tendency' towards the decline in profitability of capital is the falling value of the elements of constant capital, particularly machinery. Now, in monopoly regulation, just as productivity gains in department II appear as higher wages rather than falling prices, so the fall in the unit cost of production goods is not reflected in a fall in depreciation (i.e. in the cost of the use of machinery reflected in the price of commodities). On the contrary, the practice of mark-up or full-cost pricing adds a margin to the *nominal* expenditure in capital, whether its value has fallen or not. This brings both advantages and drawbacks.

Advantages: an innovatory business is not penalized by that devalorization of its fixed capital which its own innovations trigger off. Baran and Sweezy were therefore wrong in thinking that they had found a monopoly barrier to technological change.[9] In reality, the devalorization of fixed capital is drowned, 'socialized', in a general fall in the labour equivalent of money, so that the most innovatory firms profit most.[10]

Drawbacks: just as strict maintenance of the value of labour power (when the rise in purchasing power exactly offsets productivity) ends by appearing nonetheless as a nominal rise in wages, so the rise in the technical composition of capital (the 'quantity' of machinery per head), despite being broadly offset by the falling value of the machinery, appears nonetheless as a nominal rise in fixed capital costs (except in the case of a giant breakthrough like the microprocessor revolution) and therefore in the depreciation allowance for (extended) renewal of the fixed capital.

This second spiral is all the more important as it might be thought that exponential inflation would not affect relative prices. Indeed, one might wonder what harm it could do to capitalists. At least since 1970, inflation has enabled entrepreneurs to economize on their investments by running up debts to households (especially wage-earners) and repaying them in devalued money, with interest rates often offset by inflation.

It is now clear, however, that inflationary crisis rapidly leads to an *investment crisis*, because the return on the gross cash flow becomes less and less able to cover the accelerating cost of investment goods. The crisis always appears in the link M → C, only here C represents productive capital.[11] This choking of investment seems to impose a more serious barrier than external trade to the development of inflation: for example, American capitalism suffered from high inflation in the 1970s, despite the dollar's special role and position.

Esoterically, the organic composition of capital increases — a tendency that would lower the rate of profit if the value equivalent of money remains constant. Exoterically the nominal rate of profit is raised by inflation, but then the nominal depreciation allowance (which recovers invested previously capital, at a lower price level) is not sufficient to purchase the new capital as it grows dizzily in price and volume. J.G. Thomas gives a numerical example of this phenomenon but, like Minsky, fails to separate the esoteric root correctly. (Thomas also restricts himself to simple reproduction.[12]) Statistically, one can certainly say there is a swelling of the share of cash flow reserved for simple renewal.[13] In fact, quality surveys among businessmen suggest that the investment crisis has occurred because 'there is too much to do, everything is too expensive and capital is afraid'.[14]

The drawbacks of inflation for capitalist entrepreneurs are reinforced by other external connections. Within nominal cash flow, as Thomas shows, net profit is overassessed because the depreciation allowance is underassessed, and only the net profit is taxed. Moreover, the insufficient nominal return from the depreciation allowance compels capitalists to finance more and more of their new fixed capital from loans rather than their own funds, which evidently increases their debts and finance charges. But this is true not only for fixed capital but for circulating capital too, over a shorter term but in more important amounts; working capital (intermediate goods and wages), automatically swollen by inflation, must be financed, insofar as it is tied up in the productive process, by ever larger demands that have to be made for bank credit.[15]

The end result of all this, in the late 1970s, was a growing tendency toward decapitalization as insufficient cash flow held back renewal. The nominal rise in values-in-process resulted in a fall in their instantaneous value.

The basic defect of the Nikaido-Kobayashi model is therefore its lack of allowance for variation in the economic structure $S(t)$: the matrix A and the real reference-wage remain unchanged, and only the exoteric rate of profit r is fixed *a priori* higher than r^*. But the whole dynamic of a regime of intensive accumulation is one of continuous distortion of matrix A and growth in the real wage rate, more or less parallel with increases in productivity. Some modification would therefore have to be made to the model by introducing specific laws, r^* (t), S^* (t), r(t), s(t). This would involve difficult problems of differential geometry, and the task can be left to mathematicians for the time being. Much more important for economists is to study the dynamic of the economic structure S(t) which led to the crisis (variations in productivity, in the rate of surplus-value, in the organic composition of capital, in the allocation of capital among the sections, in the development of the main branches of post-war growth).[16] Special attention should also be given to a rigorous analysis of inflections in the external connections.

3. Consolidation and Inflection of Esoteric Connections

It was to this last task in particular that CEPREMAP's research in

1977 was devoted.[17] Taking the post-war French situation, it showed econometrically the consolidation of the exoteric connections characteristic of monopoly regulation, such as those governing the nominal income of workers and independent entrepreneurs, and the 'administered' mark-up. It succeeded in showing that the latter was increasingly inflexible and no longer varied with the 'business cycle', and that real wages were increasingly linked to productivity, even after the official start of the crisis in 1974.

On the basis of the exoteric relations established by this research, Boyer and Mistral were able to construct a model of the formation of nominal prices which, when applied to the first years of the crisis, gave remarkable results and enabled us to work out the proportion of inflation that could be attributed to each element of income.[18]

Nevertheless, the model took the development of real production as given by the quarterly statistics for 1974-75. In other words, the model itself does not explain the crisis, but it presents its *inflationary nature* in a way that is measurable.

The development of this model so as to make stagnation itself endogenous, is one important aspect of the 'research programme' (in Lakatos's sense) which we are proposing. We need to stress, here and now, that the existence of incomes assured independently of the realization of any corresponding added value (such as, for example, the wages of 'supernumarary' workers who are not laid off, indirect wages, unemployment benefit) entails very strong guarantees against the fall in real demand. This is one of the important reasons why the present crisis, instead of involving a thirties-style cumulative depression, took the form of stagnation.[19] The governments of all the capitalist countries regarded the inflationary quality of this stagnation as a lesser evil until monetarist policies were enthusiastically embraced in Britain and the United States.

At the end of the 1970s, the laws of popular income-formation were seriously questioned in countries with conservative governments and, under the pressure of 'external constraint', in those with social-democratic regimes as well. The new policies do indeed slow down the rate of inflation. But joined with 'monetarism' — which we shall be discussing later — their continued implementation would inevitably unleash a serious depression with untold consequences.

In fact, when German and American workers, faced with the pressure of the crisis and 'austerity policies', agree to accept wage increases below the rate of inflation in exchange for promises of continued employment, the effect of such a *cut* in their real wages is to depress first the internal market and then, given the weight of the US and German 'locomotives', the world market. The loss of internal outlets cannot, therefore, be offset by more competitive exports, as the rest of the world is doing the same. (The only major exception, France in 1981-82, was good news for West Germany and Italy.) The crisis of relative over-accumulation worsens and swings ever closer to a thirties-style recession.

But even the anticipated 'exoteric' effect is not necessarily achieved. The slower or even negative growth in production has disastrous consequences for productivity (since gains in productivity are largely the result of economies of scale). Despite the fall in real wages, the wage-cost per unit of output can quite easily not go down at all. This is what happened in the United States in 1982, and after the first *'plan de rigueur'* in France which followed the devaluation of the franc in the third quarter of 1982.

II. Dispersal of Productivity and Inflation

This global divergence between production and incomes is not the only contradiction between internal relations and surface connections to be resolved through inflation. We have described a regime of accumulation with rising overall productivity and constant prices which, as productivity gains fall off, changes into an inflationary process. We can now look at the effects of unevenly distributed gains in productivity.

If we start from a homogeneous example, where gains in productivity remain parallel to wage rises, the system of prices will, as we have seen, remain stable. This implies 'latent inflation', since a given quantity of money will buy the same number of commodities embodying less and less value.

However, gains in productivity do not affect all sectors simultaneously, nor even all firms in the same sector.[20] The motor industry rapidly became Taylorized, then mechanized and automated up to the level of Fordism. But the building industry is still essentially a classical one, and the goods and services of petty commodity production have also registered smaller gains in productivity.

The wage-rate, which draws up the incomes of independent producers and peasants, is not determined at the sector level so much as nationally or regionally — in fact, under monopoly regulation it is more and more determined by productivity increases in a few leading sectors, and more specifically in the leading firms in those sectors.[21] We may therefore expect prices to change differently in different sectors. Sectors in which productivity gains are greater than the general increase in wages may even show falling prices (as with pocket calculators) or at least, a slower rate of increase. Sectors where productivity gains have been smallest, on the other hand, have a more rapid rise in wage costs that is reflected in their price levels.[22] The result is a rise in the global level of prices. Streeten and Kolm have both analysed this price effect: an average rise resulting from the movement of relative prices.[23] But it involves a gradual decline, in all sectors, in the number of labour-hours represented by the amount of money: in some sectors because of a rise in the price of commodities of constant value; and in others because of constant prices of commodities of diminishing value. Thus, the intersectorial heterogeneity of productivity gains in a given economy may in itself be a cause of inflation.

III. The Oil Crisis

The fact that the 1974–75 recession followed the oil crisis of 1973 has given rise to a broad spectrum of theories which try to explain stagflation by means of 'exogenous impacts'. But in itself the increased cost of oil — which is an increase in rent, and therefore in prevalidated income — did not entail a general drop in production: a period of adaptation was the most to be expected, while the structure of world social demand moved towards the new outlets offered by the OPEC countries. Even as regards the level of prices, classical economic theory would not automatically point to a *general* rise. What the oil price rise did, in reality, was to provide a catalyst for a crisis that was already latent.[24]

The distinction between the esoteric and exoteric can help us to illuminate this controversy. The rise in the price of oil is the appearance of a social relation — State landed property — in the distribution of global incomes. Esoterically, what happens may be described as a transformation of the structure of distribution within an essentially unaltered system of values.[25] Exoterically, it appears as an independent rise in one of the 'component elements' of the prices system. The 'accumulation of divergences' is wiped out by means of an adjustment belonging to the mode of regulation in force.

The diversity of forms taken by the mode of regulation is reflected in the diverse positions of most economists regarding the possible effects of an oil price rise upon the rate of inflation. Some economists, particularly monetarists, have argued that a rise in oil prices would make consumers worse off and lower their demand for other products; and 'therefore' that other prices would fall and the overall price level remain constant. Most economists, on the other hand, have argued that a rise in energy prices leads to a rise in production costs and 'therefore' to a rise in sale prices.

The difference between these two positions essentially reflects two different perceptions of economic regulation. The first argument implicitly assumes regulation by competition and a gold-money constraint. The adjustment then occurs in the $C \rightarrow M$ chain, so that the price of other commodities has to fall. The second position implies monopoly regulation, in which the adjustment has to take place on the $M \rightarrow C$ chain: inflation expresses the 'accumulation of divergences'. Obviously, it is the latter which has proved to be correct.

IV. 'Monetary Discipline' and the Monetarist Catastrophe

If inflation is made possible under monopoly regulation by the

banks' antevalidation and the central banks' pseudo-validation, it might seem logical to return to gold-money, or at least to impose restrictions and monetary discipline so that only what is allowed by the internal relations can be validated. But we have already seen why the first of these courses is impossible: intensive accumulation accompanied by the development of mass consumption cannot function under the constraint of metal currency. The growth in demand has to be stabilized to allow regular production on the assembly-lines or highly mechanized technological platforms, and this requires a growth in purchasing power assured by distributing incomes in anticipation of productivity gains. If this distribution has to be regulated by the anticipated growth of social production, then it cannot be regulated by the real growth of an amount of metal-based money which would, moreover, involve an engagement of social labour of dubious utility. The gold-standard would then lead us back to competitive regulation, or to the old rapid alternation of booms and crashes. Gold-money is therefore not compatible with intensive accumulation; indeed, it was the separation between credit money and gold which, among other structural forms, made post-war growth possible.

It also made possible the artificial validation of uses of capital and a distribution of income which became less and less compatible with the underlying value relations.[26]

Let us turn then to the second of the above courses — the one which has been the starting-point for the 'anti-inflation' policies of a number of governments. The precise question here is: what will follow from a limitation of the means of validation available for realising all the surface connections anticipated by market agents? The answer to this is much more difficult.

The constraint imposed by tight-money policies is supposed to reduce the possibility of finding means of validation with which to realize commodities. The idea is that their prices will be cut, or at least will increase more slowly, if there are not sufficient means of circulation and payment. But the problem is precisely that these prices are not determined freely; they are arrived at through the addition of prevalidated income 'components', which, as we have seen, are not merely 'aspects of circulation'. They constitute coercive payments that different capitals have to make if they want to stay in production. They are therefore *conditions* of production. If the prices they assume cannot be obtained, *production will not take place* and an accelerated recession with continued inflation will develop.

This diagnosis implied by the theory of monopoly regulation was soon confirmed, both at the macro-economic level (the first years of the Thatcher government in Britain) and at the sectorial level (the collapse of the construction sector in France, with a sharp rise in its relative prices).

The full absurdity of this kind of orientation, however, appears in the economic policy of the Reagan administration, at least in 1981-82.[27] Reagan's advisers wanted, at one and the same time:

(a) to give a new impetus to investment by improving the prospects of profit. To do this they wanted to reduce taxes, particularly those collected from the rich and from business.

(b) to pay for these higher profits by cutting indirect wages (dismantling the Welfare State).

(c) to provide new outlets by boosting military expenditure.

and (d) to limit the aggregate means of validation issued by the monetary system, thereby making commitments of capital much more selective. This was to be achieved by raising money-market interest rates.

This action was clearly aimed as much at the esoteric (the distribution of added value, by means of a drop in the income guaranteed to the mass of the population) as at the exoteric (tightening the coupling constraint by ceasing to validate the production of obsolete industries and the access of wage-earners to credit).

The policy was a complete failure. The first cuts in government social expenditure reduced popular demand, without any initial compensation from arms spending. Production fell and fiscal revenue, already pulled down by lower tax rates, underwent a further decline that increased the deficit inherited from the Democratic administration. Military expenditure could no longer be financed except by more State borrowing; yet the central bank (the 'Fed') had been told to curb pseudo-validation. This it did by raising interest rates, which had the twofold effect of cutting out more borrowers (with another consequent fall in social demand) and putting up the costs exoterically added into prices. Inflation slowed down but prices did not fall, for the simple reason that they had at least to cover rising costs.[28] Thus only production that 'covered its costs' (with increasing difficulty) was able to continue, while the rest came to a halt.[29]

That is not all. The rise in interest rates attracted floating capital from all over the world, pushing up the price of the dollar in relation to other currencies, and thus increasing oil revenue, which is fixed in dollars. The first effect of this was to reduce the competitiveness of American industry which, as it lost external as well as internal markets, found itself in an even more dramatic situation.

Secondly, the rise in rent and interest rates on the floating capital market introduced to other countries the same constraints that the United States administration was exerting over its own. The results were similar: rising costs; greater difficulty in realizing commodities at a price that allowed for costs; a consequent slowing down of inflation but no fall in prices; numbers of bankruptcies, a decline in production and a sharper rise in unemployment.

The vicious circle was now closed. Stagnation, becoming less and less stagflationary and increasingly recessionary led to a fall in oil sales. And the decline in oil revenue (which guaranteed the borrowing of countries such as Mexico) brought down the stock of 'petrodollars' — that is, oil company debts to producer countries. With this collapse of prevalidation there was a breakdown in developed countries' sales to OPEC countries, and in the main-foundation of the world credit-money market (eurocredits, and so on). The debtor countries could no longer either repay or borrow, and the world market contracted still further.[30]

One could dwell for a long time on the causes of the Reagan administration's disastrous policies, with their consequent bankruptcies and vast mergers in the United States, and their denial of any independent policies to countries susceptible to the movements of the world market, such as France.[31] Some people try to find an explanation by pointing to the simple incoherence of 'Reaganomics'.[32] Others see it as a settling of accounts between the expanding businesses of the American 'sunbelt' (Texas and California) and the old industries of the North-East 'frostbelt' which were once the centre of the world and have proved incapable of developing new production norms. It seems to be less a matter of weariness on the part of creditors (bankers?) faced with interminable debts, than a fratricidal struggle between fractions of industrial capital, some of which are better placed than others to deal with the rigours of credit.[33]

At any event, the adoption of monetarist policies in the late 1970s and early 1980s marked a refusal — political, social and even cultural — to anticipate the future closing of the money circuit, a refusal to anticipate the subsequent validation of engaged capitals. We have seen that confidence in the future is expressed in the present through investment, which in turn helps validate past commitments of capital in the production of producer goods. But monetarism, by drawing a line under the period of gentle constraint, destroyed what was left of the 'Keynesian' growth of the seventies, with its pattern of 2 to 4 per cent growth in the industrial heartlands and 10 to 15 per cent in the newly industrializing countries of peripheral Fordism (which is really quite good for a period of crisis).

Monetarism was no longer prepared to wager the cost of investment against the anticipated value of the product in the making. Like the merchant of Venice who demanded his pound of flesh, monetarism demanded its weight of validated value. Suddenly it transformed into outright catastrophe what had merely been a painful shift after twenty years of hale and hearty growth. It ripped open the safety-nets of monopolist regulation, assailing the powerful Welfare State institutions that stabilized social demand, and breaking the thread of pseudo-validated values in the process. It cast into the abyss a world which, being still enchanted with the dream of credit-based expansion, was still actually moving forward.

Those whom the gods wish to destroy, they first make mad. Nevertheless, men do make their own history. After two years of the Reagan-Thatcher tandem, under which industrial output had plunged ten per cent in their own countries and the recession had spread to the whole world, the spectre of 1930 reappeared with nine years' delay in the summer of 1982. It must be said, however, that the international financial community had been officially informed of the validation hierarchy (or rather, the selective devalorization hierarchy) that the FED intended to follow. Roughly speaking, the idea was to accept the obliteration of 'smaller' values-in-process, and even of large industrial values, but not to allow the banking system, whether big banks or national states, to collapse. To kill the values-in-process without killing confidence in the credit-money tied to those values —that was easier said than done: the banks had been placed in question by the world recession. Large private banks had, for example, become the lenders of last resort for a number of 'small' states. Similarly, when the number of bankrupt industrial firms began to multiply, the banks found that their debts constituted a considerable proportion of their own assets.

On 17 May 1982, Drysdale Government Securities ended in bankruptcy, and Chase had lost 258 million dollars. In order to calm the panic, the FED had to inject (i.e., pseudo-validate) three billion dollars. In June-July Banco Ambrosiano, the leading Italian private bank, was driven into bankruptcy, and Midland Bank and others were left with debts of 400 million dollars (owed by Ambrosiano's Luxemburg affiliate) for which the Italian central bank refused to accept responsibility. In July Penn Square declared itself bankrupt, throwing its two largest creditors, Continental Illinois and Chase Manhattan, into a cash-flow crisis. The question was now seriously asked: at what point would the central banks 'ditch' second-level banks by no longer pseudo-validating their losses?

In fact, the question had already been posed for six months by Poland, which, though insolvent, was still being treated as if it were merely behind on payments. In this way, the fiction was maintained that Western banks still 'possessed' their Polish loans and could therefore repay their own creditors. On 13 August, however, when Mexico suspended payments on its $80bn debt ($60bn of it to 1,100 Western banks), the rush started in earnest. All the other large debtors, such as Brazil, announced that they were in no position to pay either interest or principal. Indeed, with what could they have paid? No one was buying anything from them any longer. Nor would anyone lend them any more money.

The long-awaited crisis took the shape of a 'dissuasion crisis'.[34] Monetarism was driving to the wall not only companies which had long been inserted into the 'old development model', but also the peripheral-Fordist states that had embraced it late in the day. Everyone could see that their bankruptcy would bring down the whole monetary system. And since it was monetarism that had led the world, and particularly the United States, to the edge of the abyss, it was monetarism that went overboard.

In July 1982 the FED changed course and gave up any ambition to control the money supply: its objective now was to pseudo-validate anything whose devalorization would spell disaster. The Federal Funds interest-rate fell in two months from 15 to 9 per cent. US representatives on the Bank of International Settlements and the International Monetary Fund organized a last-ditch bailing-out of countries on the verge of bankruptcy. Elections were approaching, in the USA and in Britain, and the time was ripe for the luxury of a mini-recovery. Besides, stocks were low, machinery had grown old, and the introduction of new car models had been postponed for too long. After two years of recession, decapitalization and devalorization, a mere return to simple reproduction required a 'technical upturn'.

Hermann Kahn, as perspicacious as ever, identified these signs of US recovery (from a base lower than the 1973 level and, for some branches, lower than the fifties) with 'the recovery', the strategic breakthrough General Nivelle dreamed about on the Chemin des Dames in 1917, which after a very short downward phase of the Kondratieff cycle would lead to expansion until the year 2000.[35]

In more serious vein, however, none of the conditions for a lasting recovery of accumulation was present. Recent technological breakthroughs have not so far created the anticipated gains in productivity: all that has happened is that closures and lay-offs have, purely statistically, made some slight recovery possible in the extremely low rates of productivity increase in Britain and the United States. Productivity, as we know, is not merely a matter of technology; it involves an entire regime of accumulation, mobilizing the factors that determine investment, growth of outlets, new forms of wage relation, and so on.[36]

Monetarism's provisional retreat in the face of its own catastrophic consequences is surely a good thing. But no alternative

solution exists. The crisis which had been germinating since the sixties and finally burst forth in 1973 has now taken a new turn towards a little more pseudo-validation, and a fraction more growth. But it is no more than a political and doctrinal mini-cycle within the large-scale crisis, and there is a permanent risk that monetarism will return in force.

V. Soaring Interest Rates, Paroxysm of Inflation

If the Federal Reserve Bank gives up behaving wildly and brings interest rates down to 8 or 9 per cent, inflation also comes down substantially, to 3 or 4 per cent. The real rate of interest — that is, the share of added value that accrues to bank capital whenever productive capital draws on its cashflow to pay interest — therefore stays at a very high level. Correlatively, the gross company profit (what is left of cashflow after payment of finance charges) has become derisory (8 per cent in France in 1982, which hardly covers depreciation). It already seems unlikely that the fall in nominal interest rates will continue in early 1983.

It is therefore important not to overestimate the ability of the American monetary authorities to reduce interest rates. Certainly they bear an enormous responsibility for their policies, but as interest rates shot up, their actions only exaggerated tendencies which were already there.

J.G. Thomas (op. cit.) is deeply critical of the error of building 'compensation for inflation' into interest rates. He argues quite rightly that the actually supported rate of interest is the nominal rate of interest, and the so-called 'real' rate of interest (the difference between the nominal rate and inflation) is no more than an accounting convention. He goes on to argue for a reform of credit based on the reassessment of balances and the indexation of capital loans; rates of interest would then return to being quite a small part of the rate of profit (traditionally between 2 per cent and 5 per cent).

There is cause to doubt this. If the rise in nominal rates eventually wipes out profit rates and stifles investment, this is for a far more deep-rooted reason, as we have seen; it is *inflation* which stifles investment, after having for a long time (since the mid-1960s) enabled investment to be kept up despite the tendency for profitability to fall. This tendency to fall is an esoteric fact which refers to production, to the regime of accumulation. Rising interest-rates are only a reflection of that sequence in monopoly regulation, where credit-money has the status of legal tender. Just as it is not inflation that erodes the previously fixed depreciation allowance — that erosion being merely the exoteric expression of an intrinsic devalorization — so it is not the rise in interest rates that impedes valorization but the valorization difficulties that are reflected in higher interest rates.

But whether values-in-process are suddenly devalorized through bankruptcy, or whether it all happens more gently (because the new plant that they can purchase out of cashflow has less value than that in which they were incoroporated before and whose output sales have brought a purely nominal growth in cashflow), the monetary symbols wagered against those values still have to flow back, with interest. What is left to the productive sector only shows its diminished power of reaccumulation. As to the increased income that flows back to the banks, it merely makes up for the monetary symbols that do not flow back because of bankruptcies. It would therefore be a pipe-dream to finance industry out of the 'fabulous gains' made by the banks between 1980 and 1982, when it seemed as if all surplus-value would be swallowed up in interest. Maybe that would make some sense with the surplus-value of capitals still in production, but the banks also had to absorb the wiping-out of other values-in-process, in the form of debts that could no longer be repaid.[37]

The current rise in interest rates is therefore the concentrated expression, specific to credit money, of the devalorization of values-in-process. By the rise in the 'actualization rate' that it implies, it depreciates the fictitious capital (shares and debentures) which measures the assets tied up in fixed capital. On the other hand, to the extent that it raises the total amount of incomes to be prevalidated, it discourages firms from tying up constant capital in increasingly massive and complex machinery that is less and less profitable. And finally, when stagflation begins to pass into open deflation (depression in volume, but not necessarily in price!), a rise in 'real' interest rates functions like the good old collapse of prices in the classic crash, and the

problem once again becomes one of 'validation at any price'.

Mirshkin studied the movement of nominal interest rates and inflation over a long period of time.[38] He showed that there is a negative correlation between 'real interest rates' and inflation (they decrease when inflation goes up), and that they were very high at the time of the 1930 crisis (because prices fell) and very low (often negative) after the 1974 recession. It is a pity that Mirshkin did not have the benefit of the data for 1980–1982, when the real interest rate soared despite the fact that prices were still rising, though at a slower rate. He would certainly have noted that the difference between the 1930 crisis and the present one is that there was no pseudo-validation in the former and a great deal in the latter. He would also have identified the change of direction about 1980 which has brought us closer to a 1930-style crisis (values-in-process killed by falling prices in the thirties, and by rising interest-rates in the eighties).

Monetarism has shown us that there is no longer any basis for the certainty that 'things will get back to normal', the attitude which prevailed throughout the seventies in the minds of the leaders of the capitalist world, from those who announced the end of the crisis in 1976 to those who are still waiting for a 'return of health'. The validation of previously committed capital is becoming a suspect exercise. There is no more lending to producers, only to sellers. Monetary constraint tightens over its simplest form: C → M. Now money, real money, is needed.

It does not matter whether it is gold or pseudo-validated credit-money. Entrepreneurs are prepared to give up all their surplus-value and more to bank capital in order to convert their tied-up values-in-process back into money. Selling stocks at knock-down prices, financing stocks at exhorbitant rates — these are two modes of regulation, two forms of currency, two modes of expression of the same hidden necessity to annul those capitals-in-process which no longer have a place in a coherent regime of accumulation. They are two expressions of a large-scale crisis of capitalism.

* * *

Note to the English edition:

As the above diagnosis was written in 1983, it would be rather dishonest to modify it retrospectively. However, the assessment of the 1983-84 US recovery needs to be more nuanced.

Firstly, the recovery took on considerable dimensions, even if it did not wipe out the effects of the stagnation of 1979-81 and the subsequent monetarist shock. Secondly, it would be wrong to think that a simple policy of Keynesian 'laxity', involving budget spending on armaments, brought the United States back to the Carter years. Important changes took place at the esoteric level of the economy. Fixed capital was modernized. There was a further segmentation of the labour market—between a sector enjoying more or less guaranteed employment in return for stagnant income levels, and a sector subjected to the worst 'flexibility' in its conditions of employment. The division of value-added shifted significantly to the benefit of profit, and to the detriment of both wages and tax revenues. This rise in profits favoured investment, but the accumulation regime only came to an end because of a rise in credit purchases by individual consumers (housing) and above all by the State (armaments).

Starting in 1983, deficits were no longer financed mainly through growth in the money supply (i.e., through pseudo- or ante-validation) but through 'pumping' of the savings deposits of the rest of the world, which was required to finance both the federal government deficit and the trade deficit. This was achieved by means of a sharp new rise in real interest-rates in the United States—a rise which, as we have seen, is inherent in the present form of crisis but is aggravated by the competition to attract capital. The high level of real interest-rates has prolonged the difficulties of peripheral Fordism (except in Asia) and maintained stagnation in Europe.

In one sense, then, it would seem that US capitalism pulled itself out of crisis only by hitting hard at one section of its own wage-labour force, and by transforming the capitalists of the rest of the world (except in the Japanese zone) into rentiers. This raises doubts about the stability of the accumulation regime now being installed, and suggests that the 1985-86 period will witness

a new downturn in the US and therefore world conjuncture, without a fall in real interest-rates.

As to the 'exoteric' side of the 1983–84 recovery, the most striking feature is the general slowing of inflation (but still without a fall in prices). This expresses a break in the numerous external links: both 'reactionary' America and 'socialist' France have challenged the indexation of wages; the oil rent has fallen considerably, in real and even nominal terms, and so on. There are also a number of national specificities, such as the rising apparent productivity of labour in Britain and the United States as a result of wide-scale redundancies; the appreciation of the dollar, which has lowered the cost of US imports, and so on.

Thus, although the slowing of inflation is based on a break in the previous forms of prevalidation, it heralds great instability of world social demand and considerably weakens the economic recovery. (A more extensive analysis of this period may be found in my *Mirages et miracles. Problèmes d' industrialisation dans le Tiers-Monde*, Paris 1985, shortly to be published by Verso.)

Notes

1. Because this is a short essay, and a complex subject, I shall just be looking at the inflationary aspect here, with a brief summary of my analysis of the roots and mechanisms of the present crisis.
2. See M. Aglietta, *A Theory of Capitalist Regulation*, NLB, London 1979; Lipietz, *Crise et Inflation: pourquoi*? op. cit; and A. Granou, Y. Baron, B. Billaudot, *Croissance et crise*, Paris 1979.
3. A distinction needs to be made between the 'mark-up' which is fixed *a priori* by the entrepreneur or wholesaler for each commodity, and the rate of profit he in fact succeeds in realizing, taking account of the volume of sales (the 'administered' mark-up only bringing in the normal profit for a normal volume of production).
4. E. Malinvaud, *The Theory of Employment Reconsidered*, Oxford 1977.
5. E. Malinvaud, 'Wages and Unemployment', *The Economic Journal*, March 1982.
6. See P.A. Muet, 'Les modèles "néoclassiques" et l'impact des taux d'intérêt sur l'invéstissement', *Revue Economique* No. 2, March 1979.
7. See the replies of Japanese industrialists to the survey printed in *L'Expansion*, No. 170, May 1981.
8. H. Nikaïdo, S. Kobayashi, 'Dynamics of Wage-Price Spiral and Stagflation in the Leontieff-Sraffa System', *International Economic Review*, February 1978.
9. *Monopoly Capital*, Harmondsworth 1966.
10. For a discussion of the mechanism involved, see A. Magaline, *Lutte des classes et dévalorisation du capital*, Paris 1975.
11. A similar insight may be found in H. Minsky, 'Capitalist Financial Processes and the Instability of Capitalism', *Journal of Economic Issues*, June 1980.
12. J.G. Thomas, *Politique monétaire et autodestruction du capital*, Paris 1981.
13. A Brender, A. Chevalier, J. Pisani, 'Etats-Unis: croissance, crise et changement technique dans une économie tertiaire', *Economie Prospective Internationale*, April 1980.
14. M. Herblay, 'Crise mondiale pour les investissements', *L'Expansion*, 4 May 1982.
15. See J. Peyrard, 'L'impact de l'inflation sur la gestion financière à court terme des entreprises', *Banque* No. 407, June 1982.
16. See, for example, the CEPREMAP report 'Redéploiement industriel et espace économique', *Travaux et Recherches de Prospective*, La Documentation Francaise, No. 85, 1982.
17. CEPREMAP, *Approches de l'inflation . . .*, op. cit.
18. R. Boyer, J. Mistral, *Accumulation, inflation et crises*, Paris 1978.
19. R. Boyer, 'Origine, originalité et enjeux de la crise actuelle en France: une comparaison avec les années trente', in *La crise économique et sa gestion*, Montreal 1982.
20. The differences in productivity among firms in the same branch are the source of what Marx calls 'extra' surplus-value (*Capital* Vol. One, p. 434). But he thought that the firms making the greatest productivity gains would reduce their prices by less than the fall in value. Under monopoly regulation, the rise in wages which generally goes with gains in productivity does not permit of any significant reduction in price. On the other hand, firms making greater than average gains in productivity found wage rises less of a burden on their profits than firms

whose productivity increased more slowly: that is the 'monopoly' form of 'extra' surplus-value. See *Crise et Inflation* and Lipietz, 'Conflits de répartition et changement technique dans la théorie marxiste', *Economie Appliquée* No. 2, December 1980.
21. See J. Eatwell, J. Llewelyn, R. Tarling, 'Money Wage Inflation in Industrial Countries', *Review of Economic Studies*, February 1974. Gaspard and Lecuyer perfected a model (DAS) of the determination of annual wages by trying to clarify the linkages by which gains in productivity in the most dynamic branches and the setting of a legal minimum wage involve the whole wage hierarchy. M. Gaspard, D. Lecuyer, 'Le modèle DAS: un instrument d'analyse de la dynamique des salaires annuals', *Statistiques et Etudes Financière*, série Orange, No. 45, 1980.
22. This explains why the more unhomogeneous the productive structure is, the higher the 'natural' inflation rate of a country, which is the situation in the France. The explanation basically rests on the stability of the hierarchy of incomes between more and less productive sectors. One means of reducing inflation would therefore be to restructure the hierarchy, so that wages only benefitted from gains in productivity in their own sector. We would then have a 'dual' or 'two-speed' society, on the Japanese model, the sort of thing that appeals to Giscard's theorists and is disastrous for working-class unity, not to mention the effects on services and commerce.
23. P. Streeten, 'Wages, Prices and Productivity', *Kyklos*, fasc. 4, 1962; and S. Kolm, 'Notes sur l'inflation de productivité', *Revue Economique*, November 1970.
24. In fact the oil crisis only had the 'devastating' effect it did because, first, it upset the relative prices at the centre of the Fordist model of development (which was going to make the adaptation fairly long anyway) and second, more significantly, because the exoteric sequences which were set in motion grossly enlarged the exoteric/esoteric divergence. Note that our reflections on the Marxist theory of rent (anticipating this essay) enabled us to forecast these consequences from the start (Lipietz, *Le tribut foncier urbain*, Paris 1974, appendix on oil rent).
25. Many authors get confused when it comes to the determination of value when rents are involved, and adopt the idea that value is determined by the quantity of labour necessary on the poorest quality land. If this were the case, we should have to say that the value of oil had increased since it started being produced from the depths of the North Sea and from bituminous sand. In our opinion, this position is wrong: value is not determined in relation to the labour engaged by a specific capital, but by the labour allocated to one whole branch by society 'functioning as a single force' (*Capital*, I, Chapter 1).

The value of oil has therefore only slight increased; what has gone up substantially is the rent paid for its extraction. For a discussion of the composition and transformation of state property relations as they affect the international oil industry, see R. Hausmann, *Oil Rent and Accumulation in the Venezuelan Economy*, unpublished thesis, Cornell University, 1981.
26. This is the official argument of bourgeois critics against 'inflationary laxness': it allows anything to be bought, and any investment to be made. Yet we have seen that investment was gradually stifled by the deep-seated causes of inflation. For all this, the governor of the Bank of France, Renaud de la Genière was still declaring, in the middle of a slump in investment, that he had to 'strengthen interest rates in order to ensure a selection of credits based on productive uses' because there was 'too much unproductive investment, which was harming the more productive.' (See 'Les fondements de la politique monétaire française', *Banque*, March 1981.)
27. American monetarist policy was developed *before* the Reagan adminis-

tration (cf. the historical survey in Aglietta and Orléan, op. cit.), and its consequences were diagnosed and condemned, even by the Bank of International Settlements in 1981. The point they made was that any fall in the total amount of money was more likely to be reflected in a fall in activity than a fall in prices, and that higher interest rates were having a dramatically damaging effect on profits, but scarcely slowing down the total amount of money. Thomas (op. cit.) also remarks ironically that in France, in 1980, interest due alone exceeded the growth in the total amount of money, and concluded, 'If investment cannot bring about its own renewal, the total amount of money can create its own growth without new employment.'

28. Since the beginning of 1983 the United States prices index has fallen in some months. This is the result of nominal falls in oil prices, and a certain amount of cut-price selling (the competitive forms of regulation being more widespread than in Europe), but principally because the cost of mortgage loans, and therefore interest rates, is now included in the price index. Some inflation points were also cut off by the rise of dollar parity.

29. This 'interruption' takes the form of a very large number of failures, or a reduction in the nominal valuation of some values in process which can then be absorbed by others: hence the wave of mergers and capital centralization. See Thackray, 'The Disinvestment Boom', *Management Today*, January 1982.

30. On the dramatic sequence of events leading to the failure of the 'newly industrializing countries' which had plunged into 'peripheral Fordism' on the basis of debt, see Lipietz, *Miracles et mirages. Problèmes de l'industrialisation dans le Tiers-Monde*, Paris 1985.

31. On the consequences of France's gradual 'extraversion' for Mitterrand's economic policies, see Lipietz, *L'Audace ou l'enlisement*, Paris 1984.

32. This is Galbraith's decided opinion. See also the debate organized by Cepii, 'La reaganomie: fondements doctrinaux et dimensions internationales', *Economie et Prospective Internationale* No. 9, 1982.

33. A hypothesis suggested to me by Patrick Clawson, which the anti-Reagan battle of New York banker Rohatyn would seem to support. In 1982, though, Reagan's policies would end up stifling the 'cowboys' as well as the 'yankees'.

34. On the financial crash of summer and autumn 1982, see 'The Crash of 1982', *The Economist*, October 1982.

35. Interview in *l'Expansion*, 211, March 1983. It will be recalled that the same Hermann Kahn had not 'foreseen' the 'descending phase' of the same Kondratieff. I must admit that the only use I can see in Kondratieff is to provide a gloss for proverbs like 'Everything has its day' or 'Every cloud has a silver lining'. Periods of expansion are periods of operation of a regime of accumulation. These regimes finally collapse under the strain of their contradictions, which creates the great crises, and the way out of them is the *invention* of a new regime and a new mode of regulation. But there is no underlying cyclic mechanism, analogous to tides or monsoons, to regulate the succession of these phases.

36. The *sectoral* impact of limited technological breakthroughs made it look — quite wrongly — as if the crisis was due less to a global lack of productivity gains than to an excess of them (see the dossier in the *Economic Journal*, 369, March 1983). In its turn the crisis then further slowed down gains in productivity. The conversion of the *potential* productivity gains to come from the electronic revolution into productive processes is subject to macroeconomic and social conditions which are by no means secured at present.

37. A widespread variation in France is that bank profits have been used to finance the 'international prevalidation' of exports, many of which will never be repaid.

38. F. Mirshkin, 'The Real Interest Rate: an Empirical Investigation', in *Carnegie-Rochester Conference Series*, North Holland, No. 15, 1981.

Conclusion

Throughout this work we have been following with curiosity, then with anxiety, the take-off of our fetishized economy, that network of movements and behaviour woven by agents on the basis of production, accumulation and distribution.

Today this enchanted world is slipping towards a nightmare. Deficits are increasing and interest rates soaring, yet unemployment is rising as well. Some governments therefore think their first priority should be to get the economy's feet back on the ground, much as one forces a sleepwalker to wake up. They believe that if they refuse to monetize debts and to 'pseudo-validate' the corresponding production, then capitalists and other market agents will be forced to return to solid ground and to adjust to the only norms of production and consumption that are compatible with the exhaustion of the earlier model and the new technological revolution. And they think the best way to prevent this monetization is by using the interest-rate weapon.

I hope that we have shown that there is no excuse for their dangerous ambitions except their actual powerlessness. If the money supply contracts and the credit economy collapses, it will spell disaster for Third World debtor-nations and for firms in branches that are either stagnating or setting off in search of those famous new norms. It would also, of course, have terrible consequences for the workers in those branches and Third World countries. Nor would it offer any likelihood of a solid future, or

automatically set the economy on a development model that does not yet exist. For, although the market can stabilize fluctuations around a regime of accumulation, a general collapse of anticipations and a rush for payment in cash are the worst conditions for the emergence of new technological and social forms; one throw of the dice will never abolish chance. To precipitate the 'coupling' of the fetishized economy with a chaotic social and technological order is bound to trigger the spiral of recession.

The 'summer at the edge of the abyss' provided a provisional lesson in 1982. In practice the monetarists have had to decide to absorb the (insolvent) debts of the largest debtors. A world crash has been avoided, though perhaps only for the time being.

It must be stressed, however, that a more relaxed budgetary and monetary policy would do nothing but defer the moment of coupling and the inevitable adjustment of the fetishized economy to new trends in the social division of labour. At any event, the crisis of Fordism, — which involves rising fixed-capital costs for ever smaller gains in productivity — renders incompatible the old surface connections and the rates of profit, wages and social security which existed a short time ago. At the most, greater policy flexibility would allow reorganization to be carried out more smoothly, until new norms of production and exchange are in force. How this is to be done, and what the new norms should be, is a different question. But the 'harsh measures' being applied today could lead straight to catastrophe, as in 1930; and it may be left to the survivors of the next world war to decide on the new norms.

'Soaring inflation' is not a disease in itself. It is the symptom of a disease: the exhaustion of a regime of accumulation. One day the enchanted world will find its feet again, but there are a number of different ways in which this could happen. In Marx's words, which we quoted earlier: 'Productivity itself changes and changes the conditions [of production]. The conditions, on their part, change productivity. But the divergences are reflected partly in superficial oscillations which even themselves out in a short time, partly in a gradual *accumulation of divergences* which either lead to a crisis, [to a] violent, seeming restoration of the old relationship, or very gradually assert themselves and are recognized as a change in the old conditions.'

To recognize and impose new conditions, that is the whole problem. As Pomian lucidly explains it, the crisis of money and credit is a 'crisis of the future', or to be more exact, a crisis of the futures guaranteed by the State which issues credit money of legal tender:

> The future is literally injected into the present in the form of paper money which, powerless in itself to satisfy the slightest appetite here and now — except, of course, the hoarder's — enables each one to be satisfied at a later date, after it has been exchanged for commodities. The two thousand years and more of monetarized economy are also a history of the present's increasing dependence upon the future. The time-lag between raw material and finished product, production and consumption, the decision to invest and the returns, work done and payment received, and so on, has been growing longer.
>
> At a critical moment in the history of money, the transition from metal to paper indicated that an inversion was operating, as the future supplanted the past as the guarantor of commitments undertaken. . . . Traditionally the value of money lay in the weight and nature of the precious metal it was minted in, and individuals could always weigh and test it, despite the prohibitions of a State which required everybody to trust in the money however badly it was used. . . . Paper, on the other hand, only has a liberating power to the extent that it is guaranteed by an issuing institution, and this guarantee consists in an assurance that it can be exchanged for precious metal or commodities. It therefore refers primarily, if not entirely, to the future. It no longer invokes the wisdom of long experience which teaches that gold and silver are safe values; it now calls upon people to trust in the continuation and solvency of the issuing institution, to gamble on the favourable outcome of history . . . In reality, it presupposes, usually without the protagonists' knowledge, a degree of organized violence which, if necessary, can be used against anybody who refuses to accept the symbols of supreme power. Against anyone, that is, who refuses to acknowledge the State as the ultimate guarantor of the economic future of the nation as a whole and of the individuals who compose it. Or, rather, of the future, pure and simple.

The 1970s in the world, and 1981 and 1982 in France, mark the failure of government attempts to maintain the Welfare State based on an anticipation of the harmonious progress of social productivity and social consumption. All attempts based on 'revival through demand' failed. The reason for that, as we

know, was that the crisis of the productivity of capital no longer covered the social counterpart. The message seems clear enough today — there is no way out of the crisis without a new wave of productivity increases. Although the concept of 'labour-value' is dismissed nowadays, productivity, its mathematical opposite, is unanimously acclaimed. Just like the 'progress of the productive forces', yesterday's precursor of the gulag in French 'New Philosophy'.

No Marxist, and nobody with any common sense, can be opposed to productivity. Why not make more in less time, after all? The problem is that technical productivity is too serious a matter to be left to technology. Productivity is not primarily the business of electronic chips and bacteria. It has to do with people and their relations both inside and outside work. Any state which leaves innovation to the initiative of private businessmen, or which reserves to itself only the promotion of technological innovation, is liable to suffer defects that will be different from, but even more serious than, that which overtook the Welfare State.

The need above all is to look for, organize and develop new relations between people in the reproduction of the conditions of their existence, and to reject technologies that turn human labour into a 'producing machine' of dubious overall productivity in favour of technologies which enable the producer to retake control of his or her own creative activity. And since there is a crisis in mass production for mass consumption, we need, too, to find a way of living happily which is not based only on the consumption of objects.

This is not just the concern of the State which is anyway no more than the institutionalized concentration of the hegemony of a class bloc. Some proposed solutions to the crisis will go against the wishes of the mass of the people. The crisis of social provision could quite easily be resolved, for example, by encouraging domestic labour to take over the functions which the Welfare State has gradually commodified. The old (i.e. old women) could look after young children, the sick, and the casualties of life, just as they used to do for thousands of years. But will women allow this to happen? The peoples of the Third World could buckle down to the mechanical jobs of Fordism, for pre-Fordist wages, leaving brain-work with its high salaries to the North-West. But will immigrants and workers in the 'newly industrializing countries' accept this swindle?

The catastrophe that threatens the exoteric, fetishized economy is the symptom of an underlying, esoteric crisis in social relations on a world scale. The organization of a new world is a political matter, but it is up to the social movements to invent it. And they will have to shatter the state forms which are opposed to it — by using creative violence, if necessary, to save the world from the violence of destruction.

APPENDIX

THE VALUE CONTROVERSY: Partial Balance-Sheet and Prospects

This section was first presented at the Colloque Marx *at the Ecole des Hautes Etudes en Sciences Sociales, Paris 1983.*

> The revolutionary movement in the present period is looking for new foundations with a broader appeal. We don't want anything to do with orthodoxy, and we'd be delighted if we could get by without Marx. As far as our struggles are concerned the labour theory of value is totally threadbare.
>
> Antonio Negri, *Marx beyond Marx*

There is a curious paradox which any discussion of the Marxist theory of value, in France, in December 1983, is bound to encounter. On the one hand, from listening to politicians of all parties, or from reading the economic press, it would appear that the theory, in its most vulgar form, had become universally accepted. It is taken for granted that prices and competitiveness are determined by the labour time necessary to produce the commodities, their 'labour value' (or its mathematical converse, productivity[1]); that the way out of the crisis lies in the reduction of this labour-time; and that the distribution of added value (and more especially the rate of profit) depends upon the length and intensity of labour, the purchasing power of wages, and, in short, the 'rate of exploitation'. Yet in the small world of economists or associated intellectuals who have a smattering of Marxism, even those with the least to contribute feel qualified to criticise the mistakes, logical fallacies and insoluble contradictions in Marx's economic writings. And the theory of value is where they begin. To use Jon Elster's words 'these analyses rest on two main supports: the labour theory of value and the theory of the falling rate of profit. Both have been conclusively shown to be invalid.'[2]

'Conclusively' is too strong, of course: nobody can just declare an end to a debate of this sort, let alone write an 'obituary'.[3] Besides, the theory of value has come under attack before in earlier 'crises of Marxism', usually in terms of the same arguments, as summarized by Labriola: 'He was not able to go beyond Hegel, he relapsed into the romanticism of Rousseau, he never succeeded in freeing himself from Ricardo and Adam Smith.'[4] Nevertheless Elster is right; no theorists any longer dare to regard the labour theory of value as authoritative, or at least not in the vulgar form in which it appears in the writings of 'bourgeois' commentators. Nor do any militants (such as they are in France) dare to use it as a justification for their struggle. Yet there has never been so much controversy over value as there is now among ex-Marxists and semi-Marxists, particularly those who used to be politically active. The number of essay-collections is mounting up, and books appear every month constructing a new theory of value. The difference is that these writings are not militant in their approach; at best they merely echo a militant dispute against orthodox Marxism during the seventies, one which no longer exists as an organized social force in France.

One phenomenon might be said to explain the other. At the time when the 'new workers' struggles' of the sixties were agitating the old world, everybody took for granted the vulgate theory that labour created all value and was exploited by not receiving the whole of what it produced. The 'organic intellectuals' of the movement abandoned the academic controversy over value in order to concentrate on more crucial issues, such as the organization of labour in the factory, class alliances, and so on. The theorists of the other side were free to articulate alternative theories without receiving any critical attention from

Marxists. However, when the current crisis developed in Western Marxism, for quite different reasons, it was the most academic debates (about the perennial 'transformation problem', for instance) that provided an honourable exit route for the political realignment of a section of the intelligentsia, while the most straightforward organic intellectuals of the opposing camp no longer had any qualms about insisting on 'economic laws' that linked value and profit to the conditions of production and distribution of the fruits of labour. After all, the nature of this link was no longer a matter of political controversy.

In a situation of this kind, a committed intellectual who has been done out of a militant job but has taken advantage of the time at his disposal to assess the weaknesses of the vulgate theory has only two courses open to him. Either he can completely disregard the problems by a headlong voluntarist flight into the future, glorifying revolt and affecting contempt for the scientific claims of the vulgate. This is what Negri does in the passage quoted at the head of this article, and what Sorel did after the crisis at the turn of the century.[5] Or else he can take the opportunity to rework the theory, as Marx himself did between periods of militancy. If it was not for that he would not have written the *Grundrisse* or *Capital* or any of the texts that form the basis of the current controversy. Those writers who take this course today will then distance themselves, to a greater or lesser extent, from the written evidence of Marx's own development.

This is why it is difficult to assess the debate over the '*Marxist* theory of value'. Which Marx is being talked about? Can Marxism be reduced to an Organon? One often comes across expressions, particularly in writers hostile to Marx, such as: 'It is well known that for Marx . . .'. But in fact it is well known to Marxists that both one idea and its opposite can often be found in Marx's work. Worse still, subsequent developments in Marxist thought which clarify or correct something obscure, incomplete or obviously wrong in the Organon, find themselves politely brushed aside with a comment like: 'That may be valid, but there is nothing in Marx to allow us to assume that he would have made that interpretation.'[6] Marxists are thus driven into the position of guardians of a dogma, so that they can be shown up as mere 'dogmatists' or supporters of a false science, rather than as genuine 'scientists'. And if they are unfortunate enough to contribute to the development of theory, especially if they recognize some of the criticisms, then they seem to be subjected to a very harsh tribute. It is a fate they share with others, as Chomsky has pointed out: 'This kind of criticism brings out the difference between the natural and the social sciences. The social sciences don't have the intellectual content of the natural sciences, and they are to a great extent overlaid with ideology, and personalised. It is taken for granted that ideas in science are going to change: it means you're learning something. It isn't like theology. You don't make pronouncements that you adhere to unchanged for the rest of your life. But in the social sciences positions are often personalized. When you've taken up a position you have to defend it come what may. It becomes a question of honour not to change, that is, not to learn anything: if you change your position you're accused of being proved wrong.'[7]

In this article we shall try to assess exactly what the 'changes of position' mean in Marx and his more or less explicit followers, as well as in the work of opponents who resort to 'internal' criticism,[8] and in that way to provide some perspectives on the current controversy. This is obviously a very ambitious project which can only be fulfilled partially, both in the sense of incompleteness and in that of partiality. It will be *incomplete* because it will avoid straight marxology and an analysis of the Kautskyist and Stalinist middle ages (except to note the origins of today's debates), and will focus instead upon the controversy as it has developed in France and, where it forms a relevant background, in the English-speaking world. Moreover, I shall limit myself to discussions of value in its narrow sense, as it appears in developed, and therefore capitalist, commodity economies; I shall not deal with the forms external to capitalism, nor to any great extent with the problem of the 'value of labour-power'. But this article will also be partial in the other sense, because I am not a neutral observer of a debate I wish to fuel, and because I shall use my own predilections in selecting and assessing not only past contributions but, more important, the current approaches which seem to me the most 'interesting', in Chomsky's scientific or Veyne's aesthetic sense of the term.

The most useful way of organizing this evaluatory perspective will be to begin with the standard Marxist terminology and propositions, as they appear in a not especially luminous reading of *Capital*. This preliminary groundwork will occupy the first section. Then a separation will appear between a debate on 'magnitude', with implications for the 'substance' of value (section two), and a debate on the substance/form relation (section three). In the fourth part I shall open up some approaches towards the 'semiotics' of value.

I. Groundwork

A first-hand reading of the final version of *Capital*,[9] even a fairly hasty one, gives something like this.

Point 1: commodities have both a *use-value* (their utility), which comes from their *'natural form'*, and a *value* which is *expressed* as their *exchange-value* against other commodities or money (which we shall call relative price and nominal price). *Point 2*: the *substance* of this value possessed by commodities is the abstract labour socially necessary for their production, and the *magnitude of value* is the quantity of this substance. *Point 3*: the *value form* or *form of value* (as distinct from the *forms* of value, which are moments of this form) consists precisely in the fact that social labour takes these forms, particularly the forms of exchange-value, price and so on. *Point 4*: commodities do not exchange according to relative prices that are proportionate to their value relations, but in accordance with *market prices* which are dependent on the process of adjusting production to social demand. *Point 5*: these prices gravitate around *production prices* which integrate the norm of equal rates of profit within capitalism, and which are reached by 'transformation' of the value relations of magnitude.

These are the concepts involved in the debate. The first surprise, if we look back, is the discrepancy between the 'inner debate' in Marx's own head, as we can reconstruct it from his writings, and the subsequent controversy. For this standard reading omits at least two of Marx's concepts, 'market value' and 'value-in-process'. Next, while Marx himself almost always skims over point 2 as if it could be taken for granted, the whole debate around Marx's concept of value has to do ultimately with this point, and therefore by extension with point 1. Point 3, on the other hand, which is at the heart of Marx's treatment of the debate, only came to the surface again quite recently.[10] Point 4, similarly, crops up often in Marx's work, and he wanted to devote a whole chapter to it, yet it too has only lately been rediscovered. Point 5, however, which Marx deals with in eighteen pages of Volume Three of *Capital*, takes up almost the whole of the Anglo-Saxon debates, and regularly, from Bernstein and von Bortkiewicz to Steedman and Elster, leads to the announcement that point 2, and Marxism as a whole, are 'invalid'.

The explanation for this paradox lies both in a permanent tendency and in particular historical circumstances. Marx considered that classical political economy, from Petty in 1667 to Ricardo, had already made it possible for points 1 and 2 to be established (despite some waverings that are discussed in *Theories of Surplus-Value*[11]). For Marx, as for modern economic commentators, the connection between labour, productivity and value is self-evident.

> All that palaver about the necessity of proving the concept of value comes from complete ignorance both of the subject dealt with and of scientific method. Every child knows that a nation which ceased to work, I will not say for a year, but even for a few weeks, would perish. Every child knows, too, that the volume of products corresponding to the different needs require different and qualitatively determined amounts of the total labour of society. That this *necessity* of the *distribution* of social labour in definite proportions cannot possibly be done away with by a *particular form* of social production, is self-evident . . . And the form in which this proportional distribution of labour asserts itself, in a state of society where the interconnection of social labour manifests itself through the *private exchange* of individual products of labour, is precisely the *exchange-value* of these products.
>
> Science consists precisely in demonstrating *how* the law of value asserts itself. So that if one wanted at the very beginning to 'explain' all the phenomena which seemingly contradict that law, one would have to present the science *before* science. It is precisely Ricardo's mistake . . .[12]

He analyses the mistake as follows:

> It is one of the chief failings of classical political economy that it has never succeeded, by means of its analysis of commodities, and in particular of their value, in discovering the form of value which in fact turns value into exchange-value. Even its best representatives, Adam Smith and Ricardo, treat the form of value as something of indifference, something external to the nature of the commodity itself. The explanation for this is not simply that their attention is entirely absorbed by the analysis of the magnitude of value. It lies deeper. The value-form of the product of labour is the most abstract, but also the most universal form of the bourgeois mode of production; by that fact it stamps the bourgeois mode of production as a particular kind of social production of a historical and transitory character. If then we make the mistake of treating it as the eternal natural form of social production, we necessarily overlook the specificity of the value-form, and consequently of the commodity-form together with its further developments, the money form, the capital form, etc.[13]

Marx's explicit aim is therefore to conceptualize the value-form. The main thrust of his theoretical work is directed to this task, and to the elucidation of capitalist exploitation in terms of surplus-value and the analysis of the capitalist organization of labour. Of course Marx also witnessed the attacks on the Ricardo school, which focused on his error in trying to relate relative prices directly to value (which contradicts the equality of rates of profit). This forms the basis of Bailey's attack, in which he reconstructs relative prices without any reference to value; but, as Marx saw, Bailey was at least trying to give serious thought to the value-form:

> Like his predecessors, [and his successors! A.L.] Bailey catches hold of Ricardo's confusion of values and cost-prices in order to prove that value is not determined by labour . . . Bailey's book has rendered a good service insofar as the objections he raises help to clear up the confusion between 'measure of value' expressed in money as a commodity along with other commodities, and the immanent measure and substance of value. But if he had analysed money as a 'measure of value', not only as a quantitative measure but as a qualitative transformation of commodities, he would have arrived at a correct analysis of value. Instead of this, he contents himself with a mere superficial consideration of the external 'measure of value' — which already presupposed value — and remains rooted in a purely frivolous approach to the question.[14]

Marx is here using a distinction in the concept of measure which is very similar to Hegel's;[15] we have 'external measure', which relates the quantities of two qualities to each other, and immanent measure, which is founded on the substance (or quality) common to the quantities, of different qualities. Thus heat can be measured by a quantity of a quality which is entirely external to it (as in Tonnes of Oil Equivalent), or in immanent terms by the quantity of its substance, energy (in Joules). Marx is therefore criticizing Bailey for his reduction of the theory of exchange-value to one of external measure. This provided a new opening for 'vulgar economics', which calculates prices and revenues with prices and revenues, and explains exchange-value in terms of relative utility. Vulgar economics, from Walras to Debreu and Samuelson, did not reach its mathematical maturity until after Marx's death — which is why he never devoted a great deal of attention to it.

Marx dismisses both Bailey and Ricardo (although he thinks more highly of Ricardo) because, as we have seen, they are only interested in quantitative measure. This is precisely the *general tendency* of those economists who, through the debates on the 'transformation' of values into prices of production, fade out the whole 'substance/form' problematic, at least in the anti-metaphysical context of Anglo-Saxon thought.[16] In fact in the atmosphere of analytic philosophy, the formalizing of quantitiative exchange relations lies at the heart of the debate, because of an uncritical acceptance of the existence of use-values and exchange relations. The debate is not without interest, however, and we shall be examining it in the second section.

In France, by contrast, the new surge of interest in Marxism in the sixties was deeply marked by structuralism and direct analysis of the relations of exploitation, as one might expect from the political intensity of the period. France only became involved in the quantitative controversy in the seventies, when its conclusions started to become influential and seemed to spell the end of the labour theory of value. Whereas a small number of Marxist economists put up some resistance, the majority moved along an endogenous dynamic from a naively substantialist position to a purely formalist conception of value. We shall return to this in section three, but it should be recorded here that the Marxist perspective identified with the *école de régulation* has made considerable progress in studying the concrete processes of price formation (point 4) and that these developments have had a certain influence on French approaches to the value debate proper.

II. 'Their Attenion is Entirely Absorbed by Analysis of the Magnitude of Value'

Marx believed that his transformation theory provided the corrective to Ricardo's error. Normal relative prices could not be the relations of value, as that would lead to unequal rates of profit, even if the rates of exploitation remained the same. Not that Marx denied that this happened, of course, but it could not be the regulatory reference for a capital that moved between the branches of production. In his solution, surplus-value was reallocated among the branches in proportion to the commitment of capital. Marx knew that there was a mathematical flow to this solution, since the capital commitment would have had to be re-evaluated in terms of prices of production. But it is clear that he did not regard this as a major weakness.

His critics, on the other hand, immediately subjected his whole argument to attack, asserting that either values or production prices had to be the regulatory magnitudes of relative prices. This attempted refutation appeared again with the crisis of Marxism at the turn of the century. Then, in 1928 it was answered with great clarity by I.I. Rubin, who pointed out that the concept of the law of value as the regulatory principle of commodity economies had to be further specified for *capitalist* commodity economies, in which abstract labour was reallocated to the different branches via the commitment of capitals.

> Thus, if in the third volume of *Capital* Marx gives the theory of *production price* as the regulator of the distribution of capital, then this theory is linked to the theory of value in two ways: on one hand, production price is derived from labour-value; on the other hand, the distribution of capital leads to the distribution of social labour. Instead of the schema of a simple commodity economy: *productivity of labour–abstract labour–value–distribution of social labour*, for a capitalist economy we get a more complex schema:

> *productivity of labour–abstract labour–value–production price–distribution of capital–distribution of social labour.* Marx's theory of production price does not contradict the theory of labour-value. It is based on the labour theory of value and includes this theory as one of its components. This is clear if we remember that the labour theory of value analyses only one type of production relation among people (among commodity producers). However, the theory of production price assumes the existence of all three basic types of production relations among people in capitalist society (relations among commodity producers, relations between capitalists and workers, relations among individual groups of industrial capitalists).[17]

Rubin's approach is very modern in the way that it structures different production relations (the commodity relation, wage-labour). It also has the enormous advantage of eliminating one false track, first opened by Engels, according to which the law of production prices historically succeeded the law of value.[18] Rubin did not, however, unravel the mathematical problem left unsolved by Marx.

1. The Standard Solution

Advances in algebraic knowledge, and an exclusive focus on quantity, led to a restatement of the problem and to the standard solution made famous by Sraffa and Morishima.[19] If we allow the existence of n productive branches homogeneous in their conditions of production,[20] exchanging their products with one another and buying labour power l at price s, then we could express and solve the two systems of equations enabling values v and prices p to be calculated:

(I) $v = Av + l$
(II) $p = (1 + r)\,[Ap + sl]$ (Morishima)
or (II′) $p = (1 + r)\,Ap + sl$ (Sraffa).

Subjectively, some of the 'algebraic Marxists' who adopted this solution thought they were working for the greater glory of Marx (or Ricardo), and against the 'neo-classical' synthesis'. But Samuelson and more importantly Steedman (In *Marx after Sraffa*) were quick to underline the devastating consequences of this solution.

(a) Given that equations (II) and (II′) can be solved simply on the basis of the 'technical' data A + l, and wages (whatever form they are given in), there is no longer any purpose to equation (I), and the labour theory of value becomes 'redundant'.

(b) In addition, system (I) becomes ambiguous as soon as one branch produces a number of goods: the labour theory of value is therefore not exact. Even worse, if several branches produce the same goods, one can arrive at negative values (the problem of 'joint production').

(c) If we now try to state the theory of exploitation more precisely, defining the value of labour-power w by the value of basket d consumed by the wage-earner, equation (II) will read:

(II″) $p = (1 + r)\,[A + d \times l]\,p$

the equation of a closed technical set (von Neumann says), in which the value of labour-power (and thus the rate of exploitation) also disappears, although the rate of profit can still be calculated. If we persist in bringing the two systems together, we find that in a currency where the sum of prices is the sum of values, the sum of surplus-values is not generally the sum of profits. This puts paid to the idea that the revenue of the non-productive classes comes from the division of surplus-value.

(d) In the form (II″) or even (I) of the equations, labour has at bottom hardly any claim to privileged status, in relation to, say, peanuts or energy.

(e) The Cambridge Sraffians, in order to show their superiority over the neo-classical synthesis of Cambridge Mass., argue that labour has the privilege of being materially quantifiable whereas the elements of capital require prices before they can be aggregated. But even this argument appears to fall, as labour is no more homogeneous than capital.

In France — which, as I have said, is the basic focus of this article — little attempt was made to challenge the conclusions of 'neo-Ricardianism' or 'algebraic Marxism' from within. Much more often, one saw a hasty retreat in the direction of the debate on substance and form, in the name of a critique, quite correct in itself, of the economism that dominated the other debate.

2. Surplus or Surplus Labour?

When it faced result (a), compounded by the conclusions in (c), a whole current in the English-speaking world accepted Samuelson's 'consolation prize' of the 'Seton-Okishio-Morishima theorem', according to which the rate of profit is positive if and only if the rate of exploitation is too. In other words, on the basis of the technical possibilities of matrix A (its 'productivity'), there is a profit if wage-earners do not consume the value of all they produce. One might have guessed . . . This theory of exploitation 'without a theory of value', which is based on a concept of 'surplus' and recommended by Steedman himself, leaves open various other problems. Why, for instance, should wage-earners recover all the fruits of this productivity? But 'theories of exploitation' are not really part of the value debate proper.[21]

In France, Benetti and Cartelier brusquely rejected this compromise, and criticized what they saw as the gross mistake of using the same symbol, l, to represent the quantity of abstract labour in equation (I) and the quantity of manpower hired in equation (II), the two quantities being 'incommensurable' because they occupy different spaces.[22] For the same reason (and this time Marx himself was called into question), it was absurd to try to establish equations disputed in (c) of the type 'sum of prices = sum of values'.

In fact Marx derived his theory of surplus-value from a distinction between 'abstract labour' embodied in the product and 'labour-power' (the 'commodity' from which abstract labour is derived). He was scathing about those who thought that 'it is an inherent quality of human labour to furnish a surplus-product'.[23] But instead of correcting the error of the algebraic Marxists, Cartelier and Benetti drew a whole tendency into the hunt for Ricardian elements in Marx's work.[24] The classical economists, now read anew through Sraffa's eyes, were absolved of any responsibility for the labour theory of value, and all hope was abandoned of linking labour-value with the system of relative prices. This denial in fact led to nothing but a barren, esoteric Marxism, fit only for scholastic controversy and quite incapable of concrete analysis.

This is precisely the criticism that Salama leveled at these two authors.[25] He also very aptly condemned the manoeuvre by which academic economists like Samuelson were able to disguise their profound rejection of Marxism as an internal critique of the weaknesses of Marx's model of transformation. But under the cover of apparently justified criticism (the algebraic solution constructs real exchange relations without posing the problem of money, while values are always expressed in prices), he revives Marx's 'bad' argument that, given the constant fluctuation of prices, there is no point in rigorously attempting to discover what 'normal' exchange relations, at equal rates of profit, would be. The important thing is to study the actual tendency of the equalization of rates of profit; and to contrast Chapter Ten of *Capital* Vol. Three (on equalization through competition) with Chapter Nine (on transformation).

This argument clearly does not settle the debate. For although it is true that competition is waged in money prices, the problem of regulatory prices and their relation to the magnitude of value still remains unanswered.

If we want to extend the Benetti-Cartelier critique constructively we need to return to Marx's study of the 'fetishism of the price of labour'. Wage labour is not in substance a market relation involving exchange of products between private producers: it is a *sui generis* relation,[26] by means of which the wage-labourer puts his or her daily labour capacity at the disposal of the capitalist for a period λ determined by the wage contract and for an intensity ϵ determined by the disciplinary running of the enterprise. This availability thus takes the form of a commodity relation, but does not have the same content. On the other hand it does presuppose the existence of true commodity relations, since wages are exchanged for subsistence goods.

The datum 'l' stands for the quantity of labour at an average intensity determining the representative production operation (A,l). By definition therefore we are dealing with abstract labour. But what enters the production costs in equation (II) is the quantity m of manpower bought by the capitalist. The wage relation extracts the quantity l from m according to the ratios ϵ and λ, which vary from one branch to another, and from one year to another, even when there is no technical change.[27] This correspondence may be expressed mathematically by an 'exploitation tensor' T.

The specification of this tensor in (II) thus re-establishes that the theories of value and exploitation must logically precede the theory of prices, and also explains the change of space which worried Cartelier and Benetti (or change of 'dimension' as the physicists would say, being used to carefully handling magnitudes of different qualities in the same equation).

3. Joint Production

The mathematical paradoxes posed by joint production (indefinite or negative value) have not attracted much attention in France.[28] Nor do they make any sense for Marxists. In the system of equation (I), if for example two technologies were to compete in producing two goods of value v_1 and v_2 in quantities a and b, there would be no justification for writing:

$a\,v_1 + b\,v_2 =$ (value of constant capital) $+l_1$ because v_1 and v_2 are both, in the Marxist view, measured by the time which society *as a whole* (and therefore not just branch No. 1) devotes to the production of v_1 and v_2. The mass of abstract labour spent in producing these two goods can only be defined by weighting the two technologies according to actually validated production, and even then the ascription of this social labour to the (postitive) value of each of the two goods poses a problem which has no necessary solution, any more than does the ascription of costs, either in 'reality' or in capitalist theories of management.[29] It therefore does not require a solution in Marxist theory.

The real problem behind this mathematical game is the heterogeneity of branches, as much from the point of view of the use-values produced as from that of the technology used by the firms and the determination of the social validity of supply by demand. This question, as Itoh notes, is the subject of Marx's theory of market value, a stage in his theory of competition (point 4 in our 'groundwork').[30]

This problem has attracted the attention of several writers directly concerned with definition of the branches: the statisticians of INSEE, like Guibert, and the specialists in industrial economics at SIFI, IREP, etc, such as Billaudot.[31] In Guibert's view, value can be defined only for the branch, as the site of social homogenization of heterogeneous techniques and continually replaceable goods (as, for example, the petro-chemical industry). Billaudot believes that the heterogeneity is sometimes so complex that it becomes necessary to distinguish between 'branch' and 'industry' (as in the examples of hydraulic and nuclear electricity). The coexistence in the same branch of industries with different 'current tendential production norms' clearly demands special conditions of competition, as in the case of Eléctricité de France.

4. Value of Labour Power, and Surplus-Value

We have seen how the Morishima-von Neumann type of solution to the problem of the transformation of variable capital (on the basis of a basket of goods and wages assessed on the one hand by value, on the other by price) weakened the validity of the two 'Marxian equations' (sum of value = sum of prices, sum of profit = sum of surplus-value) which however were a rather unsophisticated reflection of this theory of value and exploitation.

In order to discuss these equations (and to clear up Benetti and Cartelier's objection of 'incommensurability'), we need to define the quantitative relation between unit of money and unit of value. Marx implicitly (and cavalierly[32]) makes it equal to 1, so that the first equation is meant to express the fact that no value is lost or created in simple circulation. The reality is precisely the opposite. Since no commodities are exchanged for money 'at their value', the purchasing power of money varies with the particular commodity for which it is exchanged. Thus, to define the 'value equivalent of money'[33] implies the creation of an average, and therefore of a certain weighting. Yet the 'transformers' have not even bothered to define 'sum of values of what'. Duménil and Foley stress that it could only involve net product.[34] The first of Marx's equations in fact expresses precisely the choice of the unit of money so as to assess the added value of the period by the same number (in value and price).

But then *two* definitions of the value of labour-power become possible as soon as we consider that wages are paid in money rather than 'one-basket vouchers': it can be defined either as value represented by wages, given the value of the monetary equivalent; or as the value of the uses to which the wages are put.

Although both measures are 'immanent', the weighting which defines purchasing power in money-value is not the same. Consequently the measure of surplus-value is not the same either, and one has to choose one or the other.

Rather than give the matter serious consideration, the standard solution plumps blindly for the second: the value of labour-power is the value of the wage uses. From there it is easy to show that 'the value of the sum of the uses of profit must be surplus-value', whereas the 'transformers' are surprised that it does not equal the sum of the profits. This would in fact only be possible if the weighting of the value of the commodities bought with the profits was the same as that of the net product.[35] If the sum of profits actually does exceed the sum of surplus-values (on average, according to the weighting which defines the monetary equivalent of value), it is simply that the profits more systematically buy commodities whose price is greater than their value!

In 1978–79 a new solution to the transformation problem was proposed, based on the first definition of the value of labour-power.[36] It restored, seemingly without contradiction, all the results that Marx had predicted economically but not demonstrated in mathematical terms. It was extended without difficulty to fixed capital and rent,[37] to joint production,[38] and used mathematically to refute Okishio's theorem.[39]

But beyond its mathematical success, the new solution also provided an effective critique of the 'economism' of the Sraffa-von Neumann-Morishima solution, with its 'production of commodities by commodities' (including labour power, a commodity produced by feeding with the basket of wage-goods[40]) and its measure of commodities by an arbitrarily chosen currency. The debate which led to the new solution, by contrast, emphasized the non-commodity nature of wage-labour and opened the way to analysis of the social constitution of the monetary equivalent and its 'value'.[41]

5. Peanut Value

The economism of the standard solution and of algebraic Marxism had been strongly criticized by Bowles and Gintis,[42] who pointed out that, using the form of equations (I) or (II''), one could equally well express value in terms of any primary source (such as steel or energy) or of anything in the wage-goods basket (such as peanuts). They used this to disprove the few incidental arguments in Marx's work where he tries to justify the reduction of value to labour as 'the only element common to commodities' and to emphasize that the wage relation cannot be reduced to commodity production.

This kind of argument had a great deal of success in France as well as in English-speaking countries. It opened the way, in fact, for an elaborate analysis of non-commodity conditions of reproduction of the wage-earning class, through the family and the state.[43] The feminist critique of orthodox Marxism, in particular, used its arguments to attack the unpaid exploitation of women through domestic production and, more generally, the imperialism of value as the exclusive representation of labour — an extremely wide-ranging debate which we shall not go into here.

However, by removing labour from the determination of exchange-values except at the level of the wage relation, this critique left open the question of value in the 'simple' commodity relation that forms the very basis of the Marxist debate on value. For there was never any doubt in Marx's mind that value was linked to the commodity form of organized social labour, and his critique of political economy to the communist aim of abolishing commodity alienation. Denis may describe that position and aim as 'Feuerbachian',[44] but they remain a constant factor in Marx's work. The few sentences which Bowles and Gintis select for criticism are not at all representative. Marx does not try to reduce value to labour, because 'any child knows that'; instead he tries to grasp why labour appears in the *form* of value, and he looks for the answer in its form of socialization. Now, as Facarello points out,[45] if it were a matter of seeking in the value-form only a process of socialization, then Marx could have found two 'substances' to socialize in Hegel's *Philosophy of Right*: utility as well as labour. The General Equilibrium theorists take the first route, but as usual 'their attention is entirely absorbed by magnitude'. Without going quite so far as that, many French Marxists are veering more and more towards abandonment of the labour-substance of value.

This necessarily distances them from Marxism. If Marx does not try to prove that 'what is to be socialized is labour', it is because the proposition is integral to the whole of his anthropology, and that of historical materialism. And like any fundamental proposition, it is not proved: it is stated and, at best, justified, in the style of Popper or Claude Bernard for the practical sciences, or 'aesthetically' or pragmatically in other disciplines.

6. Heterogeneous Labour

The above considerations put into perspective the question of heterogeneous labour — that is, labour which embodies a skill specific to one branch (horizontal heterogeneity) or to a complex function within one branch (vertical heterogeneity). As soon as one allows that exchange and wage-earning can socialize different labours, one is admitting that the reduction of complex labour to simple labour is done by monetary circulation 'behind the backs of the producers [who see it as having] been handed down by tradition' (*Capital* Vol. One, p. 135).

Equations of type (I) or (II), which presuppose commodity or wage socialization, take no account of this problem. If the 'reduction' has not already been made in the definition of l and w, they calmly agree to carry it out, provided they are given the exact quantities and prices of the different degrees of skilled labour, and the coefficients of reduction. In that way horizontal heterogeneity can be reduced by given coefficients of reduction from the quantity of necessary labour to the socially recognized value in the labour: there will be a 'consensus' which enables the blacksmith's labour to count as α times the mason's.[46] Similarly, the value and price of the different skills of labour-power will be given as different.

Can we go on to specify these coefficients quantitatively on the basis of the theory of value itself? Marx does not. Rubin formulates a solution which appears to be in line with Marx's general inspiration: on the one hand we need to include, in the social labour time which measures a product's value, the 'required'[47] training time involved in producing a skilled worker; this required time is agglomerated with the direct labour time by giving it a greater 'specific weight'. Similarly, the labour necessary to reproduce workers who are being trained is agglomerated with the value of their labour-power. There is no reason, however, why the two coefficients of agglomeration should be the same.[48]

Although this solution is theoretically impeccable, it has very little practical interest. For, the most important part of training is produced in a non-commodity way, by the family or the State, and there is no reason why this required labour should be expressed as value, or why it should even have a reproduction value. That does not in the least prevent the construction of matrices of the necessary labour at different degrees of skill, nor the evaluation of the required labour and its cost — an exercise very well carried out by Baudelot, Establet and others.[49] But in doing this they were not claiming to solve the problem of value created by complex labour. Besides they showed that the price of skilled labour bore only a distant relation to the cost of training, and was more an expression of the 'social rent' garnered by the modern petty bourgeoisie.

Faced with these difficulties Billaudot (op. cit.) decided to assume *contra* Rubin that the values created by heterogeneous labour were in proportion to the price of the corresponding labour powers. Value, he argued very actively, is created by collective labour, and the aggregate value is allocated among the different segments of skill through struggle over the grading and wages structure. There were serious flaws in this approach, but although it shared the tendency to solve problems of labour-value solely in terms of wage labour, it did introduce the influential idea of a rebound effect of the prices-and-incomes space upon the 'shaping' of the space of values.

III. From the Substantialist Reduction to the Formalist Aspiration

In our assessment of the debate about magnitude we saw a constant tendency for French authors to shift their ground. Faced with the difficulty of moving from the value of commodities (an immanent measure of their substance) to their price (expressed in money), they mostly did not try to solve the problem so much as to deny the validity of the way the problem had been posed in the English-speaking world, or even to deny that there was a transformation problem.[50] Their criticisms were relevant in themselves, particularly when they were directed at economism or logical empiricism. They also defined more precisely the concept of commodity, stressed and sometimes overstressed that labour-power and money were external to the world of commodities,[51] and advanced the debate on the conceptual analysis of exchange. But their failure to deal with the problem of magnitude had an unexpected result: they abandoned the pole of substance and slipped irresistibly towards a purely formal and subjectivist theory of value.

This movement has to be related to the ideological changes that took place in France during the seventies. In an atmosphere of declining mass struggle, and social and economic crisis, interest was deflected away from the organization of labour, the extraction of surplus-value and the exact class distribution of the surplus product, towards the very forms of being-in-society and the modes of socialization of individuals and their activity.[52] This took one of two directions: either a deepening discussion of *how* socio-economic reproduction operated, starting with the Marxist framework of antagonistic class division and the contradictions of market economy (this being the approach of the Regulation School); or else a direct analysis of the socialization of 'private subjects' which ultimately overvalued the 'horizontal' contradictions between competing individuals, and between individuals and society, at the expense of the 'vertical' contradictions between rulers and ruled.[53]

Our reservations do not concern the literary nature of this last work (badly camouflaged as it may be beneath a deluge of complicated notations), which is doubtless shocking to devotees of

'algebraic Marxism'. Guibert has recently shown that the study of form can draw on high-level mathematical techniques and produce non-trivial results.[54] There is more call to be hesitant about the outcome, which is a retreat from labour and production, and a highly sophisticated return to theories of subjective value. Researchers must of course be supported in their right to develop and change their ideas, but we still have to draw up a cost-benefit analysis of their evolution.

Here again we have to be clear about the starting-point and trajectories in question. Within the limited optic of this overview, the point of departure has to be classical Althusserianism, as expressed in *Lire le Capital*.[55] Now that the French intelligentsia has spurned Althusser, along with Spinoza, Hegel and Marx, as so many 'dead ducks', the importance of this book needs to be re-stated, first for its contribution in making Marxism intellectually respectable and worthy of attention, and second for the methodological richness of its argument. With regard to value theory, however, it must be said that the book strengthens a vulgar version which defines value as abstract labour extorted from the 'bearers' of the function 'labour-power' by the actual reproduction of the structure, and redistributed among the different classes according to forms which 'externalize' and 'dissimulate' the (conceptual) reality of surplus-value. It was possible for very interesting analyses of class relations to be developed from this definition. But the analysis of value-form remained extremely primitive until Bettelheim's *Economic Calculation and Forms of Property* appeared in 1970. A position that became too weak when the validity of the Marxist solution to the problem of externalization, transformation, was denied.

Three different reactions to this 'substantialism' may be considered particularly important. The first, classically Marxist, approach tried to reconstruct the route, well-travelled in the other direction by reductionists, which leads from labour to value-form. The second, 'hypercritical' current, outlined above, pushed the critique of 'Ricardian' substantialism so far that it included Marxism as well and ended up in formalism and subjectivism. The third approach turned to the great theorist of the development of forms, Hegel, as its starting point.

1. The Substantialist Reduction and its 'Marxian' Critique

In *Reading Capital* Althusser takes the famous quotation from Marx: 'The best points in my book are: 1) the *two-fold character of labour*, according to whether it is expressed in use-value or exchange-value. (*All* understanding of the facts depends upon this.) It is emphasised immediately in the *first* chapter; 2) the treatment of *surplus-value independent of its particular* forms as profit, interest, rent, etc.'[56] Althusser then goes on to devote tens of pages to the second point, which he compares with the discovery of the substance of oxygen behind the form of phlogiston, but he does not say anything at all about the first point. Four years later, in his 1969 preface to Volume One of *Capital*, he offers his well-known advice to 'leave aside' the first chapter in a first reading of the book.[57]

The task of analysing 'value' devolved upon Macherey in the 1965 edition of *Reading Capital*, and he did it by 'reduction'. Commodities (A,B . . .), he argued, have different utilities, different use-values, which stem from the natural form conferred on them by the concrete labour that has produced them. Yet they are exchanged in given proportions, A = B = and so on. This relation of equality is artificially created by exchange, which appears as a sort of 'scientific experiment'. From this relation we have to 'deduce' the common element which makes equality possible: namely, the 'labour in general' that society expends to produce them. The form of the relation, the exchange-relation, and the form of 'value', 'exchange-value', are no more than ways of testing the substance of value — general human labour, abstract labour. And the equality in the relation between two commodities is only a test of the relationship between each commodity and the general labour time necessary for its production. If we wanted to look really serious about it we could write:

$$A = B \longleftrightarrow v(A) = v(B) = t$$

Now, this reading does correspond in part to what Marx himself wrote. He did construct the elements of a rigorous theory of the measure of commodities by reducing commodities to a substance that was itself measurable by a positive number — hence his frequent references to Riemann's measurement of surfaces.

In just the same way, concepts of 'force' or 'energy' are constructed in books about physics or thermodynamics, by abstraction from their natural form.

But this reading fixes the commodity as something with two sides which have nothing to do with each other: the side of use-value, natural form, concrete labour, and the side of value, value-form and abstract labour. They no longer appear as contradictory but as 'disjoined' (Macherey), like two sets of determination which do not affect each other (e.g., a handkerchief that is both red and cotton). Exchange is then a means of revealing the value substance, but this substance, being the product of human labour, is in fact eternal: it lends an 'antediluvian existence' within other modes of production (Marx, *Grundrisse*, p. 101), and as for the wealth produced by Robinson Crusoe, 'those relations contain all the essential determinants of value' (*Capital* Vol. One, p. 170). Give or take a few 'oversights', that is also the basic position of classical economics and algebraic Marxism.

What is left unclear is the fact that these determinations have to take the form of value in commodity societies, whereas the labour time spent by Robinson Crusoe or a serf in satisfying their own needs, or those of the lord, is nothing but the allocation of their working day. Equally unclear, therefore, are the contradictions which try to resolve themselves in this form, and the 'fetishism' which operates through this representation of human labour.

The avowed aim of Althusserian reductionism is precisely to avoid talking about fetishism, an aim which is subordinate to the other much-vaunted purpose of combating humanism and the notion of the subject. Rancière's task in *Lire le Capital* (1965) is to reduce fetishism — that is, the representation of labour and class relations as value, profits, etc — to the simple [metonymic] 'appearance of a structure within a space which is not homogeneous to it' (p. 45); this is 'the form through which the process of production exists for the agents of production' (p. 114). A necessary illusion, but an illusion all the same. In fact, Rancière does not bother to analyse the function of this form of appearance, as he would then have to reintroduce real contradiction into production relations, and worse still, contradictions between the motives of agents ('subjects'!) and their place in the structure. It would then become clear that this form is the condition of existence of the structure and of the reality of the process.

One way to transcend reductionism is to reaffirm that the exchange-value/use-value couplet does indeed constitute a contradiction, and that the contradiction is resolved through money. This is, for instance, the position adopted by Salama (op. cit). And it is also predominant in Marx's *Contribution to the Critique of Political Economy*.

In this text Marx considers that, in the same way that bodies have a mass, so do commodities have a value substance in addition to the natural form derived from their use-value. This substance is the direct crystallization of social labour. Marx then launches into an intricate discussion in order to explain how and why this contradiction between use-value and exchange-value is resolved. In exchange a commodity has to appear both as a use-value (otherwise there will be no demand for it) and as an exchange-value (otherwise it will not be exchanged). In the end he decides that exchange-value is only 'latent' or 'theoretical', before exchange takes place. And he 'finds' the solution by indicating that there is a commodity whose use-value is to be exchange-value: that is, money.

In the course of his preliminary work for *Capital*, particularly in the 1862 manuscript of *Theories of Surplus-Value*, Marx becomes convinced that this is not really a contradiction. More precisely, he comes to believe that it is not this but another contradiction which is resolved in exchange; and that this first contradiction is only constituted as such by the interference of the second with the double determination of the commodity, as use-value and product of labour.[58] Let us look at this more closely.

If we say that the substance of a commodity is its crystallization of general social labour, then we admit that the labour it contains is directly social. However, the labour expended privately for the production of a commodity, by a commodity producer, only becomes social labour through exchange. This is why Marx, in the *Contribution*, talks about 'social labour in the latent state'. Before exchange, commodities have nothing but the 'essential determinations' of value, and they only become value

when they take the form of exchange-value by being exchanged.

The point, therefore, is not to 'reduce' value to labour. Rather, the objective contradiction of social labour — when it appears in *commodity economic formations* as the sum of 'all the different kinds of private labour (which are carried on independently of each other . . .' (*Capital*, I, p. 168) — is resolved through the reduction of concrete labours to abstract labour as the condition and consequence of their exchangeability. It is this abstract labour which takes the form of value — as something inherent in its products and regulating their exchange. Value is thus a 'formal substance', as in Aristotle's conception which Marx so greatly admired: the unity of a matter and a form.[59] Not only is the notion of substance without form unthinkable, but without form substance becomes evanescent; it is not through direct analytical accounting for time spent but through the formal system of exchange-value (set out in the second section of Chapter One of *Capital*) that substance 'appears' and is 'affirmed' as value.[60] The 'matter', abstract labour, is certainly in contradiction to concrete labour, but this manner of abstraction is only relative to the formalization operated by the commodity relation.

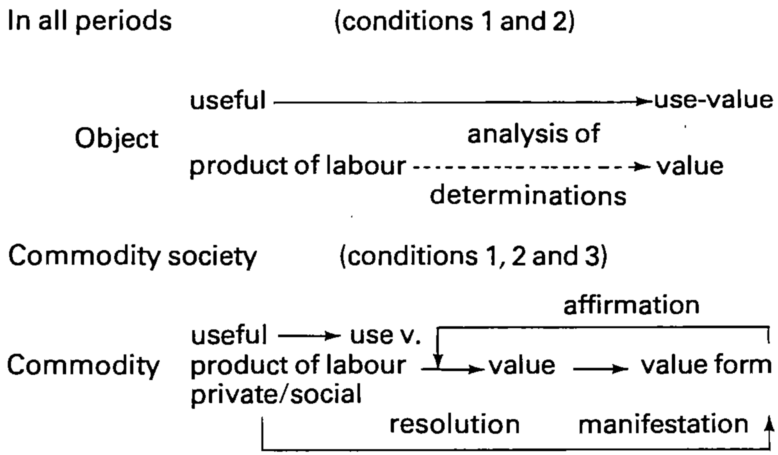
The contradiction which is resolved in exchange is therefore not:

'use-value/ value'
or 'concrete labour/abstract labour'
but 'private labour/social labour'.

And it is this contradiction which transforms the first into one of 'use-value/exchange-value'. The commodity therefore has not a 'double' determination (1: useful object; 2: product of human labour), but a 'triple' determination (3: produced privately for society). This discussion may be summed up in the diagram overleaf.

This analysis, it seems to me, clears away several false debates. The first of these concerns the role of 'use-value'. We have seen that it does not contradict value, in the logical sense, but is posed as its opposite.[61] If value is the form of social labour, its true contradictory is private labour, which itself includes its concrete nature as creator of use-value. The resolution of the real social/private contradiction implies *social validation* (*Capital*, I, p. 159)

Figure 1



of the use-value: exchange performs this sanction, as well as commuting products of equal value.[62] Social utility is not, therefore, solely a 'container' for the value content, as Dognin believes. It is the condition of it; which does not prevent the quantity of labour — but socially validated labour — from being the sole *determinant* of value. In fact, 'use value at the social level' becomes in Volume Three 'social need quantitatively determined' by the schemas of reproduction (what we would call the regime of accumulation) defined in Volume II. The encounter between this social demand and the supply of private labour determines for example how many cars will be sold — so that inefficient production processes, and even surplus units of the models most in demand, will not be validated. In that case, the labour which has gone into them will be deemed unsocial, and their value will be wiped out.[63] But this does not mean, as Dognin believes, that 'as he passes from micro- to macroeconomics Marx abandons the objective theory of labour-value'.

Unsold cars have as much utility as those which are bought: it is their production which is said not to be social.

The second false debate refers to fetishism, 'vulgar economics', 'commanded labour', and so on. We have seen how the Althusserians saw this as a matter only of (necessary) illusion and representation. And we have just seen that if 'the commodity-form reflects the social characteristics of men's own labour as objective characteristics of the products of labour themselves . . . and [their relation] to the sum total of labour as a social relation between objects', that is the *real* form of resolution of the social/private contradiction. 'The labour of the private individual manifests itself as an element of the total labour of society only through the relations which the act of exchange establishes between the products, and, through their mediation, between the producers. To the producers, therefore, the social relations between their private labours appear as *what they are*, i.e. they do not appear as direct social relations between persons in their work but rather as material [*dinglich*] relations between person and social relations between things.'[64]

More pragmatic than referential, this function of value is more accurately a function of exchange-value, price etc. The whole 'enchanted world' of prices and incomes is the form taken by the resolution of the problem of how private subjects fit into a socio-economic reality in which they enforce their *rights*. Marx's 'esoteric' analysis shows the internal social relations which underlie and limit these rights and demands (the social division of labour, the division of society into classes, and so on). But the 'exoteric' world that is woven by these plans, calculations and signals, is the only 'reality' (*Wirklichkeit*) in which agents' motives and actions find a place. In the final section of *Theories of Surplus-Value*, where Marx takes furthest his investigation of the abstract in the concrete, he recognizes the full legitimacy of this 'economics of external connections', although he calls it 'vulgar economics' by virtue of the fact that it only systematizes the representation of the daily practice or 'habitus' of market agents. The traces of the plan to reconstruct such an 'exoteric' economics, with transformation theory as the cornerstone, are too many to list here[65]. But Marx drew our attention to them as early as the first chapter of *Capital*. 'The categories of bourgeois economics consist precisely of forms of this kind. They are forms of thought which are socially valid, and therefore objective, for the relations of production belonging to this historically determined mode of social production, i.e. commodity production.'[66]

2. Hypercriticism and the Formalist Aspiration

The dominant current, rapidly becoming convinced that 'the transition from value to price does not exist' (Mouchot), took a different path,[67] rejecting the substance (labour) and just keeping the *form* of socialization of a ghostly, private, 'something'.

This tendency may be traced back to Baudrillard, who set out in *Pour une critique de l'économie politique du signe* to extend Marx's critique of the reification of exchange-value to use-value itself.[68] Presenting this as a move beyond the commonplaces of vulgar Marxism, he argued that to allow the existence of objects of (objective) utility, and of a theory of needs behind (social) exchange-value, was to fall into the 'trick of form, always veiled beneath the obviousness of content'. In *Le miroir de la production*,[69] however, Baudrillard moved into hypercriticism. Now it was Marx himself who, by suggesting the existence of 'production in general' behind its manifestation in value, had substantivized a 'production-form' — a 'rationalist political illusion' quite as open to criticism as the bourgeois objectivization of form/appearance as value.

This aspiration of all content for pure social form sketched out the direction that the whole of the present-day 'critique of political economy' was to follow. Fradin's thesis provided the departure point.[70] Since nobody had correctly achieved a value-to-price transformation of the concrete objects of neo-classical or neo-Ricardian mathematical economics, it was enough to suggest that exchange, the social reality, permuted only the social substance (value) and not the use-values given in physical terms before the exchange. Fradin attacked this presupposition as 'the nomenclature hypothesis'.

Despite the absurdity of some of Fradin's arguments,[71] there is a real problem here of which Marx, and many Marxists since then, have been well aware.[72] The question of nomenclature, of 'use-rules', and of the identification of commodities on offer within the infinity of intermediate products of social activity, is posed by Marx at the outset. He assumes that as a general rule the answer is already given, and can be understood: 'In bourgeois society the legal fiction prevails that each person, as a buyer, has an encyclopedic knowledge of commodities' (*Capital*, Vol. I, p. 126). But he correctly lays stress on the fact that value form enables a commodity which 'claims to satisfy a newly arisen need, or is even trying to bring forth a new need on its own account' (p. 201) to be validated or rejected. This fluidity of nomenclature is nonetheless relatively fixed in 'recognized elements of the division of labour'. How this recognition is obtained, like a seal affixed by society but not necessarily in commodity form, has been the subject of recent studies, particularly among statisticians following Marx or Bourdieu.[73] As to the social dynamic of these 'investments of form', Marx devotes a large part of Volume One to its relevance for production goods, and the theorists of intensive accumulation and regulation have extended this to take in consumer goods as well.[74]

In short, to start tackling production and commodity exchange either assumes that the problem is already solved in the moment of exchange, or is designed to secure precisely the validation of a new product or process in the social nomenclature. There remains the potent idea that what is *individually* proposed by the market subject is the value that he wants to have acknowledged. This notion is given support by Deleplace, Benetti and Cartelier,[75] who sidestep nomenclature hypothesis and thus also concrete production. They reject the *homo faber* of Marx's anthropology, believing that social science can study only the forms of socialization.

In their view, commodity society is characterized by the separation of social and private. 'Market subjects' would like society to acknowledge something. We do not know what (unless it is something isomorphic to continuum) but essentially it is something that comes from them, something they possess, or something they are and which they 'self-proclaim' to be worth so much, demanding an equivalent right over the self-proclaimed value of other subjects, everything else is a question of counterbalancing. Labour, then, disappears as the origin of commodity-value, coming onto the scene only with wage-earners, a compact homogeneous bloc composed of undifferentiated, non-commodity elements. The valuation of what is proclaimed is nothing other than its monetary name, so that the currency serves as both substance and form of socialization.

Now, this idea of self-proclaimed value does have something profoundly right about it: the anticipation, the quest for their sociality, is thus inscribed in the heart of independent subjects. But the contradiction of their reciprocal relations, expressed as a simple juxtaposition, is left in a state almost as lifeless as the coexistence of subjects in general equilibrium theory. All that remains of the contradictory unity of commodity production, the contradiction between social and private, is its form, a self-proclamation looking for acknowledgement.

While admiring the virtuosity of this theory of an economy with no content apart from the practice of accountancy, notably without production, Guibert rejected it as a 'debate which is both harmless and useless, because it has neither object nor point'.[76] Surprised by the passivity of money of account among these separate but scarcely conflicting subjects, Guibert ironically suggested that Cartelier and Benetti should bring in René Girard, arguing that his notion of sacrificial crisis inaugurating the social was very similar to the process of selection and exclusion of money in Marx's commodity world. Guibert's irony was not entirely unfounded. His own doctoral thesis follows the approach outlined by Goux in a seminal article,[77] and compares the symbolism of value with that of the totem as described by Freud and the anthropologists (which is another track I shall not pursue here). But Guibert sees the economic as the foundation of the symbolic, and so he is prevented from deriving the forms of the commodity relation from general ahistoric forms of rivalry in the way that Girard does.

This fertile suggestion has been taken up by Aglietta and Orléan,[78] who adopt the 'formalism of value' position, but put rivalry struggle and violence between agents at the heart of the social bond. Dismissing 'labour value' as so much 'Ricardian dross', they explicitly reject the notion of any 'substance' behind the form of commodity exchange. Unfortunately, even Aristotle knew that there could no more be sensible form without substance than vice versa. To imagine 'exchange as a process of socialization which does not presuppose a social substance' necessarily implies that, as they are throwing labour out of the door as the thing that is socialised, another 'substance' is coming in through the window, the 'desire-to-be' fragmented by the 'lack of being'. This 'decisive step forward in modern anthropology' (Girard's!) fills the same role as utility and scarcity in neo-classical theory; but instead of subjects always seeing their interests as already constituted, interests are here constructed in struggle through mimetic violence which defines what is desirable and determines its scarcity.

It is not worth spending much time discussing the 'cost' of this development. Removing production from the theory of value takes us back to the production-less economics of which the general equilibrium theorists are so fond. It is significant that the best and most pertinent sections of Aglietta and Orléan's book are the ones that deal with speculation. But when they come to the rest of the crisis, all the Marxist 'dross' whose importance Aglietta himself had shown some time ago comes to the fore again: 'surplus-value', productivity, devalorization of capital, etc.

It is more interesting to look at the space this current has opened up for new thinking about money. We know that Marx frequently stressed that there could be no pure money-symbol: true money, for him, is a true value. He concedes that a purely symbolic money is adequate for the measuring functions of values, and even as a means of circulation in the case of legal tender ('everything depends on the first step' he notes in *Capital* Vol. 1, p. 224, more accurately than he realizes), but he retains the money commodity (gold) for the functions of hoarding and payment and, most importantly, for world trade, the last refuge of 'absolute value'. The dematerialization of money that he does allow is the responsibility of the ruler: 'the symbol of money must have its own objective social validity. The paper acquires this by its forced currency' (p. 226). But to admit that credit-money, for example (which Marx was aware comprised the greater part of the balance of trading houses), could help the 'clearing' between asymmetrical accounts, and that one might take drafts on current production in payment for true money, would have been to admit that all commodities could arbitrarily become money, that is, that their production could be said to be directly social.

The hypercritical current has affirmed the commodity subjects' power of self-proclamation,[79] analysed the polarization mechanisms of social discretion over the object of value, emphasized the regulatory role of sovereignty in the determination of that object, and thus carried forward the dialectic between the spontaneous emergence of private money and the affirmation of official money (both of which can be symbolic). And by doing all this it has done much to weaken Marx's taboo on pure credit-money. Yet we may wonder whether it would not have been altogether more productive to show how credit-money emerged by raising the over-narrow conditions which Marx — in keeping with the mode of regulation in force in his time — imposed on the social validation of private production.

3. The Hegelian Approach, and Value in Process

Do we need to throw out the baby with the bathwater? This same question applies to another 'formalist' approach, involving a direct return to Hegel, of which Denis is at present the only exponent.[80] Denis makes a great deal of the passage in the *Grundrisse* which Marx himself criticized for its idealism (see note 58), but which he sees as the start of the only admissible theory of capital: value-essence becomes subject, in the life of its concept in its pure negative immanence, moving in turn from the particular to the general, while ceaselessly relating back to itself.[81] According to Denis, Marx's denial of the realism of essences, with his fixation on the Ricardian assertion of labour substance and his Feuerbachian prejudice against commodity alienation, would have led him to reject this conception.[82]

The idea of reconstructing economics on this basis would almost certainly issue in a dynamic version of the new Benetti-Cartelier theory. The problem once again is that by jettisoning production one does not discover anything that Marx does not entirely maintain. Contrary to what Denis writes, the becoming-subject of the value substance does exist in *Capital*, in the

concept of 'value in process', 'value destined for independence', which is introduced in Chapter Four of Volume One and analysed in Volume Two, becomes the structuring theme of Volume Three (it is this that requires an increase in the average rate of profit), and is reaffirmed in Volume Four in opposition to Bailey, as in Volume Two where it acquires its independent existence against the immediate measure imposed on it by the magnitude of value.[83] It is the whole string of successive metamorphoses of capital (M → P . . . C → M′ → P′ . . .), the stream of value slipping through the fingers of the private capitalist as he directs it over the shifting map of the division of labour. 'Living in the oblivion of its metamorphoses', to paraphrase Eluard, it measures itself against itself, like the Son against the Father, by its rate of growth. These properties of the subject-substance are not, moreover, the monopoly of Hegel: they are already the characteristic of sensible substances with a matter, in Aristotle's *Metaphysics*.

It is amazing that the concept of value in process (which is principally applicable to capital, but to some extent also to labour power) should have fallen so far out of sight in the debate on value since Marx. Being the developed form of fetishism that is closest to 'everyday life' under capitalism (one has only to think of the way they talk about 'values' on the Stock Exchange), its matter is synchronic value (the expression of the division of labour analysed above), and its form is using the triple cycle of its metamorphoses. In it the private nature of the capitalist engagement of labour is established. And the juxtaposition of values in process, in competition, weaves the woof of social labour, the instantaneous value relations making up the warp.[84] Value in process is the matter of exoteric economics; it enables past labour to be measured as present value,[85] and provides the basis which makes credit-money possible. At the same time, however, the constraint of the social validation of synchronically engaged labour is never broken.

If Denis' erudite work contributed towards the rediscovery of this *central* concept of Marxist theory, it would be a very fine thing. But so far his case has all the faults of hypercriticism, without even retaining Aglietta's and Orléan's critique of 'commodity violence'.

IV. Semiotic Perspectives

However one judges the approaches examined above, one cannot deny their originality, or their desire to break with constricting schemas and readings, or, in the case of Guibert, Aglietta and Orléan, a kind of joyful exuberance. The controversy has left behind the monastic austerity of Althusserianism and algebraic Marxism and is slipping into a flamboyant gothicism, with a lively syncretism of most diverse gnoses[86] and arabesques of form developed for their own sake; in fact, we are seeing a welcome return to something more like Marx's own style, with its unexpected echoes of Faust or the Book of Revelation.[87]

I would like to conclude by suggesting some approaches of this kind, and I have selected the ones that make use of semiotics. I shall not go into the whole controversy of the late sixties and early seventies about the relations between commodity economies and symbolism, which drew heavily on Freud and anthropology and is exemplified by the work of Attali, Godelier, Goux, Latouche, Leroi-Gouran, and Whorp. I want to talk about an almost 'technical' contribution, the 'application' of linguistics and more broadly of semiotics to value theory. There are good reasons for this. First, linguistics, being as unfashionable as Marxism in contemporary France, is a peaceful area to work in. And more importantly value, as Marx constantly repeats, is a form of communication between men, a set of signs and 'expressions' of signs one inside another, the 'language of commodities'. The science of signs is semiotics — the science which C.S. Peirce first formulated as phaneroscopy, the science of what appears, in the same year that *Capital* was published.[88] But of all the sign systems, the most studied is language, and we shall see what contribution Hjelmslev and Chomsky can make to the debate on value.[89] And last we shall have something to learn from the studies of the form of the signified by Greimas and his school.

1. Phaneroscopy and the Fields of Interpretants

Taking Hausmann and Lipietz's article 'Esoteric versus Exoteric' as his basis, Philippe boldly set out in 1982 to illuminate Marx's distinction between esoteric and exoteric economics with the help of Piaget's psychology and Peirce's phaneroscopy. It turned out to be a good choice. Apart from a striking community of interest between Peirce's pragmatism and Marx's anti-Feuerbachian materialism, there is a great similarity between Peirce's conception of the sign and that which informs the first section of *Capital*.

Peirce sees the sign as a triadic relation, in which a Representamen determines [for a person] its Interpretant to relate it to its Object. The interpretant is itself a sign, and should not be understood in psychological terms. Now, the same characteristics of the sign — its triadic, interdependent, and impersonal nature — appear in Marx's conception. We have already noted that the exchange-value of an object reflects value (as interpretant), as value itself does abstract labour. And Marx takes impersonality to extremes: commodities speak, prices are 'wooing glances' 'cast at money by commodities', their owners 'exchange body' with commodities in order to be the bearer of the value-interpretant: and generally speaking in Marx persons are not the medium for the interpretant of economic signs except as 'personifications of economic relations'. But the 'fields of interpretants' do not all perform in the same way.[90] The ones which link a representamen to a 'firstness' (Kosik would say a 'factor'), in accordance with the mode 'salary → labour, profit → capital, rent → land', remain on the 'surface of the phenomenon', at the exoteric level; only the interpretants which reflect a 'secondness' (a relation, a contradiction) give access to the internal conditions of the object, to the esoteric economy.[91]

This seems a fruitful approach; Philippe applies it to the money commodity, and it can also be applied to credit money. This raises the immense problem of how the economy comes to men, and this is where a sociology such as Bourdieu's appears to be just as necessary as a psychology like Piaget's. How do we come to accept working for money, producing things at random, or giving credit? This is an enormously urgent question and is just as difficult and controversial as the question of the sign itself. More work has been done on the study of language for its own sake, and the relation between syntax and semantics, and there again we find our old friends form and substance, content and expression, deep-structure and surface-structure, transformation, and so on.

2. Glossematics and Transformational Grammar

Beyond the difficulties of translation, the glossematic theory of Hjelmslev connects up with the Aristotelian formulations of *Capital*.[92] The study of language contrasts 'expression' and 'content', both of which are composed of 'form' and 'matter', 'substance being the appearance of form in matter' although, as with Marx, 'substance' is often assimilated with 'matter'. In linguistics, the matter of expression is the amorphous phonological zone, informed by the phonetics of the language, and that of content is amorphous semantics, informed by the sociocultural form appropriate to the 'genius' of the language. Applying this to value, we can recognize the *form of expression* (exchange-value), the *matter of expression* (the natural form which 'serves as material for the expression of value'), the equivalent (money), the *substance of the content* (labour) and the *form of the content* (the relation of values which resolves the contradiction between social and private).

If we take away the matter (semantics and phonology, or labour and currency) and examine the form on its own, we still have the problem of the relationship between the form of the content (logic) and the form of the expression (syntax). In language as in the Marxist theory of value, there are identical expressive structures which clearly do not refer to the same form of content. Thus 'J'ai fait lire Pierre' in French can mean either that I made them read Pierre, or that I made Pierre read. This *surface structure* is thus the *transformed form* of two possible *deep structures*. Similarly, in Marx the 'price of a product', the 'price of labour' and the 'price of land' exoterically indicate three different social relations (commodity exchange, wage-earning, and ownership of land). Vulgar economics, Adam Smith's 'trinity

formula', Ricardo's 'commanded labour', exoteric economics in short, makes no attempt to transcend this homonymy, and it constructs prices by adding up incomes linked to 'factors' such as labour, capital and land. Esoteric economics on the other hand breaks down value in terms of the relations of exploitation and commodity exchange, and breaks down surplus-value according to relations among ruling classes etc. There are therefore two 'trees' (see Chapter 5 above): a deep one, which can be interpreted as expressing the constituent relations of the 'physiology of the bourgeois world'; and another more like the 'surface connections' of sensible reality. We need a theory that creates the second out of the first by means of 'transformation', of which the passage from value to production price is only one instance. It is the externalization (*Veräusserlichung*) of the *Kerngestalt* in the *fertige Gestalt* which Rancière analyses in the original French edition of Reading Capital. All that would then need to be done would be to express the latter as money (matter of expression).

Chomsky's 'standard theory' is exactly the same.[93] A basic grammar acquired by the child in its linguistic context enables the deep Syntagma to be engendered in accordance with a breakdown into 'tree form': Noun syntagma, Verb syntagma and so forth. Transformational rules transform this into another, surface tree, which then receives its phonetic interpretation as the deep structure had its semantic interpretation.

That was the orderly arrangement — from deep structure (linked with semantics and content) to surface structure (linked with phonetic expression) — of the standard theory systematised by followers of Chomsky such as Fodor and Katz who wanted to define a 'deeper' generative semantics. Unfortunately, the weight of meaning can sometimes be borne by the surface structure alone, and by the way it is phoneticized, even if only by intonation.[94] This explains Chomsky's transition to the 'extended standard theory', which considerably relativizes the identification of deep structure with semantics, and the originality of his 'explanatory' schema in comparison with the descriptive taxonomy of his distributionalist opponents. When criticized for this, Chomsky insisted on the right to develop and change his analysis, and stressed the irreducible originality of his assertion of a basic grammar.[95]

We find exactly the same thing in Marx. As I have shown above, the surface structure of 'external connections' between nominal prices and incomes brings together not only the specific characteristics of one particular mode of regulation of the fundamental capitalist relations, but also the actual assertion by economic agents, and by social classes in particular, of their demands, their rights and so forth. 'At last we have arrived at the *forms of appearance* . . . and, in conclusion, the *class struggle* into which the movement and the smash up of the whole business resolves itself' (Marx to Engels, 30 April 1868).

Are we, then, back with that impoverished 'vulgar economics' which constructs prices by adding up incomes? Not at all. For those incomes (the nominal forms of value in process) are globally constrained by the deep relations of value, in accordance with the 'warp-weft duality'. In one way or another the surface has to express the diachronic distortions[96] of the deep: this provides the foundation of a theory of inflationary crises. It requires a transition from algebraic to differential Marxism, which is a very considerable undertaking.

3. The Elementary Structures of Meaning

Semioticians, finally, have also studied the 'form of content'. And it seems reasonable to assume that the Greimas school may be able to clarify the complex analysis of the form of value in Chapter One of *Capital*. It is an additional point in favour of this assumption that Greimas has gone on record as endorsing the legitimacy of the semiotic study of scientific texts.[97] In fact we find that Marx does use the techniques highlighted by narrative studies, first posing a riddle, then providing a solution.[98] But at a deeper level, if commodity exchange is indeed a semiotic intrigue between two owners and two commodities (or commodities and money) in the course of which the socialization of private labour is achieved, then the value form itself can be explained by semiotic study of the 'elementary structures of meaning' and narrative analysis. As Marx himself said 'the complete metamorphosis of the commodity does not abolish these contradictions, but rather provides the form within which

they have power to move' (*Capital*, Vol. One, p. 198). This is precisely the procedure of the semioticians at the Ecole de Paris. We have seen (following Aristotle) that the analysis of value form requires a distinction between contrariety and contradiction. For the Greimas school, it is 'the basic model of the structure of meaning at the elementary level, the semiotic square'.[99] 'Being' and 'appearance' are thus semiotic opposites, but they are contradictory of 'non-being' and 'non-appearance', co-contraries which must be scrutinized to see whether they include the initial contraries.[100] A narrative is a transformation of one pole into its contrary or its contradictory through the apexes of the square.[101]

Now, what Marx was looking for in his many attempts to solve 'the contradiction between use-value and exchange-value', from his beginnings in the shaky pairing of 'social and concrete labour', through various stumbling approaches and false tacks (like the 'general labour' of the *Contribution*), was surely the correct position of the square, which only takes shape in *Capital*, and which fulfils the formal requirements of including contraries within co-contraries (see fig. 2). It would be interesting indeed to go back and re-read the second part of Chapter One of *Capital* (on the development of value form) using the principles of narrative science, and more interesting still to look at the current tragedy of the international financial crisis in the same terms.

Conclusion

The approaches I have outlined provide, I hope, a framework for a programme of work (such as the analysis of magnitude in terms of differential geometry, and a semiotic analysis of form) which will be at least as 'interesting' (in Paul Veyne's sense, that it will 'interest' researchers) as the by now rather exhausted debate about transformation. But let us hope too that semiotics, with its belief that 'what we can learn about meaning is form and not substance' (Hainault), will not cause us to lose sight of the matter of content, nor of its expression. As Lagopoulos opportunely reminds us, semiotics does not only find its matter (both signifier and content) in historical development outside semiotics, it also finds its dynamics there.[102]

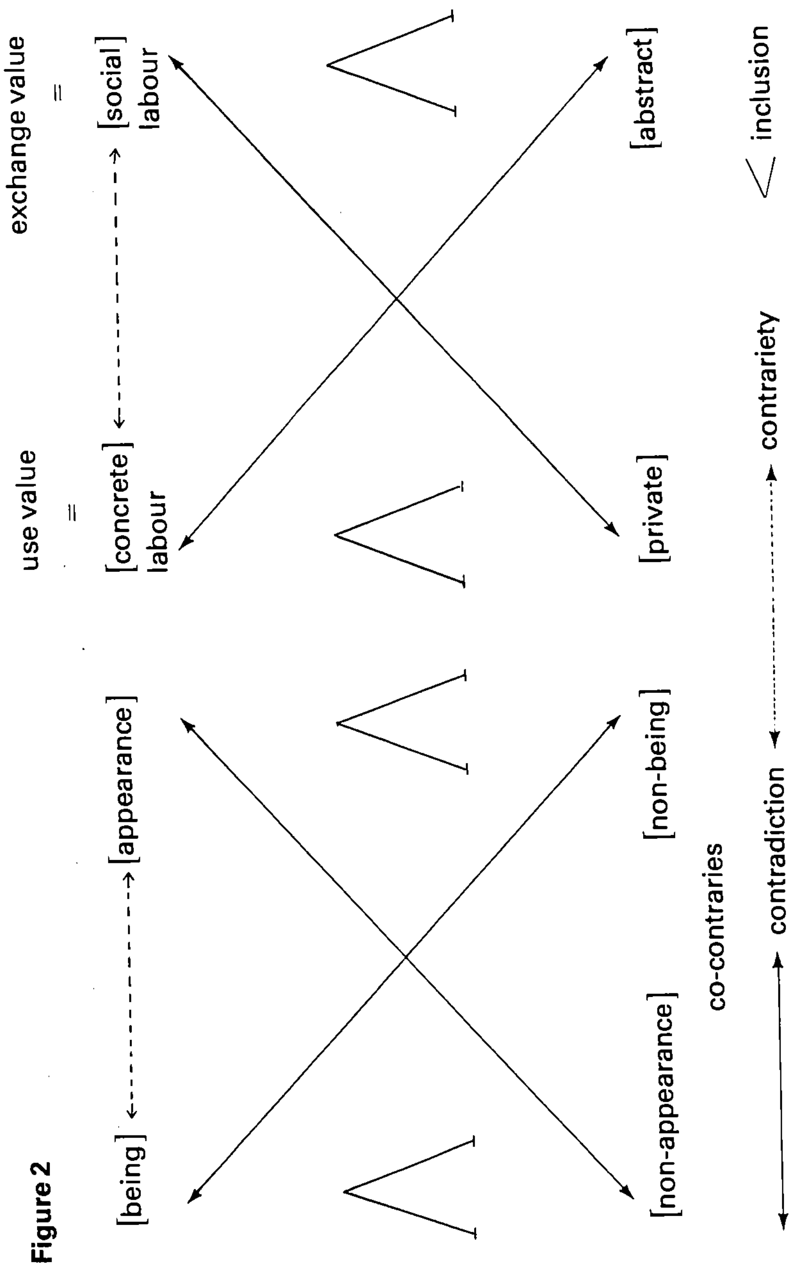


Figure 2

In the new debate about value, it should never be forgotten that it is located between the crisis of the Fordist development model and the crisis in the universal equivalent which the euro-dollar has now become. If Peirce's semiotics does have something 'interesting' (in Chomsky's sense of scientific explanation) to say about value, then it will perhaps be by clarifying the relationships between the representamen of the international financial crisis, the object, the crisis in peripheral fordism, and the interpretant, the world financial community.

The only other thing to say is that 'as far as our struggle is concerned' the labour theory of value does seem quite threadbare. Who in France is still contesting the corporate appropriation of surplus-value? 'Modernization' itself seems to make it necessary. Who is even opposing the form of private engagement of social labour? Still, it is hardly likely that productivity gains in the electronics industry will alone open the 'paths to Paradise', unless there is renewed and much more radical debate over the commodity form of the socialization of human labour.

Notes

1. As Marx defines it three pages after identifying the magnitude of value with the quantity of labour (*Capital*, Vol. One, p. 129). It is worth recalling here the sequence of Marx's major writings on political economy. After the 1859 *Contribution*, he went on to publish volume one of *Capital* in 1867, and further work was done on this — including editorial work by Engels after Marx's death — right up to the publication of the fourth German edition in 1890. Volumes two and three, which only existed in manuscript form at Marx's death, date from the years 1870–78 and 1863–67 respectively; while volume four, containing manuscripts from 1861–63, was later published as *Theories of Surplus Value*. Finally, the famous *Grundrisse* manuscripts date from the winter 1857–58.
2. J. Elster, *Making Sense of Marx*, London 1985. This is the vocabulary of Anglo-Saxon analytical philosophy, which is as ill-adapted to Marx's method as to the vocabulary of French epistemology.
3. See P. Van Parijs 'The Falling-Rate-of-Profit Theory of Crisis. A Rational Reconstruction by Way of an Obituary', *Review of Radical Political Economics*, vol. 12, no. 1, 1980.
4. A. Labriola, *Essays on the Materialist Conception of History*, Chicago 1903.
5. For Sorel's development see T. Paquot, 'Les écrits economiques de Georges Sorel', 1983, unpublished paper.
6. In connection with another 'transformation debate' which we shall come back to.
7. N. Chomsky, *Dialogues avec Mitsou Ronat*, Paris 1977, p. 179.

8. I am not talking, therefore, about the straight 'use value/labour value' contrast, as in Böhm-Bawerk.
9. This means, of course, the version compiled by Engels from notes and drafts, rather than whatever finished version Marx might have left us himself.
10. Except in the Soviet Union in relation to the continuation of the 'law of value' (i.e. the principle of regulation by value of the allocation of labour and its products) under socialism.
11. Drafted before *Capital*, it should be remembered.
12. Letter to Kugelmann, 11 July 1868, *Marx-Engels Selected Correspondence*, Moscow 1975, pp. 196-7.
13. *Capital* Vol. One, p. 174.
14. Theories of Surplus Value, III, pp. 164, 137-38. Hegel talks about 'external measure' and 'specifying measure' in *The Science of Logic*. It is surprising that Denis, who is aware of this distinction, denies that Marx makes use of it.
16. Although I refer to this debate as 'Anglo-Saxon' (with its famous Italian, Japanese and even French adherents) I do also recognise the critical and dialectical importance of a number of British and American works (see Elson et al. *Value: the Representation of Labour in Capitalism*, London 1979; and B. Bradby, 'The Remystification of Value', *Capital and Class* 17, 1982). I simply mean to indicate the role of cultural areas in the orientation of the controversy.
17. I.I. Rubin, *Essays on Marx's Theory of Value*, Detroit 1972, pp. 223-24.
18. See, for example, Samuelson. Remember that Volume III dates from 1865 (and that the general idea of 'transformation' is to be found in the 1857 *Grundrisse*).
19. P. Sraffa, *Production of Commodities by Means of Commodities*, Cambridge 1960; and M. Morishima, *Marx's Economics: A Dual Theory of Value and Growth*, Cambridge 1973. For a historical (and critical) summary see G. Dostaler, *Marx, la valeur et l'économie politique*, Paris 1978, and *Valeur et prix: Historie d'un débat*, Paris 1978; P.A. Samuelson, 'Understanding the Marxian Notion of Exploitation', *Journal of Economic Literature*, June 1971; and C. Benetti et al., *Economie classique, économie vulgaire*, Grenoble 1975.
20. Characterized by the representative productive operations embodying imputs in quantity A and labour *l* to produce the commodity unit. I use a vectorial notation which enables n equations to be dealt with at once in a form which non-mathematicians can intuitively understand by assuming there is only one branch.
21. See P. van Parijs, 'Some Problems with the Labour Theory of Exploitation', *Cahiers de l'Institut de Sciences Economiques de Louvain*, duplicated paper, no. 8212, 1982.
22. *Economie classique, économie vulgaire*, op. cit.
23. *Capital* Vol. One, p. 515.
24. This current, developed principally in the *Cahiers d'Économie Politique* and the collection *Intervention critique en économie politique*, reduces Ricardianism to a theory which bases relative prices on 'commanded labour' and the rate of growth on 'production difficulties'. Marx (in TSV and even in the notes in *Capital*) shows that he is aware of the contradictions in the classical theorists and of their hesitancy between an 'esoteric' and an 'exoteric' theory of value, but he was generous enough to acknowledge their insights in favour of the theory of embodied labour. Above all Marx was able to give the theory of 'commanded labour' its full place, as the external measure of prices as a function of wage rates. The whole of Volume Three can be read in terms of 'commanded labour' as 'index' of 'embodied labour'. As we have seen in this book, with transformation

Marx laid the foundations of an 'exoteric economics' and its relation with the esoteric, and recent research into regulation has demonstrated its acute relevance to the modern situation.
25. P. Salama, *Sur la valeur*, Paris 1975.
26. On this see Lipietz, *Crise et inflation: pourquoi?*, where I distinguish two relations (as established by the Althusserians), property and possession.
27. Typical is the debate over the 39-hour week in France in 1982.
28. The Systems of Prices of Production Group of the CNRS did, however have a conference on this in 1983 (the proceedings to be published in *Economica*).
29. See for example the articles in the economic press on the subject of oil refining and the petrochemical industry, and the survey by E. Bailey and A. Friedlander, 'Market Structure and Multiproduct Industries', *Journal of Economic Literature*, vol. 22, September 1982.
30. See M. Itoh, *Value and Crisis*, London 1980.
31. See B. Guibert, *Genèse et image de la division de la production: Le concept de branche*, thesis, 1976, University of Paris I; and B. Billaudot, *L'Accumulation intensive*, thesis, 1976, University of Paris I.
32. More cavalierly, since he imagined nothing but a money based on gold, which has its own value and production price.
33. A concept developed under different names by M. Aglietta, *A Theory of Capitalist Regulation*, NLB, London 1979; M. de Vroey, 'Valeur, monnaie et inflation', *Cahiers du Départment de Science Economique*, no. 7913, University of Montreal, 1979; and Lipietz, *Crise et Inflation*, op. cit., and *The Enchanted World*.
34. G. Duménil, *De la valeur aux prix de production*, Paris 1980; and D. K. Foley, 'The Value of Money, the Value of Labour-Power, and the Marxian Transformation Problem', *Review of Radical Political Economy*, vol. 14 no. 2.
35. A situation given by definition in the case of integral accumulation, when the 'second Marxian equality' is then verified: which the algebraic Marxists had a lot of difficulty in rediscovering mathematically. For an extensive analysis of the false paradoxes of the standard transformation, see Lipietz, 'The So-called Transformation Problem Revisited', *Journal of Economic Theory* No, 1, 1982.
36. See Duménil, Foley and Lipietz, who all arrive at this solution by different routes. In my own case, I had already acknowledged in *Crise et Inflation* (following Aglietta's 1974 thesis, 'Accumulation et régulation du capitalisme en longue période') the double definition of the value of labour-power: wages in 'free value' (= in money) were the necessary condition for modifying the norms of consumption necessitated by the rise in productivity. This idea was already present in Marx's *Wages, Price and Profit*. Duménil showed me the possibility of extending part of the first definition into the transformation problem: Foley's reflections were directly concerned with the value of money.
37. See Lipietz, 'Nouvelle solution au problème de la transformation', *Recherches Economiques de Louvain*, vol. 45, December 1979.
38. G. Duménil and D. Levy, 'Valeur et prix de production: Le cas des productions jointes', *Revue Economique* no. 1, January 1982.
39. Lipietz, 'Salaires rééls et gains de productivé dans la théorie marxiste: de la régulation concurentielle à la régulation monopoliste'; and R. Franke, 'A Note on the Falling Rate of Profit in the Presence of Constant Rate Share', duplicated paper, University of Bremen, 1983. According to Elster, this involves the 'invalidation of the second support'. This theorem rests upon unverified and economically unrealizable hypotheses. Lipietz, 'Derrière la crise: la tendance à la baisse du taux de profit', *Revue Economique* no. 2, March 1982.
40. A position confirmed by Sraffa to Benetti. See Benetti, op. cit.

41. See P. Maurisson, 'Systèmes d'évaluation normale des marchandises, rapport salarial, et révision des schémas marxistes de la transformation'.
42. S. Bowles and H. Gintis, 'Structure and Practice in the Labour Theory of Value', *Review of Radical Political Economics*, vol. 12 no. 4, 1981.
43. See especially B. Lautier and R. Tortajada, *Ecole, force de travail et salariat*, Grenoble 1978; C. Meillassoux, *Femmes, greniers et capitaux*, Paris 1975; and the critique by feminists.
44. H. Denis, *L' 'Economie' de Marx: Histoire d'un échec*, Paris 1980.
45. G. Facarello, 'L'échec de Marx: pour rouvrir un débat', *Cahiers d'Econonomie Politique* no. 8, 1982.
46. Sanon (*Développements mathématiques en économie marxiste*, thesis, 1983, University of Paris VII) has the same approach as Krause (*Money and Abstract Labour*, NLB, London 1982). The vector α can be incorporated into the tensor T. On the other hand, the Bowles and Gintis position, which calculates a *vector* of values on the basis of a vector of heterogeneous labours, which is all right at the level of the statistical determination of needs for manpower, is not acceptable as a theory of *the* value, a scalar quantity immanent in commodities.
47. The term used by E. Terray in 'Prolétaires, salariés, travailleurs productifs', *Contradictions* no. 2, 1972.
48. Marx himself implied otherwise (*Capital* Vol. One, p. 135), as P. Dognin points out in *Les 'sentiers escarpés' de Karl Marx*, Paris 1977.
49. See *La petite bourgeoisie en France*, Paris 1974, and *Pour une critique de l'économie politique du signe*, Paris 1979.
50. I shall only be looking at their position in the theoretical debate. In terms of empirical research, the numerous Marxist statisticians working at INSEE or with the Commissariat Général au Plan were quite confident that the problem is theoretically soluble and moved quietly over to measuring the value-equivalent of money by branch, surplus transfers in the equalization of rates of profit, etc. See Freyssinet et al., 'Les comptabilités sociales en temps de travail', *Economie et Statistique* No. 93, October 1977; and INSEE, *Fresque historique du système productif*, Paris 1974.
51. C. Deblock and J. Gislain provide a good basic synthesis of what I shall call 'hypercriticism'. See 'La monnaie et la force de travail, deux marchandises "particulières" ', *Interventions Economiques* 10, 1983.
52. Aglietta's development is typical here. His 1974 thesis devoted hundreds of pages to the economics of labour time within the productive process before pointing out that these were commodity-producing processes. Then in 1976 his *Theory of Capitalist Regulation* departed from the commodity character of the relation between productive units, and in the 1982 preface to the second edition he stressed the contradiction in this relation and assimilated regulation and socialization. Finally in his most recent work with A. Orléan (*La violence de la monnaie*, Paris 1982), he reduces value to a form of socialization.
53. This was a general tendency of the social philosophy fashionable in the late seventies in France. See the review *Libre*, and the work of Dumont (*Homo aequalis*, Paris 1977), Rosanvallon (*Le capitalisme utopique* Paris 1979), and others.
54. See B. Guibert, 'Les metamorphoses de la valeur', *La Liberté de l'Esprit* no. 3, May 1983, and 'Théorie naive des ensembles capitalistes', *Revue Economique* No. 3, 1985. These articles have not yet aroused the public discussion they deserve. But so far, despite its difficulty and because of its subtlety, originality and universality, Guibert's work has had a quiet but profound influence both in the realm of statistics and as an inspirer of 'hypercritical' research, of which he is nevertheless critical.

Schematically, Guibert establishes in the second of these articles an isomorphism between a group of metamorphoses of value-form and a group of transformations of the direct production process. From there it is possible to identify one of the forms of value whose necessity is demonstrated in the first article, to the abstract labour of wage-earners. Yet for all the rigour of the formal development of this argument, the semantic interpretation that leads to this spectacular conclusion is not obvious.
55. The reference is to the 1968 edition, in which Althusser's contribution is modified from the 1965 French edition. Rancière, one of the original co-authors, disavowed its re-publication in this form. [The English translation, *Reading Capital*, NLB, London 1970, follows the text of the 1968 edition. *Trs note.*]
56. Marx to Engels, 24 August 1867, *Selected Correspondence*, p. 180.
57. 'Preface to *Capital* Volume One', in *Lenin and Philosophy*, NLB, London 1971.
58. In what follows I draw on my own thinking in *Crise et Inflation*, which was greatly stimulated by Bettelheim's search for the same contradiction behind the 'even form'. In Marx's case, I think the decisive moment when the balance was tipped has to be located in the polemic against Bailey in the third part of *Theories of Surplus-Value*. But there are two earlier expositions of the 'problem' and its solution in the *Grundrisse*. The first, which is close to the position taken up in the *Contribution*, is rejected by Marx as 'idealist' — this is the one endorsed by Denis! The other looks forward to the solution reached in *Capital*.
59. In the (incomplete) break between the *Contribution* and *Capital* insufficient attention has been paid to Marx's turn away from Hegel to Aristotle; a number of blunders in the critique of substantialism might otherwise have been avoided. The one passage in Chapter One of *Capital* where Marx quotes Aristotle is always read from a purely economic angle. But Marx states that he is using Aristotle as the 'great investigator' of form (p. 151). And he introduces him at the very point (the definition of equivalent form) where he has just cut out of the first edition of *Capital* one of the passages in which he implies that the 'substance' of value can be obtained by simple abstraction, the negation of the concrete nature of labour, which thus acquires an essential, conceptual existence, and a phenomenal existence in money ('as if "the animal" existed alongside animals'). Despite Dognin's alert and perceptive erudition (op. cit.), he fails to notice that this 'Third Man' argument is precisely the one Aristotle uses in the *Metaphysics* against the Platonic idea that 'universals' are 'substances' (in this case, abstract labour). Substance, for Aristotle, was informed matter: 'The form, by reason of which the matter is some definite thing' (*Metaphysica*, trans. W.D. Ross, Oxford, 1908, 1041b). And Aristotle gives the example of the syllabic substance whose matter is letters. That goes for 'sensible' things (H 1), for mathematical substances are pure forms (Marx describes value as 'sensible (or sensuous) supra-sensible substance' because it has a matter, but is not material). As *Capital* went from edition to edition, the Hegelian pairing of substance and form — in fact, essence and phenomenon — was gradually, although never completely, removed from the definitions of value, and Aristotelian 'matter' (labour) sometimes defined as the 'content of determinations', but still too often as 'substance', even'congealed', as opposite of form. Finally, the formal substance has 'expressions' (exchange-value, price, etc) of which it is the 'content'. This last pairing takes us into semiotics, a topic I shall be returning to later. As Colliot-Thélène says ('Dialectique et théorie économique', *Cahiers d' Economie Politique* No. 8, 1982), what we have here is a 'double relation of representation' (labour → value → exchange value) but 'these two representations are not both in the same boat'. In fact value

is not simply a 'representation' of labour.

In his concern to stress the materiality of matter, Marx tended to go on at some length about the physiology of labour, the expenditure of human brains and muscles. Hence the tempting and too often justifiable reading which sees in labour a substance (in the hydraulic sense of the term) given form (in the sense of 'phenomenon') by commodity relations. This is the tendency towards 'naturalization of content and phenomenalization of social form' criticized by György Márkus (*Langage et production*, Paris 1982, p. 123): and a reading which Marx and Engels, in a letter to Kautsky cited by Bettelheim, criticize in passing but which they leave themselves open to. Marx's metaphors are an indication of his development: in the *Contribution* value substance is compared to mass, in *Capital* Chapter 1 to weight (a relation between masses, an attractive force in Chapter 3); and in *TSV* III substance is the metric space which defines the distance between points (therefore what we would call a Euclidean form).

60. 'Human labour forms value' (Capital, I, p. 137) but is not itself value, any more than the chemical elements in the air are the air's 'physical configuration' (p. 167). One might suggest a more convincing example: for statistical mechanics the 'matter' of temperature is the kinetic energy of molecules, and temperature is the form of the mean. But at any given point there is only the particular energy of one molecule (or as Marx would say the particular time of one concrete labour) and that is not the temperature.

61. Aristotle's distinction, to which I shall give a semiotic interpretation.

62. The concept of validation plays a fundamental part in regulation, being distinguished from the 'sixties' conception of reproduction.

63. From a qualitative point of view, all this is set out in Chapter 3, but the quantitative overdetermination of value by social need, the 'market value' (= average of individual values weighted by realized market shares), is not defined until Vol. Three, Chapter 10.

64. *Capital* Vol. One, pp. 164-66. Emphases added.

65. In R. Hausmann and A. Lipietz, *Exoteric versus Esoteric*, CEPREMAP paper no. 8021, and in the main body of this book, I have tried to sketch out this reconstruction using the fruitful suggestions in Marx's work and modern regulation theory.

66. *Capital* Vol. One, p. 169.

67. As de Brunhoff feared, it therefore moved from a critique of 'value of labour-power' alone, to a critique of the labour theory of value. (See S. de Brunhoff, 'Valeur et force de travail, salaire et intervention de l'Etat', in the collective work *Réexamen de la théorie du salariat*, Lyons 1981.) At the same time it restored credit for this theory to Ricardo, having some years earlier made it the prerogative of Marx.

68. J. Baudrillard, *Pour une critique de l'économic politique du signe*, Paris 1972.

69. Paris 1973.

70. *Valeur, monnaie et capital*, thesis, 1973, University of Paris I.

71. According to Fradin, since the aggregate of phsyical products has at most the dimension of the *numerable*, it cannot be actually 'measured' by a real number (power of the continuum)! On this point see Guibert's critique in 'Les ravages logiques', *Critiques de l'Economie Politique* no. 13, October 1980.

72. See, for example, H. Lefebvre, *Introduction à la modernité*, Paris 1962.

73. See Guibert's thesis, *Genèse et image de la division de la production*, 1976, University of Paris I; and F. Eymard and F. Thévenot, 'Les investissements de forme: leurs usages pour la main d'oeuvre', INSEE paper, Paris 1983.

74. See A. Granou, *Capitalisme et mode de vie*, Paris 1972; and M. Aglietta, *A Theory of Capitalist Regulation*, op. cit.

75. G. Deleplace, *Théories du capitalisme*, Paris 1981; C. Benetti and J. Cartelier, *Marchands, salariat et capitalistes*, Paris 1980.

76. Is this due to innocence? In his reply to Guibert, Fradin, handling philosophy with as much competence (still in the Lacanian sense) as mathematics, proclaimed his hatred of 'the belief in humanity, in the inter-subjective social, and in a basic foundation' and his rejection of European rationalism, thus revealing the close relation between his evolution and that of the 'Nouveaux Philosophes'. See *Critiques de l'Economie Politique* No. 15/16, April 1981.

77. J.-J. Goux, *Economie et symbolique*, Paris 1973.

78. *La violence de la monnaie*, Paris 1982.

79. Rejecting 'the absurd hypothesis adopted by the original representatives of this view that commodities enter into the process of circulation without a price, and money enters without a value' (p. 220) ie the quantitative theory of money, Marx aligns himself a century in advance with the theorists of 'fixed price disequilibrium', or father, prices fixed by external connections. But he never imagined that the fixity would one day be strong enough to give money its value.

80. H. Denis, *L' 'Economie' de Marx: histoire d'un échec*, Paris 1980.

81. H. Denis, 'Hegel et la réformation de la science économique', *Cahiers d'Economie Politiqe* No. 8, 1982.

82. Like Dognin, Denis rightly stresses this rather forgotten quasi-nominalism of Marx's. See Lipietz, 'L'Impérialisme ou la Bête de l'Apocalypse', *Les Temps Modernes*, October 1983.

83. See *Capital* Vol. Two p. 106.

84. For an explanation of this weaving metaphor, see Lipietz *Crise et inflation: pourquoi?*

85. Contrary to what Benetti and Cartelier believe [1980], the 'warp-woof dualism' enables value to be posed as the sum of added value and the value of constant capital, synchonically measured.

86. Unfortunately including the arithmological illusions of the Pythagoreans, criticized by Aristotle in his *Metaphysics*, N S-6.

87. 'And that no man might buy or sell, save that he had the mark, or the name of the beast, or the number of his name' (see *Capital*, Vol. One, p. 181).

88. *On a New List of Categories*, London 1867.

89. Conversely, linguistics since Saussure borrows the notion of 'value' from the commodity economy, and semiotics (in Kristeva's work) subsumes exchange and labour under 'communication' and 'production of meaning'.

90. See R. Marty, 'Champs d'interpretants', University of Perpignan, 1982.

91. A more detailed analysis of the Peircian conception of the sign, with its distinction between dynamic object, immediate object and foundation (U. Eco, 'Peirce et la semantique contemporaine', *Langage* No. 56, June 1980), would I am sure cast light on the amazing intuitions of Marx according to which 'the private producer's brain reflect this twofold social character of his labour only in the forms which appear in practical intercourse, in the exchange of products'. In the same way 'the impression made by a thing on the optic nerve is perceived not as a subjective excitation of that nerve but as the objective form of a thing outside the eye.' (Vol. One, p. 165). (He quickly explains that there is, in fact, an external object.)

92. See L. Hjelmslev, *Prolegomena to a Theory of Language*, Madison 1961; O. Ducrot and T. Todorov, *Dictionnaire encyclopédique des sciences du langage*, Paris 1972; and A. Hénault, *Les enjeux de la sémiotique*, Paris 1979.

93. N. Chomsky, *Aspects of the Theory of Syntax*, Cambridge, Mass. 1965.

94. An example quoted by Ducrot and Todorov is: 'I shan't be the first Prime Minister to lose a war.'
95. N. Chomsky, *Dialogues avec Mitsou Ronat*, Paris 1977.
96. Marx uses the term 'revolution' to refer to the evolution of value in the temporality of technological change (this is the equivalent of 'diachrony' in linguistics), and gives the name 'metamorphosis' to the transition from one form of value to another (equivalent to the 'transformations' in the semiotics of Greimas).
97. A. J. Greimas, *Introduction à l'analyse du discours en sciences sociales*, Paris 1979.
98. A 'contradictio in adjecto' of value which is both relative and intrinsic, the paradox of a value in process which grows by respecting equivalence in exchange ('Hic Rhodus, hic salta!').
99. Henault, *Les enjeux de la sémiotique*, op. cit.
100. A. J. Greimas and J. Courtes, *Sémiotique. Dictionnaire raisonné de la théorie du langage*, Paris 1979, p. 301.
101. A. Henault, *Narratologie, sémiotique générale*, Paris 1983.
102. A. Lagopoulos, 'Semiotics and History: A Marxist Approach', communication to the Semiotics and History conference, Bloomington, Indiana, June 1983.

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