Michael Eldred & Mike Roth

Guide to Marx's Capital

Thirty years ago (2008) [*]

It was thirty years ago that the Australian, Neil Horne, a graduate of the Department of General Philosophy at the University of Sydney urban-squatting in London, decorated the cover of our just-finished book, Guide to Marx’s ‘Capital’ CSE Books, Mount Pleasant / London, with a human skeleton leaning on a cabinet and reading the three volumes of Capital.

The digitized edition now being made available online is an emendated version of the original, without any revisions to the content on the basis of later work. We are also publishing the 1978 Preface here once again. In 1976, Neil Horne and Michael Eldred were advanced students when, as visiting lecturer, I had the opportunity to present in the General Philosophy Department, and in the world language, a systematic reconstruction of the argumentation in Capital which had been developed since 1970 at the newly established University of Constance in Germany. Michael Eldred made this text out of my 'broken English' which, apart from the German teaching experiences, incorporated also the fresh Australian experiences in Capital Reading Groups. Besides the compact argumentation in a continuous text, in an appendix there is a collection of 145 learning cards for setting up a handy index of terms; it is uncontroversial that repeating what has been read is helpful for consolidating the learning of conceptual interconnections.

Because we formulated the skeleton of the systematic argumentation of the capital-analysis on roughly 30 pages, we added around 15 pages of notes on the contents of the several hundreds of pages of Marx's text and his sometimes vacillating conceptual structure.

My article, ‘With Marx against Marx? Habermas and Historical Materialism’, appeared in 1981 in the third number of the Australian journal, Thesis Eleven: Reassessing Western Marxism. We add this article to the online version as a third appendix, in addition to the two appendices in the printed version, 'Family in Capital' and 'Science in Capital'. [*]

See also Michael Eldred and Marnie Hanlon 'Reconstructing Value-form Analysis' in Capital & Class No. 13 London 1981 pp. 24 60,


and [http://www.wertformanalyse.de](http://www.wertformanalyse.de) (German)

We invite discussion at [http://www.MARX101.blogspot.com](http://www.MARX101.blogspot.com)

Karl Marx died in exile in London on 14 March 1883 - 125 years ago.

Mike Roth, Spring 2008

**Footnotes**

[*] Translated from the German by Michael Eldred, artefact text & translation, Cologne


**Preface (1978)**

We have been helped by many friends and comrades in getting this book to the public. We especially want to acknowledge the encouragement and help of Jan Bruck, Jean Curthoys, Penelope Cutner, Jayne Eldred, Ivan Glaser, Marnie Hanlon (thank you!), Lucia Kleiber, Grit Roth, Barbara Roxon, Herbert Rünzi, Wal Suchting, Neil Horne and Mark Jones for the CSE Books Committee organised the final steps of production.

The Guide is the product of ongoing research and discussions in the Konstanz State analysis group and the Sydney Capital group, and exchange between the two.

Michael Eldred and Mike Roth

**Introduction**
Marx's *Capital* and Marxism today

After a period of stimulated activity in Marxist theory, triggered off by the movement towards de-Stalinisation of the fifties, which reached its height towards the end of the sixties along with the Student Movement, May '68 in France, the anti-Vietnam War Movement, marxist theory is again entering a period in which many parts of Marxism are coming under attack. Paris, which serves as some kind of barometer of fashionability in the intellectual world, has already moved into full gear against the Althusserian marxism, which was the delight of left-wing intellectuals the world over during the sixties and the early part of the seventies. Again, Marxism is being pronounced dead or at least inadequate to the tasks of understanding the modern world and is being shunned by those who are concerned with areas that are not encompassed by orthodox marxism.

The response of German Marxist intellectuals in the de-Stalinisation era has been somewhat different from the French. With the bitter historical experience of a failed revolution, Fascism and the taking over of East Germany by a party bureaucracy, West German intellectuals have been much more radical in their reappraisal of Marx's theory and have turned to systematically re-evaluating the roots of marxism - *Capital*. Stimulated by the work of Hans Georg Backhaus (1965), Hans-Jürgen Krahl (1965), Helmut Reichelt (1970), Alfred Schmidt (1962, 1969) and the publication of Roman Rosdolsky's book (1968) together with the political conjuncture of the 'students movement' - a reconstruction of *Capital* has been worked on, under the banner of value-form analysis (Wertformanalyse). The long term aim of this work has been to continue the project begun by Marx with *Capital*, with a theory of the bourgeois state, as Marx had initially planned. *Capital* has been treated as a raw material to be worked over in the attempt to give an adequate account of capitalist economy. Following Marx, this comes down to an analysis of the forms and movement of objectified social labour – value-form analysis.

An analysis of capitalist economy, however, is only part of the task of coming to grips with bourgeois society. The realm of state, which is envisaged as the object of the subsequent theory based on *Capital*, is used in a broad and narrow sense. In its broad sense, state is the realm of bourgeois life outside economic activity. In its narrow sense, state is the sphere of bourgeois society which secures the maintenance of the bourgeois form of life. Hence the state is functional in securing both the conditions of reproduction of the economic and the preservation of the individualised form of life of the members of society. The former function is realised not only in the forms of legality and ethics but also by direct intervention by the state in the economy. The latter function is largely that of realising and preserving the rights of individual freedom and equality that have been historically established during the rise of bourgeois society. The claims of current-day social movements are claims in terms of bourgeois rights and have their force by virtue of the material palpability of bourgeois rights in our institutions and everyday language. Of course, saying that the state is functional in securing the reproduction of bourgeois life does not preclude it becoming dysfunctional nor does it mean that contradictions do not arise between the state and its citizens or between the economy and bourgeois rights.

The aim of current German theoretical work is to gain a systematic understanding of bourgeois society as a functioning but contradictory totality and to achieve this many
formulations and areas of orthodox marxism must be brought into question and
discarded. The blind spot of orthodox marxism with respect to the specific oppression
of women, in particular, raises difficult questions of the interrelationship between forms
of bourgeois subjectivity and forms of bourgeois rights. At this stage of a relatively
young research programme, important advances have been made in the reconstruction
of Capital, while the questions posed by state-analysis remain wide open.

Because of the felt lack of existing marxist theory, a current intellectual tendency has
been to either reject marxism entirely or to admit only its claims to an economic
analysis, while at the same time rejecting that marxism in any shape has relevance for
the tasks of understanding other spheres of bourgeois life. We think that there is a
three-fold error in these rejections. Firstly, neither the economic forms of life of
bourgeois society nor a theoretical understanding of them can be ignored by any
attempt to come to grips with social contradictions either theoretically or politically. No
one can deny that production under the conditions of capital is a major part of our
society which pervades every sphere of life in multifarious ways. The reproduction of
the economic is a conditio sine qua non of the survival of our form of life and whole
institutions are devoted to securing this reproduction. Secondly, a clear understanding
of the method that Marx used in Capital for presenting a theory of the mode of
production has important lessons for the attempt to understand systematically other
spheres. In a following section we give our ideas on a dialectical reading of Capital and
in so doing we hope that the relevance of these methodological considerations to
critical social theory will be recognised and debated. We do not claim that our views on
dialectical theory as it applies to reading Capital are transferable directly to theory of
state but we do argue that dialectical thinking has enormous relevance for avoiding
dogmatic and superficial disconnected theorising.

Thirdly, theorising that starts from one aspect of society in an attempt to deal with
particular lacunae in existing marxist theory is in danger of either overgeneralising
itself to give a total view of society or of remaining a disconnected, abstract analysis of
the part which cannot be linked with the whole. Bourgeois society is a total, functioning
organism that enmeshes all individuals in a system of universal institutions and
practices. The critical understanding as well as the practical critique of bourgeois
society demands a regard for the systematic interlocking of the spheres of bourgeois
life and an overcoming of the pluralism of bourgeois theories, in which individual
theories stand unrelated side by side.

**Reading Capital as a Politicising Activity**

Even though there has been widespread interest in marxist theory the special
significance of Marx's Capital amongst the enormously wide gamut of marxist fields of
study has tended to be overlooked. Marxist intellectuals have unwittingly reproduced
bourgeois pluralism within marxism itself by not paying enough attention to the
relation between Marx's main work and the rest of marxist theory. Compounded with
this there has been a disregard for the relation between the capital-analysis and radical
politics. Radical movements have not progressed much beyond Lenin's view of
revolutionary theory having to be brought to the revolutionary movement from outside
by means of the party. Our view is strongly opposed to Lenin's in that we agree with
Marx's statement:
"Theory will be realised in a people only in so far as it is the realisation of their needs."

The Critique of Political Economy only becomes a practical critique of capitalist economy when large numbers of people use the theoretical critique as a guide for doing away with capitalist economy. For this, the theory has to have a presentation and a presence in everyday life which relates the categories of the analysis practically to the lives of people seeking a way beyond capitalism. This cannot be done by a party which does not clearly understand the dialectical nature of Capital, which prescribes the forms of political activity on the basis of a marxist canon and which regards the masses as incapable of or disinterested in a theoretical critique of everyday life.

Our view is that Capital can become a material force by being read in groups of radicals that take the trouble to follow through Marx's argument and see how far it goes to explain the chaos of everyday conceptions of economic life, a chaos which cannot possibly be given any coherent order by thinking that starts from given obviousnesses. A Capital-reading group is engaged in a dialectic (in the sense of argument) with the text of Capital and in this dialectic, problems with understanding the argument will be resolved, objections to the argument formulated, experiences in struggles connected to parts of the text, mistakes fixed up and Marx's presentation simplified, historical illustrations in Capital replaced with illustrations from the present and beliefs and views that are a hindrance to understanding capitalist economy disposed of.

People are only drawn into a Capital-reading group when Capital is in the cultural environment and when their world-view is sufficiently shaken to provoke interest in a radical theoretical critique of existing circumstances. We think that the process of talking through Capital in a group with comrades engenders a critical view of capitalist economy which is sure of its foundations. Hence it is able to argue systematically with everyday knowledge and is not easily led by dogmatic forms of thinking and politics. Just as Capital is no monologue that pronounces the truth about the capitalist mode of production, reading this book cannot replace active participation in a dialectic but only give pointers on a dialectical reading and discuss central objections that have arisen in our own reading and talking about Capital.

**Dialectical Reading of Capital**

In this section we give an outline of a view of the materialist dialectic as the analytical method that Marx used in constructing Capital. The term 'materialist dialectic' has been thrown around very loosely by marxists who want to specify the unique nature of not only Marx's theoretical undertaking but also of 'marxist analyses' generally. What this generally boils down to is talk about contradictions and unities of opposites which either remains at a very mundane general level or merely repeats Hegelian formulations. For us, the dialectic is closely associated with the cultural practice of coming to understand the nature of capitalist society and therefore is linked to our ideas on Capital reading groups. Marx's distinction between the process of inquiry and process of presentation is relevant here. The process of inquiry is the stage of trying to find a successful presentation of the argument and leads into innumerable areas of research and failed attempts. The presentation, however, is written for an audience and is only viable as long as it finds a place in an intellectual culture. The process of presentation is the attempt to work through the argument, raising and resolving
objections along the way. With these remarks on dialectic as a process of argument, we turn to the nature of dialectical theory.\textsuperscript{[11]}

(a) Dialectical Thinking and Everyday Knowledge

Dialectical thinking cannot be understood without a clear idea of the object of this thinking. Thinking is always about something and the object of dialectical thinking is bourgeois society itself. But bourgeois society does not merely exist as an inarticulate object; it lives and its form of articulation is the everyday language which people use in day-to-day life. Dialectical thinking thinks about this everyday language in a particular way and the starting point and base for \textit{Capital} is to be found in everyday language itself. But not every articulation of everyday language is relevant to dialectical thinking; dialectical thinking focuses on those articulations which express knowledge about bourgeois society in general, the character of these articulations as knowledge being based on their adequacy to practically living in our society. Dialectical thinking, therefore, has a positive attitude to everyday knowledge even though in the course of the dialectic the character of everyday knowledge is shown to be limited and mystifying.

(b) Systematic Order

Dialectical thinking is very different from ordinary reasoning. The latter, whilst being based on everyday knowledge, focuses on only a small partial constellation of everyday knowledge and does not attempt to link up or resolve the contradictions between various instances of reasoning. This limited character of reasoning amounts to an inability to relate one part to another and thereby grasp the total organism of bourgeois society in thought.

Dialectical thinking, on the other hand, overcomes this limitation (finite-ness) of ordinary reasoning by making the claim of determining the sequence in which the elements of everyday knowledge can be brought into play. This does not mean that dialectical thinking seeks to deny elements of everyday knowledge, but rather it asserts the claim to determine the place where they can be introduced into the argument. The presentation thereby opens itself to being tested by everyday knowledge and in the course of the dialectic the totality of everyday knowledge comes to be asserted. This claim means nothing other than introducing a systematic order into the dialectic between the presentation and everyday knowledge.

How does the presentation achieve the systematic ordering of everyday knowledge in the process of the dialectic? The dialectic can pick up an element of knowledge and temporarily exclude others by means of \textit{assumptions of presentation}, i.e. assumptions are made at certain points in the presentation which recognise an aspect of bourgeois society under simplifying conditions. For example, at the beginning of \textit{Capital}, the everyday knowledge that the form that wealth takes in our society is the commodity form is admitted, while at the same time excluding those commodities, such as land, which are not the product of labour. The everyday knowledge excluded at a particular point in the presentation is admitted later on through the \textit{relaxation} of the assumption of presentation. With regard to the example, the exclusion of land as a commodity from the presentation is relaxed in Part VI of Volume III where ground-rent is systematically taken into account.
(c) Transformation of the Articulation of Elements of Everyday Knowledge

In its natural forms, everyday knowledge has many articulations including a high degree of particularity of articulation and very ideological forms of expression such as belief. The presentation cannot come into relation with everyday knowledge that remains in a highly particular form or which is wrapped thickly in an ideological cocoon. For example, 'I got a new job yesterday' is a highly particular expression of the everyday knowledge that labour-power is a commodity. An example of ideological wrapping is 'Bosses really work hard for their profits' which expresses the knowledge that it appears that capitalists by their own activity create profits for themselves.

The need for dialectical thinking to extract the general element of everyday knowledge from a highly particular expression, related to uniqueness of the individual's situation or the contingency of a moment in the history of bourgeois society, means that the presentation does not and cannot come to grips with every peculiarity in the phenomena of bourgeois society; nor can it capture the particularities of its historical movement. The presentation is relevant to the historical period of the bourgeois epoch and the price it pays for the power to analyse the character of numerous societies in a vast epoch is the lack of fine grain detail in the picture. This restriction on the detail of the analysis is by no means a limitation for a critical social theory which sees the historical task as the overcoming of bourgeois society and whose broad vision therefore does not struggle to coherently systematise the details in themselves. Dialectical thinking does aim to finally achieve the reproduction in thought of a totality, but this totality is that of bourgeois society in general as it exists in the bourgeois epoch. At the present time the capital-analysis represents a reproduction in thought of only a certain sphere of bourgeois society, and even there from the viewpoint of the movement of things rather than the human side.

A second way in which a transformation of articulation comes about is through the progress of the dialectic. The presentation develops certain categories of analysis in the course of the dialectic, and in order for everyday knowledge to continue its dialectic with the presentation, it must transform its articulations into terms that can be understood by the presentation. A special language is used by the presentation to articulate its categories and the progress of the dialectic leads simultaneously to an extension of the categories of the presentation and a delimitation of the way everyday knowledge can express itself to the presentation.

(d) The Development, Aim and Conclusion of the Dialectic

The dialectic develops in a to-and-fro between the presentation and everyday knowledge through which the content of everyday knowledge is systematically taken account of and categories developed. This means that concepts introduced at one stage of the analysis are often altered when new elements are taken into account. For example, the concept 'commodity' which initially means industrial commodities that are the product of labour is extended to cover labour-power in Volume I, Chapter 6.

The aim of the dialectic is to systematically treat the objections raised by everyday knowledge to the latter's satisfaction. The elements of everyday knowledge which are picked up in the early part of the analysis (roughly, Chapters 1-6 of Volume I) are the
basis of the essential part of the presentation. 'Essential' here means that the presentation first constructs what it will show to be an essence of capitalist economy (surplus-value production) in the unfolding of the dialectic. The attitude of the presentation to these essential elements is thoroughly positive in that it does not attempt to show that these elements are mystificatory (although they can be mystified in everyday life). On the other hand, the elements picked up in later parts of the presentation, especially Volume III where the surface-forms of bourgeois society are dealt with, are shown to be imaginary or appearances in relation to this essence. This does not mean that these imaginary appearances (e.g. profit, rent, interest) are not real or are mere illusions of consciousness. On the contrary, these appearances are elements of everyday knowledge and are completely adequate to practical life. It is only in relation to the essence that elements become appearances.

The dialectic has successfully reached its conclusion where everyday knowledge has recognised its imaginary character and its origins in essential social relations. At the conclusion, everyday knowledge continues to exist in its 'natural' form, but in relation to the presentation admits its historically specific and inessential character.

For the presentation of *Capital*, an important qualification pertains as to the completeness of the dialectic. Certain objections from everyday knowledge are not taken into account by the presentation because they relate to the spheres of bourgeois life outside economic life, principally family life and state activity. The ultimate coming to rest of the dialectic is dependent on the eventual successful completion of the critical theory of bourgeois society.

We assume that those interested in entering the dialectic with *Capital* are interested in a radical critique of the existing state of affairs. Even though the presentation has an objective character residing in everyday knowledge it is unlikely that this objectivity can be demonstrated to someone hostile to critical theory. Not only is such a person unwilling to bother about the long process of the dialectic but, even within the dialectic, the arguments over valid everyday knowledge would be very fierce. Furthermore, the successful completion of the dialectic does not hold a consolation for radicals who are not content to merely have insight into the irrationality of bourgeois society. On the contrary, all signs of upheaval are received not simply as annoying inconveniences and unreason, but as indications of a practical movement that can achieve what theoretical critique cannot.

**Structure of the Book**

There are several parts to the book:

1) Five papers covering the three volumes of *Capital*.

2) Remarks on *Capital*.

3) Appendices.

4) A Systematic Glossary.

5) Index to the Systematic Glossary
1) The Five papers

There are two papers on Capital Volume 1, one on Capital Volume 2 and two on Capital Volume 3. Each paper is quite short and attempts to cover the systematic argument in the corresponding part of the text. Only the barest outline of the steps of the argument are given so that each paper is very dense. We advise that each paper be read several times, both before and after reading Capital and in conjunction with using the Systematic Glossary to clarify certain points in the argument and to lead into particular parts of the Capital text.

The papers give the systematic argument which results in the construction in theory of the forms of existence of social labour and the corresponding consciousness in which bourgeois people live their everyday economic life. By bourgeois people we mean everyone who lives in bourgeois society and not just the capitalists. Since we have been concerned to develop the main argument of Capital the papers do not go into specific questions concerning money, credit and crisis. It is an open question to what extent the passages in Capital which refer to these topics belong to the general theory of Capital or are anticipations of special investigations.

Paper 1 deals with the introductory part of the analysis where the central concept of value is developed along with its modes of expression in exchange-value and in money. With these concepts developed, capital can be conceived as value making more value and the paper ends by posing the puzzle of the origin of surplus-value.

Paper 2 analyses the immediate process of capitalist production and covers the solution of the surplus-value riddle, absolute and relative surplus-value production (including co-operation, division of labour and application of machinery).

Paper 3 covers the whole of Capital Volume 2, treating the topics: the circuits of capital, time of circulation, costs of circulation, division of capital, turnover, fixed and circulating capital and reproduction of social capital.

Paper 4 deals with most of Capital Volume 3, treating the conversion of surplus-value into average profit, (including the analysis of commercial profit) and subsequently the forms of appearance of surplus-value: profit of enterprise, interest and rent. There are also remarks on the tendency of the rate of profit to fall.

Paper 5 is concerned with material that has been touched on in the last part of Capital Volume 3 and focuses on the surface forms of everyday economic life in capitalist society: the wage forms and the revenue forms of new value. There are some concluding remarks on bourgeois consciousness and class consciousness.

At the end of each paper there are comments on passages in Capital and remarks on what has been left out in the sketch contained in the papers.

2) The Remarks on Capital
Following each paper we offer comments on the corresponding part of *Capital*, in which we attempt to explain briefly the material in each of the chapters and its relevance to the systematic argument. We have not treated all parts of *Capital* nor even all aspects of the systematic argument. We maintain that large sections of *Capital* are devoted to historical illustration that is not integral to the presentation. The place of historical material will be taken by more modern events which the readers engaged in a dialectic will bring into relation with the systematic categories.

3) Appendices

Family in *Capital*.

Science in *Capital*.

4) The Systematic Glossary

The text of the papers contain references to the entries in the systematic glossary e.g. (SG 12) coming after 'expanded expression of value' in the text refers the reader to glossary entry twelve on the expanded expression of value. A major aim of the systematic glossary is to make explicit the levels of analysis in the presentation so that it becomes clear which assumptions of presentation are in effect at each point and when they are relaxed. The entries explain the concepts of the text and give reference to the *Capital* text where the concepts are first defined. Because the concepts are introduced under assumptions of presentation which are relaxed at a later stage of the analysis, sometimes there is more than one entry for the same concept, the concept having moved or expanded at a new level of analysis. The ordering of the entries just as the order in which concepts appear in the text, is quite strict and pains have been taken to explain the concepts in a strict order where only previously defined concepts are used to explicate a given concept. In this context, the cross-references to other entries enable the reader to acquaint themself with all the concepts pertinent at a given level of analysis. In certain entries, where our view on the presentation differs from the presentation in *Capital* we point these out, explaining our view on the entry itself and referring the reader to *Capital* for a comparison. For the most part our objections arise from making the assumptions of presentation explicit which throws into relief a step in the analysis that Marx has not made clear.

5) Index to the Systematic Glossary

To enable the reader to look up a specific concept we have provided an alphabetical index of the terms in the systematic glossary that gives the reference to the glossary which besides explaining the term, gives a reference to *Capital*.

Footnotes


Schmidt (ed.), 1969, 'Beiträge zur marxistischen Erkenntnistheorie', Frankfurt, Suhrkamp Verlag

………… 1971² 'Der Begriff der Natur in der Lehre von Marx', Frankfurt, Europäische Verlagsanstalt


Paper 1

Introduction to the Analysis of the Capitalist Mode of Production

The Analysis of Commodities and Money

We suggest that you make a list of all the things that you used today. Which of them are produced by yourself? Which of them had to be bought as commodities?

What impact would it have on everyday life (ours and that of people around us) if one had to renounce those products of labour that are available only as commodities (SG 1)?

We assume that the "Analysis of Commodities and Money" is followed only by people in whose life commodities play an indispensable role. These people - i.e. we - experience a twofold relationship to commodities in everyday life: we satisfy wants with these products of labour and since they are commodities we are forced to buy them before we can use them.

In the process of inquiry Marx came to see that the connection between commodities, money and productive activity (SG 2) can only be demonstrated if the systematic presentation starts from the exchange relation (SG3) of industrial commodities, and if the mediation by money is neglected in the first part of the analysis. To begin with, it is a fact commonly known in our everyday life that commodities (as mediated by selling and buying) are in a relation of exchange to one another:
X commodity A is exchanged for y commodity B (where commodity A is any industrial commodity and commodity B is another one. 'x' and 'y' count units - litres, tons, pieces, etc. - of the sorts of commodities A and B). x commodity A is in an exchange relation not only with one other commodity but with all other commodities:

\[
y_1 \text{ commodity } B_1 \\
\text{ or } \\
y_2 \text{ commodity } B_2 \\
\text{ or } \\
y_n \text{ commodity } B_n
\]

x commodity A is exchanged for:

x commodity A does not only have one, but many "exchange-values" (SG4): y_1 commodity B_1, y_2 commodity B_2, ... , y_n commodity B_n. These exchange-values differ (otherwise it wouldn't be many, but only one). Yet in exchange relation their differences do not count. All the various commodities count as the same when they function as one of the exchange-values of x commodity A.

We find in the exchange relation of commodities what could be called a "factual reduction". For y_1 commodity B_1, y_2 commodity B_2, ... y_n commodity B_n, are products of different kinds of ("concrete") labour (SG 5) and they are products of different private labours (SG 6), but nevertheless (definite quantities of) these different commodities express equally well what x commodity A "is worth". If we call "value" that which different exchange-values have in common, our next task is to state explicitly the determination of value.

For this purpose we have to articulate the reduction, which in fact takes place in the practice of commodity exchange in our society. The question is not whether labour determines the value of commodities, the question is rather; what is the specific character of that labour, which determines value?

In the exchange-relation "one use-value is just as good as another, provided only it be present in sufficient quantity" (CI 45). Therefore the concrete type of labour is indifferent with respect to creating value (SG 8) Labour in this indifference can be characterised as "abstract labour". Moreover different exchange-values are not only different use-values (SG 9) but frequently are "products of the activity of different individuals" and again in the exchange-relation the individuality of the labour is indifferent with respect to creating value. Labour in this indifference towards the individuality of the labourer can be characterised as "general labour".

The human activity that results in industrial commodities has hereby been analysed as "abstract general labour" (SG 7), social labour as "abstract general labour" (SG 7), social labour of a determinate form. In contrast to the various "forms of appearance" this may be called the "substance of value" (SG 10).
In the exchange relation each of the commodities x commodity A, y₁ commodity B₁, y₂ commodity B₂, … yₙ commodity Bₙ has a natural form (as a certain use-value) and a value-form (SG 11) within the exchange-relation.

We will now make an attempt to understand money on the basis of a closer analysis of the value-form of commodities. The exchange relation we have dealt with up to now can be grasped as an "expanded expression of value" (SG 12).

Herein x commodity A is in the position of "relative value form" (SG 13) with respect to y₁ commodity B₁, y₂ commodity B₂, … yₙ commodity Bₙ which on their side are in the position of "equivalent value-form" (SG 14). Let us now switch the perspective.

From the point of view of the commodities y₁ commodity B₁, y₂ commodity B₂, … yₙ commodity Bₙ, there exists a 'general expression of value' (SG 15);

Herein x commodity A is in the position of "relative value form" (SG 13) with respect to y₁ commodity B₁, y₂ commodity B₂, … yₙ commodity Bₙ which on their side are in the position of "equivalent value-form" (SG 14). Let us now switch the perspective.

From the point of view of the commodities y₁ commodity B₁, y₂ commodity B₂, … yₙ commodity Bₙ, there exists a 'general expression of value' (SG 15);

In this expression of value x commodity A is in the position of "equivalent form of value" to all commodities (itself excluded) and is therefore the general equivalent form of value (SG 16). All other commodities express their value relative to that equivalent-commodity.

The stable privilege of a particular commodity to serve as equivalent for all other commodities makes that particular commodity the "money-form of value".

From now on we can distinguish between the commodity-form and the money-form of value (SG 17). In the commodity-form value is fixed to the position of relative form of value, and correspondingly in the money-form value within the expression of value. Commodities are not directly exchanged for one another but each of them is exchanged for money (SG 18).
Phase 1

\[ y_1 \text{ commodity } B_1 \]
\[ y_2 \text{ commodity } B_2 \]
\[ \ldots \]
\[ y_m \text{ commodity } B_m \quad \text{— x money} \]
\[ \ldots \]
\[ y_n \text{ commodity } B_n \]

Phase 2

\[ y_1 \text{ commodity } B_1 \]
\[ y_2 \text{ commodity } B_2 \]
\[ \ldots \]
\[ y_m \text{ commodity } B_m \]
\[ \ldots \]
\[ y_n \text{ commodity } B_n \quad \text{— x money} \]

X money serves as "means of circulation" (SG 19) in the (thus mediated) exchange of
Y_m commodity B_m for y_n commodity B_n. This exchange process has the structure:

Commodity - Money - Commodity (abbreviated: C - M - C) and consists of the two
phases C_1 - M and M - C_2 looked at as a whole, though from the point of view of the
commodities there are only isolated acts of selling.

We can call C - M - C (or more explicitly: C_1 - M/M - C_2) a "form of circulation" of
value. Another form of circulation of value can easily be constructed by putting
together the elements the other way around: M - C_2/C_1 - M, or for short: M - C - M.
There are different commodities, but there is just one money. The only difference
between money and money can be a quantitative one. As C - M - C only makes sense
read as C_1 - M - C_2 likewise M - C - M only makes sense as M - C - M_1 (where M is
less money than M_1).

This brings us to the end of the introductory part of the analysis, in which commodities
and money have been analysed as forms of value in order to enable us to articulate: Is
capital (SG 20) conceivable as M - C - M_1, that is as value that increases in the course
of its circulation starting from its money-form, changing into the commodity form and
changing further (and back again) to its money-form? Is this the way to understand
capital as a specific form of human activity and can the secret of capital's apparent
activity, to make more money out of money, be resolved by tracing back the line to
abstract general labour?
Up to now our analysis has been purely qualitative. But dealing with $M \cdot C \cdot M$ forces us to take the quantitative aspect of value into account also. We already did so in making the difference between $M$ and $M_1$, which is of a purely quantitative nature. $M \cdot C \cdot M_1$ now raises in turn the question whether there is a quantitative change (we could also say: a change in the "magnitude of value"), combined with the change of value-form that is expressed by ' - ' in the formula $(M \cdot C \cdot M_1)$ above.

We could just as well ask: can the difference between $M$ and $M_1$, can the "surplus-value" (SG 21) be explained as stemming from circulation? Can we grasp capital as buying something and selling it dearer? This may be the case with an individual capital but the increase of the total capital (SG 20), the social surplus-value can not be conceived as springing from unequal exchange. If the same commodities are bought cheaper and sold dearer this can only result in a different distribution of wealth but not in an increase of the total value. But it is the course of total surplus-value as such which has to be grasped (SG 22). The consequences for the next part of the analysis is that surplus-value must be understood even if no change in magnitude of values accompanies changes of value-form.

If that is so circulation of value as capital can only have the form $M \rightarrow C_2/C_1 \rightarrow M_1$ (where $C_2$ and $C_1$ denote different commodities). Because it is an assumption of the presentation that they are both bought and sold at their value we can only understand capital if we find a process in which $C_2$ is replaced by a $C_1$ that has a greater magnitude of value. Such a process which creates value must be a labour process (SG 23), for the substance of value has been determined as labour. And at the same time this process that creates $C_1$ must be a process that can be understood as a consumption of $C_2$.

The natural form of $C_1$ is obviously that of industrial commodities, products of the labour process that has $C_2$ as its elements of production (SG 25). Among them is human labour power which is not directly an industrial commodity but is reproduced (partially) by means of industrial commodities. Strictly speaking, labour-power has no value in itself but has a price which is an expression of the value of the industrial products that are sustenance ("means of life" (SG 36)) for the industrial labourer. Labour-power is a "second-order" commodity (SG 24).

The main question remains unanswered: How can a process of "productive consumption of commodities" create a surplus-value? We shall only be able to answer that question if we definitely leave the sphere of simple commodity-circulation (SG 20) and enter the sphere of capitalist production (SG 26), a process that starts from a set of commodities $C_2$ and results in a set of commodities $C_1$, so that $M \cdot C_2/C_1 \rightarrow M_1$ is executed.

**Remarks on Capital, Vol. I, chps. 1-6**

Our suggestion is not to follow Althusser's suggestion to skip Part I of *Capital*, Vol.I in a first reading.

In our opinion Parts I and II of Vol. I (which are dealt with in Paper 1) together form a systematic introduction to the central topic of *Capital* Vol. I: surplus-value production. Hence the categories in which questions and answers of the subsequent analysis of surplus-value (and the immediate process of capitalist production where it springs
from) are articulated, are provided in the systematic introduction; so our advice is to read the 1st section of Ch. 1 Vol. I very carefully. The "qualitative" reading that is outlined in Paper 1 and that stresses the value-form approach to the general analysis of the capitalist epoch is far from being undisputed. Usually a quantitative reading is suggested. Cutler/Hindess/Hirst/Hussain (1977) give an exposition of such a quantitative reading just to point out the problems of Marx's fundamental concept 'value' when it is determined as social labour-time (of a determinate form). The readers may judge whether the objections raised by them merely show that a quantitative reading of this systematic introduction is not adequate, (although Marx himself did a lot to mislead in that direction)

A careful reading and discussion of Chapter 1, Section 1 can be carried out in a session of approximately 3 hours. Chapter 1, Section 2 could be read in between the sessions and questions raised at the beginning of the next session.

A new step in the presentation is reached in the third Section of Capital, Vol. I, Ch 1: "The Form of Value or Exchange Value". Here the aim is to relax the assumption of presentation according to which the mediation of the exchange of industrial commodities by money is left aside. Now it is the double existence of social labour in the commodity form and in the money-form that is explicitly dealt with. (This section has been recently referred to as the "Value-form Chapter"). We would like to give some more detailed advice for reading through the Value-form chapter, because we regard it to be indispensable for an adequate understanding of the argument.

First of all it is to be noted that Marx's terminology in Section 3 is inconsistent. He uses the term 'form of value' to refer to both a form of expression of value (such as general and expanded expressions of value) and for the positions within that expression (the relative value-form and the equivalent value-form). We reserve the term 'form of value' for the latter and use the term 'expression of value' for the former.

In line with our insistence that a commodity has not one but many exchange-values (cf. SG 4), we see no special virtue in analysing the 'Elementary or Accidental Form of Value' separately from the Expanded Expression of Value. Nothing extra is gained in a separate analysis which would not be dealt with under Expanded Expression of Value. The Elementary Form merely anticipates the Price-Form which arises out of the Money Expression of Value (cf. SG 16).

We see the step from the General Expression of Value to the Money Expression of Value not as an historical step, where money historically evolves as the Universal Equivalent, but as a systematic step signalling a change in level of presentation from commodity exchange without the mediation of money to a money economy.

The "Fetishism chapter" is one of the most prominent parts of Capital. (In the first edition (1867) there was no such section. Some of the formulations that Marx expands later appear in the Appendix "The Value-Form" (Die Wertform).)

We take the view that the systematic argument is not furthered in the Fetishism Section, but that the consequences of social labour taking the form of a thing are looked at. Similarly we regard Section 2 as another look at the subject matter of Section 1 from
the viewpoint of the commodity producers' labour, (at this stage of the analysis there can be no distinction made between immediate producer and capitalist).

The most important aspect of the 2nd chapter, which is highlighted in its German title "Der Austauschprozess" is omitted in the Progress-publisher's translation "Exchange" (instead of "The Process of Exchange"). Some of the formulations that Marx uses right at the beginning have been used for inferring a materialist theory of law and bourgeois state. They should be treated with great care, if the systematic order of analysis of the capitalist mode of production (as "basis") and the analysis of the bourgeois state (as "superstructure") is not to be confused.

The 3rd chapter seems to start where chapter 1, section 3 ended: money as the measure of value. A warning here too: The third chapter might be misunderstood by taking it as presenting "the Marxist theory of money". Our view is that a theory of money can only be given on the basis of an analysis of credit, so that the chapter on money is out of place here. We suggest that the reading be restricted to the central aim of this initial part of Capital: to enable the readers to understand the opening question of the analysis of the capitalist production: the question concerning surplus-value.

A careful reading of the 4th, 5th and 6th chapters (which are one chapter in the Original) is suggested, because the systematic presentation definitely proceeds in this part of Capital and fundamental assumptions for the following analysis are argued for.

Marx has to give his reasons why he treats industrial capital as the ground form. According to our present understanding it is only here that a consideration of "quantities" comes into systematic account. But this again is done under an assumption of presentation that commodities are exchanged at their values which is only relaxed later on in Capital, Vol. III in several steps.

Footnotes


Paper 2

The Analysis of Capitalist Production
Surplus-Value Production

The analysis of the "immediate process of capitalist production" (SG 26) traces the commodities C₁ (that are realised at a definite price M₁ in the circulation of capital M - C ... P ... C₁ - M₁), to their sphere of production. The quantitative difference between M - the money-form of the value of all elements of production - and M₁ - the money-form of the value of the product - must stem from a difference in the duration of the labour-process (SG 27) that produced C and C₁. This is a mere consequence of the assumption of presentation justified above: that social surplus-value, because it can't spring from circulation, has to be explained "even though the price and value of a commodity be the same", that is, on the basis of the determination of value by abstract, general labour. It is now systematically indispensable to introduce the category 'magnitude of value' (SG 28) determined by the intensity and duration of that labour, which forms the substance of value. Our task can now be formulated as follows: In order to solve the riddle of how capitalists make more money out of their money we have to understand the difference in the magnitudes of value of C and C₁.

C comprises everything necessary to produce C₁. All the "elements of production" have commodity-form. The means of production are industrial commodities that have been produced before, and labour-power is a second order commodity the price of which is the money-expression of the value of those industrial commodities ("means of life") that are individually consumed (SG 29) by the labourer (and dependants). Capitalist production is private labour (SG 30) insofar as labour-power, raw materials and means of labour are all private property (SG 31) of the capitalists. That is why the products of this labour-process are also the capitalists' private property (SG 32).

To understand how valorisation of value M - C ... P ... C₁ - M₁ is possible, we firstly have to mark out the point of departure of the capitalist process of production more explicitly as:

\[ M - C <^{MP} \text{LP} \]

(where 'MP' stands for: means of production, and 'LP' stands for: labour-power). And secondly we have to deal with what happens with the value of MP and what happens with LP in the course of the production process.

If the production of MP - by assumption of presentation industrial commodities - is a necessary step in the production of C₁, then the labour socially necessary (SG 33) to produce MP forms a part of the labour that is congealed in the value of C₁. The value of the industrially produced means of production ("old value") is "transferred" to the value of the product (SG 34).

The other part of the value of the commodities C₁ is called "new value" (SG 35) because it has been newly produced in "the final operation" of the total production process that is under our present consideration. The old value is a magnitude of value that C and C₁ have in common. Therefore the difference in the magnitude of value of C and C₁ has to be explained with respect to a comparison of the new value of C₁ and the remainder of C when the value of MP, that reappears in the form of the old value of C₁, is subtracted.
As C is composed of MP and LP, and MP has already been dealt with, this comparison amounts to a comparison of the duration and intensity of labour-process\(_1\), in which (along with MP) labour-power is consumed productively and the duration and intensity of labour-process\(_2\) in which the industrial commodities that are consumed by the labourer individually are produced. And this is Marx's solution of the riddle of surplus-value (SG 37). The surplus stems from longer duration and intensity of labour process\(_1\) in comparison with labour-process\(_2\). The difference in duration between the two processes is then terminologically expressed, in calling that part of labour-process\(_1\) that is equally long as labour-process\(_2\) taking into account any difference in intensity of labour: "necessary labour-time" (SG 38), because it is the labour-time socially necessary to produce the labourers' means of life (SG 36). The remaining part of labour-process\(_1\) is called "surplus-labour-time" (SG 39).

The value of the industrial commodities \(C_1\) that are the result of a capitalist process of production can now be conceived as \(C_1 = c + v + s\) where 'c' stands for the old value that remains constant, C ("constant capital" (SG 10)), and 'v + s' stands for the new value with respect to which the part of capital that was expended to buy labour-power appears as "a variable magnitude" because, looking at the process of production that made \(C_1\) out of

\[
C < \frac{MP}{LP}
\]

\(v\) as a part of \(M\) is "transformed" into \(v + s\), that part of \(M\) which did not remain constant (SG 41) ('v' stands for 'variable capital' and 's' stands for "surplus-value", cf. CI 204ff).

The "rate of surplus-value" (SG 43) denotes the division of the working-day (SG 42) into necessary labour-time and surplus labour-time. Keeping in mind how the analysis led to the expression 'variable capital' we can call \(s/v\) rate of valorisation (SG 44) of variable capital.

The extraction of surplus-value is the basis of the class contradiction between capital and wage-labour i.e. the daily practice of capitalist production is a class struggle (SG 45) which, while capitalist production continues, the capitalist class wins. The rate of surplus-value is a measure of the degree of exploitation of the labourers (SG 46) because it expresses the ratio of unpaid to 'paid' labour (SG 47) and the attempt by capital to increase this rate sharpens the class contradiction. Capital is money advanced to make more money i.e. it is value going through the circulation \(M \rightarrow C \rightarrow M\) in which the maximum increase of \(M\) is sought (SG 28). Hence in the systematic language we can say that capital seeks to maximise surplus-value production and can draw the following scheme to illustrate the possibilities of an increase in the valorisation of variable capital (SG 49):
Production of "absolute surplus-value" (SG 50) is possible by mere prolongation of the working-day, even though the productivity of labour (SG 51) remains constant. Socially, the production of "relative surplus-value" (SG 52) is possible only by an increase in the productivity of labour which leads to a reduction in the value of the industrial commodities that serve as the labourers' means of life. The analysis at this point proceeds under the assumption of presentation that the class struggle is limited to the maintenance of uniform, real wages (SG 53) (which is expressed by Marx as: commodities, including labour power, are exchanged at their values). This assumption will be relaxed in Paper 5.

**Production of Absolute Surplus-Value**

Given a constant wage per day, the capitalist may find a way to make n labourers work a longer working-day equivalent to that worked by n + m labourers in a shorter working-day. In this case, he achieves the same result $C_1$ that he sells for $M_1$ for less money than $M$. (He saves the variable capital for m labourers.) If he goes on using the same amount of money as capital, he can use more than n labourers in this more profitable way with the production of $C_1$ increased:

As the necessary labour-time is constant, the prolongation of the labour time means an increased production of surplus-value. (cf. CI 299: "The surplus-value produced by prolongation of the working-day, I call absolute surplus value."

**Production of Relative Surplus-Value**

Capital will substitute living labour-power by labour that is objectified in machinery if this increases surplus-value production. If an individual capital comes first with a more productive manner of producing in its branch, it will make "extra surplus-value", because it presses the "individual value" (SG 54) of the product under its "social value" (SG 54). The individual increase in the valorisation of value is here mediated by an increase in the "organic composition of capital" c/v (SG 56). What are the consequences for the social valorisation of value functioning as capital?

The "application of machinery to the production of surplus-value implies a contradiction which is immanent in it (SG 58), since of the two factors of the surplus-value created by a given amount of capital, one, the rate of surplus-value, cannot be increased, except by diminishing the other, the number of workmen. This contradiction comes to light, as soon as by the general application of machinery in a given industry, the value of the machine-produced commodity regulates the value of all commodities of the same sort" (CI 384), the "extra surplus-value vanishes, so soon as the new method of production has become general and has consequently caused the difference between the individual value of the cheapened commodity and its social value to vanish" (CI 302) (SG 55).
Socially, production of relative surplus-value by "displacement" of labour-power by machinery increases the rate of the valorisation of variable capital s/v, because it decreases the length of the necessary labour-time. (The remaining labourers using the new machinery to produce the means of life work with greater productivity). But the increase in productivity is bought by an increased constant capital (SG 56) so that the rate of valorisation of the total capital advanced v/(c+v) might sink (SG 57).

Production of relative surplus-value by means of an increase of the productivity of labour in the sector of the production of means of life (abbreviated: ML) that are consumed by the working class (SG 59) makes possible an increase in real wages and an increase of the rate of surplus-value at the same time:

![Diagram showing cheapening of ML, increase in real relative surplus-value, increase in wages, surplus-value, with v+s constant.]

It is a possible outcome of class struggle that capital gains no relative surplus-value by the introduction of machinery, the increase in productivity serving to provide the working class with more means of life. (It is only due to the above-mentioned assumption of presentation that this outcome is not focused upon.)

**Methods of Relative Surplus-Value Production**

We can now go into a closer consideration of what Marx calls three "particular modes of producing relative surplus-value" (CI 304) (SG 60), i.e. increase of productivity by co-operation (chp. XIII) (SG 61), division of labour (chp. XIV) (SG 62), application of machinery (chp.XV) (SG 63). They are discussed one after the other although a capitalist process of production is characterized by co-operation, division of labour and application of machinery at the same time. This seems to be a general feature of "method" in *Capital*. But the particular problem with chapters XIII-XV (Vol.1), it seems to us, is, to discern features that are only of temporary importance in a certain phase of the historical development of capitalism - e.g. in the period of manufacture - from permanent, characteristic features of the capitalist mode of production.

Marx seemingly has in his mind to outline the development "both historically and conceptually" (cf. CI 305; "historisch und begrifflich" MEW 23, p.341). The above mentioned differences are not continually stated but we have to draw them out from this part of the presentation. Only in the analysis of the fully developed capitalist production process (SG 64) in "the automatic factory" (cf. CI 394ff) do we see the three methods systematically (i.e. conceptually) combined.

**a) Co-operation**

By co-operation is meant simply the working together of a number of labourers in the one labour-process. The combined working-day (SG 65) of a large number of co-
operating labourers produces a greater quantity of use-values than the same labourers working separately i.e. it increases the productivity of labour. "Whether co-operation achieves an increase in productivity because it heightens the mechanical force of labour, or extends its sphere of action over a greater space, or contracts the field of production relatively to the scale of production or at the critical moment sets large masses of labour to work, or excites emulation between individuals and raises their animal spirits, or impresses on the similar operations carried on by a number of men the stamp of continuity and many-sidedness, or performs simultaneously different operations, or economises the means of production by use in common, or lends to individual labour the character of average social labour ... the special productive power of the combined working-day is ... the productive power of social labour. This power is due to co-operation itself" (CI 311 f). Co-operation is the general name of relative surplus-value production by way of adapting the subjective factor (labour-power) in the production process. Since it is capital which sets up a labour-process and inserts the labourer into it (SG 66), co-operation appears as a power that is immanent in capital.

Division of labour occurs both socially between different branches of industry and in detail within the factory of the capitalist (SG 67). The latter is a particular form of co-operation and has the following consequences: 1) the labourer who is employed to do one single task becomes expert at it; 2) division of labour requires a certain minimum scale of production (SG 69); 3) the knowledge and judgement of the labourer is required less and less as tasks become more and more fragmented (SG 68); 4) division of labour creates a dependence of one group of workers on another; and 5) the tricks of the trade (SG 70) which are acquired by a generation of labourers become established and are handed down to the next.

b) Application of Machinery

In the production of relative surplus-value by way of improving the objective factors in the labour-process i.e. the instruments of labour and raw materials, the application of natural science to production is all important (SG 71).

Marx specifies the elements of a machine (SG 72) as the motor mechanism, the transmitting mechanism and the tool or working machine. An essential characteristic of a machine is that it replaces the labourer who handles a single tool with a mechanism which, with a single motive power, sets in motion a number of tools. The natural sciences provide an adequate theory for building large and more sophisticated machines (SG 73) and a breakthrough in scientific theory from time to time leads to a revolution in value by developing wholly new types of machinery. An increase in productivity in one branch of industry calls forth a corresponding increase in those industries or spheres of industry which either supply the given sphere with raw materials or consume its product as means of production.

The social division of labour gives impetus to the improvement of means of transport and communication (SG 74) in order to move and co-ordinate the movements of immense quantities of materials.

The domination of the production process by machinery and the consequent freedom from consideration of the labouring of human hands enables the production process to be viewed in objective terms and for the problems caused by intransigent labourers to
be solved. Machinery besides replacing labour, also dictates an intensity and regularity of work to its operatives (SG 76). The application of machinery leads to the real subordination of labour to capital in contrast to the formal subordination of labour to capital (SG 75).

Although, once discovered, a scientific result costs capital nothing (SG 77), the application generally requires the construction of intricate, enormous or technologically sophisticated machines (SG 78). The value condition for the introduction of machinery (SG 79) is that the value of the machine must be less than the price of the labour-power it replaces, e.g. if the machine lasts one year then its value must be less than the variable capital saved in the course of the year by laying-off labourers.

**Remarks on Capital, Vol. I, chapters 7-33**

In Paper 2 we attempt to give a sketch of the systematic argument presented in this enormous "remainder" of Capital, Vol. I. Here, we try to point out which passages of Marx's text do not strictly - to the best of our present understanding - belong to the dialectic which unfolds the systematic presentation and may therefore be skipped in a systematic reading or at least postponed.

To put it bluntly, we regard Parts VI-VIII to be out of systematic order (although there might be other reasons for placing them in the first Volume of Capital, the only one published in Marx's lifetime).

Part VI should be incorporated in a properly worked out analysis of the class-struggle/competition over the distribution of the total social value which is mainly located by Marx in the fragment dealing with the revenue-forms and the "movement and dissolution of the whole shit in class-struggle" (" - der Klassenkampf als Schluß, worin sich die Bewegung und Auflösung der ganzen Scheiße auflöst...", in Marx's letter to Engels of April 30th 1868, *Briefe über 'Das Kapital*', Dietz Verlag Berlin 1954, p 172) - right at the end of Capital (Vol III).

Parts VII and VIII are one very bulky unit in the German original (as printed in Marx-Engels-Werke 23) labelled: "Abschnitt VII". The changed numbering of chapters and parts in the English version, published after Marx' death, are due to Engels.

Part VIII contains a lot of material which could be incorporated in the analysis of capitalist landed property and capitalist ground rent in Capital, Vol.III, Part VI. (This leaves aside chapters 30-32, the last one being as familiar as it is unconnected with the preceding analysis. But have a look into it - only 3 pages - and form your own opinion.)

Part VII partly treats topics regarding capitalist reproduction (on a simple and extended scale) which could have either been dealt with as a resume of the analysis of absolute and relative surplus-value production (accumulation of surplus-value so that v is at least decreasing relatively to c) or left to be dealt with in greater detail at the end of Capital, Vol.II, where the production and circulation of the elements of production is focused upon.

Marx obviously tried to give an account of social reproduction at the end of each of the three volumes of Capital.
An alternative draft for the final part of *Capital*, Vol.1 is the text "Results of the Immediate Process of Production" (in *Capital*, Vol.1, Penguin/NLR edition 1976 as an appendix) which bears some affinity to Part V of *Capital*, Vol.1, which is, in our opinion, the end of the systematic presentation of the immediate process of capitalist production.

The question is what different features or aspects of social reproduction under capitalism are analysed in these subsequent parts. Marx gives a hint to that when he states: "we assume that the capitalist sells at their value the commodities he has produced, without concerning ourselves either about the new forms that capital assumes while in the sphere of circulation, or about the concrete conditions of reproduction hidden under these forms. On the other hand, we treat the capitalist producer as owner of the entire surplus-value, or, better perhaps, as the representative of all the sharers with him in the booty. We, therefore, first of all consider accumulation from an abstract point of view - i.e., as a mere moment in the immediate process of production." (CI 529f.)

But what precisely is the difference from the treatment of reproduction/accumulation in Vol.II? The "new forms that capital assumes while in the sphere of circulation", i.e., 'circulating' and 'fixed capital' (SG 98) have not made the central categories of Vol. I, 'variable' and 'constant capital', invisible in Marx's reproduction-schemata of Vol.II. We therefore think that an extra treatment of the same matter in Vol.1 is superfluous (and that treatment of a different aspect of the matter can find its systematic place in Part V already). Our advice is to come back to the treatment of reproduction as given in Vol.1, Part VII (especially chapters 23 & 24) when discussing Paper 3 and *Capital*, Vol.II.

Chapter 25 "The General Law of Capitalist Accumulation" deals with the surplus-population produced by capitalist production and should be discussed in connection with Paper 5, where the revenue 'wage' is specifically analysed with its false semblance of qualitative equality with respect to the other forms of revenue. The workers made 'jobless' by capital and the class-struggle/competition over the distribution of the value newly created belong together. The industrial reserve army, by weakening the working-class, is a remedy for capital when the labourers' strong demands make capital sick by threatening its valorization (cf. CIII 251 on the underlying concept of "over-accumulation" or 'absolute over-production' (cf. SG 142)).

It might be helpful to notice that section 2 of chapter 25 contains material that is relevant in connection with "the tendency of the rate of profit to fall" - which, in contrast to Marx's treatment of it in Vol. III, Part III, we have sketched in Paper 2 already. For we believe that the main argument is presented within the analysis of relative surplus-value production already. (You can check this by referring to *Capital*, Vol.III, pp.212ff, where "gradual change in the composition of capital" (c/v cf. CI 583 & SG 56) is treated as a result ("... we have seen that it is a law of capitalist production...") and, besides CI 583 ("This law of the progressive increase in constant capital..."), *Capital*, Vol.1 pp.369ff. and 383f. where replacement of labourers by machinery is part of the systematic presentation of the increase in productivity in the context of relative surplus-value production.) So much for the part of Vol. I that we think does not properly fall into systematic order.
In considering the part which develops the systematic argument, we are left with Vol. I, chapter 7-18 (still well over 300 pages) which is Marx's analysis of the "immediate process of capitalist production", i.e. surplus-value production (looked at under the assumptions of presentation stated in Paper 2).

Central is chapter 7 section 2 "The production of surplus-value". (Skip the last bit on simple and skilled labour, which takes up objections raised on CI 46 "Some people might think..." and seemingly answered CI 51f. We think that this problematic belongs in the analysis of competition.) The two portions of the value of a capitalist commodity as pointed out in this section (cf. CI 183) are dealt with again in chapter 8 under the heading "Constant and Variable Capital", where the terms 'new value' and 'former values' (or: 'old value') are introduced and the distinction between "new value creation" and "old value preservation" (cf. CI 200) is made. Two other key terms, also immanent in the argument in chapter 7, i.e. 'necessary labour-time' and 'surplus labour-time' are introduced in chapter 9 "The Rate of Surplus-Value" (cf. CI 208ff), section 1. (Sections 2-4 may be skipped.)

Chapter 10, "The Working-Day", deals with absolute surplus-value production proper (the term 'absolute surplus-value' is introduced a fair bit later CI 299, cf. also CI 477f where 'absolute surplus-value' is used in a wider sense). The systematic argument is given in section 1. Sections 2-5 contain mainly historical illustrations (and could be skipped), whereas sections 6 & 7 deal with "The Struggle for the Normal Working-Day". With respect to the latter the problem arises whether state-activity can be incorporated into the analysis of the capitalist mode of production given Marx's plan of founding the theory of the bourgeois state on the analysis of the capitalist mode of production. Furthermore, the presentation of absolute surplus-value production treats labour-power as a second order commodity with a given price: a longer working-day is not paid with more money. (For the development of the wage-form, e.g. time-wage, under which a longer working-day is paid better and the relaxing of the assumption of presentation that real wages remain constant, cf. Paper 5).

Chapter 11 "Rate and Mass of Surplus-Value" introduces the term 'mass of surplus-value'. The structure of Capital, Vol I whose kernel is the presentation of absolute and relative surplus-value, is without doubt dominated by increasing surplus-value production in the sense of increasing the rate of exploitation. In CI 384 the contradiction immanent in the application of machinery could be spelt out in terms of rate versus mass of surplus-value and in CIII 251 it is pointed out explicitly that it is the increase of the mass of surplus-value which is decisive for the functioning of money as capital. The rate of surplus-value may remain unchanged with the application of machinery, at the same time as the mass of surplus-value increases by setting large masses of living labour to work.

The argument that the analysis of absolute surplus-value production is systematically prior to the analysis of relative surplus-value production is presented by Marx in a manner which tries to combine a systematic and a historical point: absolute surplus-value production is "independent of any change in the mode (=manner) of production" (CI 293) whereas relative surplus-value production is not. The latter depends on changes that help to increase the productivity of labour.
Chapter 12 is an introduction to Part IV "Production of Relative Surplus-Value"; the "particular modes of producing relative surplus-value" (CI 304) are subsequently dealt with in chapters 13-15. We conceive of co-operation, division of labour and application of machinery as three systematic aspects of the specific mode of capitalist production. The systematic presentation in this part of Capital is sometimes hard to follow, for Marx tries to give the development "both historically and logically" (CI 305). We suggest a purely systematic reading, sorting out all merely historical illustrations. Therefore we advise readers to concentrate in chapter 13 on co-operation as "the fundamental form of the capitalist mode of production" and not on "the elementary form of co-operation" as historically opposed to "the more developed forms of that mode of production" (CI 317) i.e. manufacture vs. modern industry. As a "fundamental form", co-operation is not something historically outdated and is not opposed to division of labour and application of machinery.

Chapter 14 bears both a systematic (or "logical") and a historical title: "Division of Labour and Manufacture". Once again we plead for focusing attention on a systematic reading. Division of labour characterizes capitalist production in general (and not only in a particular phase). For a systematic reading sections 4 & 5 appear to us the most interesting.

Chapter 15 "Machinery and Modern Industry" could be called the heart of Capital, Vol. I. We expand on "science and capitalist production", a topic which is central in the analysis of the application of machinery for relative surplus-value production, in the appendix "Science in Capital"... The application of machinery adds to "the productive forces resulting from co-operation and division of labour" (CI 365) by giving them an "objective skeleton" (CI 346, poorly translated as "framework"). We suggest reading the first five sections very carefully. Again it will take quite an effort to discern between the systematic argument and historically restricted illustrations of that argument.

This brings us finally to Part V, a summary or resume of the preceding presentation of absolute and relative surplus-value production. The central idea in chapter 16 is that absolute and relative surplus-value production are two systematically connected aspects of the capitalist production process, cf. CI 477ff. Marx puts a systematic distinction historically when contrasting "merely formal subjection of labour to capital" with "real subjection" (CI 478). The systematic point in the distinction of 'formal' vs. 'real subjection' depends on understanding absolute surplus-value production not as an historically preceding phase with respect to relative surplus-value production: "Relative surplus-value is absolute, since it compels the absolute prolongation of the working-day beyond the labour-time necessary to the existence of the labourer ... Absolute surplus-value is relative, since it makes necessary such a development of the productiveness of labour, as will allow of the necessary labour-time being confined to a portion of the working-day. But if we keep in mind the movement of surplus-value, this semblance of identity vanishes. Once the capitalist mode of production is established and becomes general, the difference between absolute and relative surplus-value makes itself felt, whenever there is a question of raising the rate of surplus-value." (CI 478f) In the following chapter 17 Marx points out that absolute and relative surplus-value production do not exclude each other.
At the end of chapter 16 Marx introduces the concept 'profit' as distinct from 'surplus-value'. In our view, this is not an anticipation of something which properly belongs to Vol. III, but that the "tendency of the rate of profit to fall" has its systematic place in the presentation here in Part V, Vol. I. Absolute and relative surplus-value production both lead to an increase of c/v simply because in a longer working-day as well as by working with greater productivity more raw material is used up. Looking at capital of given magnitude (simple reproduction) the greater expenditure of constant capital must be matched by expending less variable capital, cf. CI 383. Taking the accumulation of surplus-value as additional capital into consideration (extended reproduction), we still have the same result in relative terms, cf. CI 583ff.

It is worth noting that both absolute and relative surplus-value production are analysed as a "repetition of the process of production". This gives rise to the critical dissolution of the semblance inherent in "the isolated process" (CI 532), in which the capitalist appears - unquestioned - as the owner of capital as his property, into conceiving of capital as accumulated unpaid (CI 500) labour: "capitalist production ... under its aspect of a continuous connected process, of a process of reproduction, produces not only commodities, not only surplus-value, but it also produces and reproduces the capital relation; on the one side the capitalist, on the other the wage-labourer." (CI 542).

On Marx's view regarding what things will be like "after suppressing the capitalist form of reproduction" cf. CI 496 (and CIII 820).

Thus, for a systematic reading of the whole analysis of capital, we suggest moving on to Capital, Vol.II after having dealt with the resume of the analysis of absolute and relative surplus-value production in chapters 16-18.

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Paper 3

The Circulation Process of Capital

Circuits of Capital

The movement which value as capital performs has up to now been grasped as:
M - C $\xleftarrow{MP} \ldots P \ldots C_1 - M_1$

(For in Capital, Vol. I it was the process of production - within the frame of commodity circulation - that was analysed). The movement of capital clearly comprises three stages (SG 84). There is:

1) Capital in the form of money that buys the elements of production ("money-capital").

2) Capital in the form of the industrial labour process, that combines productively the elements of production ("Productive capital").

3) Capital in the form of industrial products, which are sold as commodities whose value contains surplus-value ("commodity-capital").

"The first and third stages were discussed in Capital, Vol. I only insofar as this was necessary for an understanding of the second stage, the process of production of capital. For this reason, the various forms in which capital dresses itself in its different stages, and which it now puts on and now strips off in the repetition of its circuit (SG 82), have not been taken into consideration. These forms are now the next matter of the analysis" (SG 81) (CII 25).

If we make a distinction between different forms of circuit according to the point of departure and return, we get (SG 83):

I. the circuit of money-capital: M - C...P...C_1 - M_1

II. the circuit of productive capital: P...C_1 - M_1 .M - C...P

III. the circuit of commodity-capital: C_1 - M_1 .M - C...P...C_1

(‘-‘ indicating mere change of the form of value, ‘...‘ indicating interruption of the process of circulation by the production process P (SG 84), "and C_1 and M_1 designating C and M increased by surplus-value" (CII 25), the dot between M and M_1 indicating that the comparison of magnitudes of value (SG 85) between M and M_1 as well as between C and C_1 comes to an end here and starts anew: a part of M_1 might have been extracted from the individual circuit of capital under our present consideration).

The three forms of circuit of capital are due simply to taking different starting points in considering the ongoing circulation of capital:
which is here presented under the assumption that capital as a whole passes from one stage of its circuit into the next one (SG 86). It is only in proceeding through the stages of money-capital/productive capital/commodity capital that value can circulate as ground-form capital (SG 87). This entails a necessary "fixation" of capital in its "functional forms" of existence (money, labour process, commodity) (SG 88).

Each fixation of value imposes limits on its circulation as capital. To unfold this contradiction between circulation and fixation is the central topic of the analysis of the circulation of ground-form capital in *Capital*, Vol. II (SG 89). Circulating through the three stages of its circuit capital has to take on twice the form of "unproductive" capital (SG 90). This creates further limitations for the valorisation of capital, which is tied to productively active labour-power. But this only has existence in the stage of productive capital. The necessary transformations of form of value $M \rightarrow C$ and $C \rightarrow M_1$ which comprise the circulation period require time and labour-power to perform (SG 91). Whether the capitalist carries out these functions himself or employs workers to do it for him, the labour involved creates no value and requires an extra outlay by the capitalist. Similarly the means of circulation (SG 92) which enable the work of circulation to be performed are costs of circulation (SG 93). "Apart from the actual buying and selling labour-time is expended in book-keeping (SG 92), which besides absorbs materialised labour such as pens, ink, paper, desks, office paraphernalia [Computers]" (CII 136) and these costs of book-keeping are another cost of circulation.

**Division of Capital**

Under our present assumption or presentation (SG 86) the process of surplus-value production is interrupted by the process of circulation. Capital can only continually valorize if it exists side by side and simultaneously outside and inside the sphere of production. So capital does not circulate in one circuit, in which it "passes on in bulk from one stage to the next" (CII 50), but rather in several circuits of parts of that individual capital (SG 94). This division of capital is dependent on the ratio:

\[
\frac{\text{time of production}}{\text{time of circulation}} = \frac{1}{2}
\]

(The "time of production" is the time of fixation of any particular part of capital in the production sphere, the "time of circulation" is its time of fixation in the sphere of circulation (SG 95) ).

Marx works explicitly with the assumption of presentation that the three stages of circulation take equal time, so that:

\[
\frac{\text{time of production}}{\text{time of circulation}} = \frac{1}{2}
\]

In this case "The actual circuit of industrial capital [ground-form] in its continuity is therefore not alone the unity of the processes of circulation and production but also the unity of all its three circuits. But it can be such a unity only if all the different parts of capital can go through the successive stages of the circuit, can pass from one phase, from one functional form to another, so that the industrial capital, being the whole of all
these parts, exists simultaneously in its various phases and functions and thus describes all three circuits at the same time." (CII 106). This is depicted in the following schema.

**Schema 1: Division of Capital into Three Parts**

The sum total of the individual capital circulates in three parts and accordingly three circuits. In no one circuit can the productive stage of capital be permanent. Thus none of the three parts is permanently functioning as productive capital. But by the shift of phases one third of the total capital is permanently in the phase of productive capital.

When circulation time is not an integral multiple of production time then the division of capital cannot be done so that the different circuits are in phase. In this case there is a break in the circuit of each part during which money capital is released (SG 96). We illustrate this in the case where production time exceeds circulation time and where elements of production must be bought before the beginning of the production period.

**Schema 2: Division and Release of Capital**

If production time exceeds circulation time the capital need only be divided into two parts so that the circulation phase of the parts of capital facilitate continual valorisation:
Fixed Capital and Circulating Capital

Beside the division of capital into parts that coexist in different stages of the circuit of capital, we find a division of capital according to the manner of circulation. We call what is repeatedly done in circulation "turnover", its duration "turnover time" (SG 97). That part of capital which turns over as a whole at the end of each "period of production" is called "circulating capital". That part of capital which turns over only partly with each turnover of the circulating capital and remains partly in fixation in the sphere of production is called "fixed capital" (SG 98). This distinction does not match with the distinction between variable and constant capital. The raw and auxiliary materials are "circulating constant" capital (SG 100). Variable capital and circulating constant capital together form the circulating capital as opposed to the remainder of the constant capital, mainly machinery. But note: "The elements of circulating capital are as permanently fixed in the process of production - if it is to be uninterrupted - as the elements of fixed capital. But the elements of circulating capital thus fixed are continually renewed in kind (the means of production by new products of the same kind, labour-power by constantly renewed purchases) while in the case of the elements of fixed capital neither they themselves are renewed nor need their purchases be renewed so long as they continue to exist (SG 99). There are always raw and auxiliary materials in the process of production, but always new products of the same kind, after the old elements have been consumed in the creation of the finished product. Labour-power likewise always exists in the process of production, but only by means of ever new purchases, frequently involving changes of persons. But the same identical buildings, machines, etc. continue to function, during repeated turnovers of the circulating capital, in the same repeated processes of production" (CII 172). (See Schema 3)

Schema 3: The Special Manner of Circulation of Fixed Capital
Assumptions of presentation: turnover-time of fixed capital = 5 production periods and time of production of = 1 time of circulation.

There exists one fixed capital, which is circulated one time with circulating Capital I, the subsequent time with circulating Capital II. There is only a peculiarity in the 5th
period of production. Here the last part of the fixed capital functions in the productive sphere and its value only circulates back after the next circulation period (SG 101). That is why the circulating Capital II has here a fallow, there is a gap in the continual process of production, which could only be bridged by an additional fixed capital that has one fifth of the magnitude of the fixed capital applied. But this additional capital or the last fifth of the original capital would then have a fallow of five production periods. (In we place "latent money-capital", capital that is fallow).

Turnover of Capital and Production of Surplus-Value

Given the division of the working day of the productive labourer into necessary labour-time and surplus labour-time, the production of surplus-value is dependent on the number of labourers employed. But this number is (with a given price of labour-power) not only dependent on the magnitude of the variable part of capital but also on how often the variable capital turns over. Turning over several times per year this capital buys (labour-power) several times. And consequently the number of labourers employed is as big as in the case of a variable capital that is n-times as big but turns over only once a year instead of n-times. With regard to the production of surplus-value per year it is not the magnitude of the variable capital advanced but the magnitude of the variable capital turned over annually that is decisive (SG 102).

It marks a significant step towards the presentation of average profit in Capital, Vol. III, when Marx distinguishes in Capital, Vol. II, chap. 16 the "annual rate of surplus value"

\[
\text{annual rate of surplus value} = \frac{\text{quantity of surplus-value produced during a year}}{\text{variable capital advanced}}
\]

from what he now calls the "real rate of surplus value"

\[
\text{real rate of surplus value} = \frac{\text{surplus-value produced}}{\text{variable capital turned over}} \quad (SG \ 103)
\]

Circulation as a Necessary Condition and at the same Time a Limitation of Valorisation

Valorisation ("Selbstverwertung") is the characteristic feature of capital as value that mediates by its own movement, its expansion ("self-expanding value"). Capital is not a thing, it is in some sense neither money nor factory nor commodity but it is the process of valorisation by metamorphosis through the functional forms of money-capital, productive capital, commodity capital as analysed in Capital, Vol. II, Part I. Hence circulation of capital is the only way in which valorisation can take place (SG 104). We can distinguish between three levels of the presentation of capital circulation so far.

1) Capital circulates "in bulk" through its three stages. Its stay in the sphere of circulation mediates its subsequent passing through the productive phase of the capital-
circuit, but circulation-time in itself is unproductive time. It is a temporal interruption of valorisation.

(One circuit for capital as a whole cf. CII 50, 63)

2) Division of capital in such a manner that an interruption of the productive stage of capital by circulation-time no longer occurs. But as circulation is a necessary condition for valorisation this division of capital is in fact a reduction of the magnitude of capital. Looked at in this abstract way nothing is gained yet. The temporal limitation has been changed into a limitation of the quantity (permanently) functioning as productive capital (SG 105).

(Briefly, there is more than one circuit, but all parts of capital circulate in the same manner).

3) Further division of capital according to the difference in the manner of turnover. The division of capital dealt with under 2) appears now as a division of circulating capital, to which capital as a whole was reduced. But in fact there circulates the capital fixed in the factory's machinery not "in bulk" but in several turnovers of the circulating capital, i.e. with every part (of the division of circulating capital), that leaves the productive stage of capital to enter the sphere of circulation - until fixed capital is turned over as a whole, is replaced and turns over in this distinct manner anew. The application of capital fixed in machinery is crucial for the production of relative surplus-value and it helps to increase the rate of turnover of the part of capital that functions as circulating capital by reducing the period of production (SG 106). But at the same time fixed capital is a limitation of valorisation in that it slows down the aggregate turnover of capital and hinders a greater part of the money advanced circulating as variable capital (SG 107).

Use-Value as a Limitation of Valorisation. The Capitalist Form of Social Reproduction

Capital, Vol. II consists of three parts. In the first part three forms of circuit are distinguished according to the three forms of existence of capital that function as stage of departure and return.

The first part gives its presentation starting from the circuit of money-capital. Its three stages are distinguished from each other and that gives rise to distinguishing the three forms of circuit of capital. Circulation time (time for the purchase of the elements of production), production time and circulation time (time for selling the produced commodities) are dealt with and at the end of Part I. Marx analyses the costs of circulation which diminish the surplus of M₁ over M in M-C...P...C₁ - M₁.

The second part's presentation of the circulation of capital is given in the framework of the circuit of productive capital. The specific manner in which the value of the MP is transferred to the product, hence the difference of the turnover of fixed capital to the turnover of circulating capital is the first central topic. The permanent existence of fixed capital is a permanent existence of productive capital which can only be made productive of surplus-value if circulating capital has also a permanent existence in the sphere of production. To take this into account the previous assumption of presentation,
that capital proceeds in bulk from one stage to the other is modified. This has been illustrated in Schema 1, which has been subsequently modified to show the difference in turnover between circulating and fixed capital in Schema 3. The second central topic of this part is the influence of the turnover of the variable part of capital on the annual production of surplus-value. Again, this is something which can be best presented within the framework of the circuit of productive capital, that is with surplus-value production as its point of departure and return.

The third part of Capital, Vol. II gives a presentation of the circuit of capital within the framework of the circuit of commodity-capital, but commodity-capital taken as the expression of the social sum total of capital (SG 108). There are several reasons for the circuit of commodity-capital being the appropriate one for the study of the reproduction of the aggregate social capital:

1) The reproduction of the aggregate social capital requires an intertwining of the circuits of individual capitals and, since the circuit of commodity-capital has the circulation period of capital as its first part, the study of the intertwinings is facilitated;

2) the circuit of commodity-capital comprises not only the intertwining of circuits of individual capitals but the general circulation of commodities by which the individual consumption of the labourers and capitalists is achieved;

3) the circuit of commodity-capital includes the circulation of surplus-value embodied in C1 and hence is appropriate for considering extended reproduction.

On CII 399 Marx distinguishes "two Departments of Social Production" (SG 110) and thus considers a further Division of Capital: "The total product, and therefore the total production of society may be divided into two major departments:

I Means of Production, commodities having a form in which they must, or at least may, pass into productive consumption.

II Means of Consumption, commodities having a form in which they pass into the individual consumption of the capitalist and the working-class."

In considering the movement of the aggregate social capital within the framework of the circuit of commodity-capital "we cannot rest content any longer as we did in the analysis of the value of the product of the individual capital, with the assumption that the individual capitalist can first convert the component parts of his capital into money by the sale of his commodities, and then reconvert them into productive capitals by renewed purchase of the elements of production in the commodity-market (SG 109).

The question that confronts us directly is this: How is the capital consumed in production replaced in value out of the annual product and how does the movement of this replacement intertwine with the consumption of the surplus-value by the capitalists and of the wages by the labourers? It is then first a matter of reproduction on a simple scale." (CII 397). Presenting the circuit of capital as simple reproduction (SG 111) we assume (contrafactually but for the sake of simplification) that all surplus-value is individually consumed by the capitalist in the natural form of products of department II.
"It is furthermore assumed that products are exchanged at their values and also that there is no revolution in the values of the component parts of productive capital. The fact that prices diverge from values cannot, however, exert any influence on the movements of the social capital. On the whole, there is the same exchange of the same quantities of products, although the individual capitalists are involved in value-relations no longer proportional to their respective advances and to the quantities of surplus-value produced singly by every one of them. As for revolutions in value, they do not alter anything in the relations between the value-components of the total annual product, provided they are universally and evenly distributed. To the extent, however, that they are partially and unevenly distributed, they represent disturbances which, in the first place, can be understood as such only as far as they are regarded as divergences from unchanged value-relations, but in the second place, once there is proof of the law according to which one portion of the value of the annual product replaces constant, and another portion variable capital, a revolution either in the value of the constant or that of the variable capital would not alter anything in this law. It would change merely the relative magnitudes of the portions of value which function in the one or the other capacity, because other values would have taken the places of the original ones." (CII 397f).

It is a consequence of the natural form of the product in department I (means of production) and in department II (means of consumption) that the constant capital of department II (for short: $C_{II}$) must be replaced by product of department I and that the wages (for short: $V_{I}$) and the surplus-value (for short: $S_{I}$) that are at the disposal of the labourers and the capitalists of department I for individual consumption can only be spent in buying products of department II. Hence the exchange between the departments (SG 112):

$$C_{II} = V_{I} + S_{I} \text{ (Simple reproduction)}$$ cf. CII 399, 507

Marx did not in *Capital*, Vol. II, use any drawings, but dealt with figures "to facilitate the understanding" (CII 402) of his analysis of the exchange-relations between the two departments of social production. We try to illustrate the interconnections, using Marx's figures from CII 407f (and 514ff) in the following schema for simple reproduction.

**Schema of Reproduction: Simple Reproduction cf. CII 401f**
The reproduction schema has fifteen numbered items of which four are only of concern when considering extended reproduction.

No.1 Payment of wages for the families of labourers in department I/ selling of labour-power to be used by the capitalists for one year.

No.2 The families of labourers in department I buy means of life from department II with the money received in wages (No.1) (SG 114).

No.3 Department II buys elements of circulating constant capital from department I with the variable capital (No.1) of department I, spent on means of life (No.2).

No.4 Department II buys the rest of the circulating constant capital, that has been productively consumed during the year from department I.

No.5 The capitalists of department I buy an equal value (as expended in No.4) in means of private consumption from department I.

No.6* Department II buys additional circulating constant capital from department I.

No.7* The capitalists of department I buy an equal value (as expended in No.6) of means for their individual consumption from department II in return.

No.8 Department II buys those elements of fixed capital, that were used up during the year, from department I (SG 115).

No.9 The capitalists of department I buy at equal value (as expended in No.8) of means for their individual consumption from department II in return.

No.10* Accumulation funds of department I.

No.11 Replacement of the productively consumed constant capital of department I out of the product of department I.

No.12* Accumulation funds of department II.

No.13 Payment of wages for the families of labourers in department II/ selling of labour-power to be used by the capitalists for one year.

No.14 The families of labourers in department II buy means of life with the money received in wages (No.13) from department II.

No.15 Innerdepartmental circulation of means of individual consumption for the capitalists of department II equal in value to the surplus-value produced in department II.

(* Only in expanded reproduction)

In the schema of Simple Reproduction we already find the following characteristics of the capitalist form of material reproduction: the capitalist class must "throw into
circulation the money required for the realisation of its surplus-value (correspondingly also for the circulation of its capital, constant and variable) . . . For there are here only two classes: the working class disposing only of its labour-power, and the capitalist class, which has a monopoly of the social means of production and money. . . . But the individual capital makes this advance only by acting as a buyer, expending money in the purchase of articles of consumption or advancing money in the purchase of elements of its productive capital, whether of labour-power or means of production. It never parts with money unless it gets an equivalent for it. It advances money to the circulation only in the same way as it advances commodities to it. It acts in both instances as the initial point of the circulation (SG 113).

The actual process is obscured by two circumstances:

1) The appearance in the process of circulation of industrial capital, of merchants's capital (the first form of which is always money, since the merchant as such does not create any "product" or "commodity" and of money-capital as an object of manipulation by a special kind of capitalist.

2) The division of surplus-value - which must always be first in the hands of the industrial capitalist - into various categories, as vehicles of which there appear, aside from the industrial capitalist, the landlord (for ground-rent), the usurer (for interest) etc., furthermore the government and its employees, rentiers, etc. These fellows appear as buyers vis-a-vis the industrial capitalist and to that extent as converters of his commodities into money; they too throw "money" pro parte into the circulation and the industrial capitalist gets it from them. But it is always forgotten from what source they derived it originally, and continue deriving it ever anew." (CII 425 modified).

The last bit was a deviation, quoted in order to make clear the systematic level of Marx's reproduction-schema, which show:

1) The Subject of the process of material production is capital. The metabolism of products of human labour functions as bearer of the valorisation of value.

2) In each mediation of the social interconnection by the "social things" commodities and money there exists the possibility of economic crisis.

3) Within the system of capitalist reproduction of the society the existence of the exploited wage labourers depends on successful circulation of capital that exploits them. The productive wage labourers produce everything that circulates as capital. But the circulation of capital is decisive for their reproduction.

Let us now consider the case of extended reproduction (SG 116). The exchange between the departments amounts here to (SG 117):

\[ C_{ii} + acC_{ii} = V_{i} + acV_{i} + (I - r)S_{i} \]

where 'ac' stands for: accumulated and 'r' for the rate of accumulation (which is necessarily smaller than I because it indicates the part of surplus-value that is not consumed individually by the capitalists).
Marx remarks casually: "we had assumed in the analysis of simple reproduction that the entire surplus-value of department I and department II is spent as revenue. As a matter of fact however one portion of the surplus-value is spent as revenue, and the other is converted into capital. Actual accumulation can take place only on this assumption." (CII 507).

And in the presentation of simple reproduction, in the section "The Formulation of the Question" we read: "However, as far as accumulation does take place, simple reproduction is always a part of it ... is an actual factor of accumulation." (CII 399).

As this feature can be analysed independently from the accumulation of surplus-value it is systematically prior and "can therefore be studied by itself" (CII 399) which on the other hand is the first part of the analysis of extended reproduction, or in Marx's words: analysis of one factor of accumulation. We can now concentrate (cf. CII 514ff) on the analysis of the second factor: accumulation of surplus-value as additional capital. But in doing so, we use the results of the analysis of the first factor as a starting point. Marx once again stresses the difference between dealing with an individual capital (cf. CII 99) and considering the aggregate capital of the capitalist class: "It has been shown in Capital, Vol. I how accumulation works in the case of the individual capitalist. By the conversion of the commodity-capital into money the surplus-product, in which the surplus-value is represented, is also turned into money. The capitalist reconverts the so metamorphosed surplus-value into additional natural elements of his productive capital. In the next cycle of production the increased capital furnishes an increased product. But what happens in the case of the individual capital must also show in the annual reproduction as a whole, just as we have seen it happen on analysing simple reproduction." (CII 493).

We use the same Schema to illustrate what Marx does using just the figures of CII 514ff. The first assumption of presentation regards the rate of accumulation in department I:

\[ r = \frac{1}{2} \]

The second assumption of presentation regards the organic composition of the accumulated capital in both departments:

\[ \frac{ac C_I}{ac V_I} = \frac{C_I}{V_I} \]

and

\[ \frac{ac C_{II}}{ac V_{II}} = \frac{C_{II}}{V_{II}} \]

We strongly recommend a reading of Capital, Vol. II, pp.514-517 whilst working through the following drawings of six years of extended reproduction. Marx chose an example in which there is a different organic composition in department I \((C_I/V_I)=(4/1)\) and in department II \((C_{II}/V_{II})=(2/1)\). His "Initial Scheme for Reproduction on an Extended Scale" reads:
Department I: $4000C_1 + 1000V_1 + 1000S_1$
Department II: $1500C_{II} + 750V_{II} + 750S_{II}$

Hence there is a third assumption of presentation regarding the rate of surplus-value:

$$\frac{S_1}{V_1} = \frac{S_{II}}{V_{II}} = 100\%$$

Schema of Reproduction: Extended Reproduction, 1st year, cf. CII 514f
Schema of Reproduction: Extended Reproduction, 2nd year, cf. CII 515f

\[ (11) \quad 4400 + 440 \quad \text{acMp (fix and circ)} \]

DEPARTMENT I

Commodity-Capital: \(4400c_I + 1100v_I + 1100s_I\)

Money: 1210 (see (1))

Accumulation I

\(440\text{Mp}/110\text{ M for Lab I}\)

LABOURERS I

Production of Mp

Money

\(1210\text{ Mp circ}\)

\(140\text{ Mp circ}\)

\(160\text{ ac Ma circ}\)

\(250 + 10\text{ ac Mp fix}\)

Accumulation II

\(160\text{ Mp}/80\text{ Ms for Lab II}\)

Commodity-Cap: \(1600c_{II} + 800v_{II} + 800s_{II}\)

Money: 1430 (see (13) (4) (6) (8))

LABOURERS II

Production of Mi

Money

\(880\text{ Mi}\)

DEPARTMENT II

Money

\(560\text{ M}\)

\(c\text{ fix portion in CII}: 14.2\%\)

\(\bullet\) Advancing of money-capital

\(\rightarrow\) Return of money-capital

\(\rightarrow\) money

\(\rightarrow\) commodities

\(\rightarrow\) money being used again

\(\rightarrow\) interdepartmental circulation of money and commodities

\(\rightarrow\) Return of fixed capital in money-form; its hoarding until the end of its turn over

\(c\) constant capital

\(v\) variable capital

\(s\) surplus-value

\(Mp\) Means of production

\(ac\) accumulated

\(fix\) fixed

\(circ\) circulation

\(M\) Money

\(Lab\) Labourers

\(LP\) Labour-power

\(Ms\) Means of sustenance

\(Mi\) Means of consumption including Ms

\(Mc\) Means of consumption

\(Cap\) Capital
Schema of Reproduction: Extended Reproduction, 3rd year, cf. CII 516f
Schema of Reproduction: Extended Reproduction, 4th year

\[
\begin{align*}
\text{(11) } & 5324 + 532 \quad \text{acMp (fix and circ)} \\
\text{DEPARTMENT I} \\
\text{Commodity-Capital: } & 5324C_1 + 1331V_1 + 1331S_1 \\
\text{Money: } & 1464 \quad \text{(see (1))} \\
\text{Accumulation I} & \quad \text{(10)} \\
& 532 \text{ Mp}/133 \text{ M for Lab I} \\
\text{LABOURERS I} & \quad \text{(2)} \\
\text{Money: } & 1464 \quad \text{acMp circ} \\
\text{Money: } & 222 \quad \text{ac Mp circ} \\
\text{Money: } & 222 \quad \text{Mc} \\
\text{Money: } & 183 \quad \text{ac Mp circ} \\
\text{Money: } & 183 \quad \text{Mc} \\
\text{Money: } & 250 \quad \text{ac Mp circ} \\
\text{Accumulation II} & \quad \text{(12)} \\
& 193 \text{ Mp}/97 \text{ Ms for Lab II} \\
\text{Commodity-Cap: } & 1936C_{II} + 968V_{II} + 968S_{II} \\
\text{Money: } & 1730 \quad \text{(see (13) (4) (6) (8))} \\
\text{LABOURERS II} & \quad \text{(13)} \\
\text{Money: } & 1065 \\
\text{Money: } & 1464 \quad \text{ac Mp} \\
\text{Money: } & 1464 \quad \text{ac Mp} \\
\text{Money: } & 1464 \quad \text{ac Mp} \\
\text{Money: } & 1464 \quad \text{ac Mp} \\
\text{DEPARTMENT II} & \quad \text{(15) 678 M} \\
\text{Money: } & 678 \\
\text{Money: } & 678 \\
\text{c: fix portion in CII: } & 11.7\% \\
\end{align*}
\]

c: constant capital  
V: variable capital  
s: surplus-value  
Mp: Means of production  
ac: accumulated  
fix: fixed  
circ: circulation  
M: Money  
Lab: Labourers  
LP: Labour-power  
Ms: Means of sustenance  
Mc: Means of consumption including Ms  
Cap: Capital  

Advancing of money-capital  
Return of money-capital  
money  
commodities  
money being used again  
innerdepartmental circulation of money and commodities  

Return of fixed capital in money-form; its hoarding until the end of its turn-over
Schema of Reproduction: Extended Reproduction, 5th year, cf. CII 517

DEPARTMENT I

Commodity Capital: 5856C₁ + 1464V₁ + 1464S₁
Money: 1610

Accumulation I
586 Mp/ 146 M for Lab I

Accumulation II
213 Mp/107 Ms for Lab II

Commodity Cap: 2129C₁ + 1065V₁ + 1065S₁
Money: 1904

LABOURERS I

LABOURERS II

LEGEND:

C: constant capital
V: variable capital
S: surplus value
Mp: Means of production
ac: accumulated
fix: fixed
circ: circulation
M: Money
Lab: Labourers
LP: Labour power
Ms: Means of sustenance
Mc: Means of consumption
including Ms
Capi: Capital

Money being used again
innerdepartmental circulation of money and commodities
Advancing of money capital
Return of money capital
money
commodities

RETURN OF FIXED CAPITAL IN MONEY FORM:
its hoarding until the end of its turn over
A few remarks on the specific manner of the circulation of fixed capital are necessary.

We only separated the circuit of fixed capital for department II. In principle the fixed capital of department I turns over likewise. Its abbreviation in the unarticulated innerdepartmental circulation act II has been chosen for the sake of simplicity. A further - and counterfactual - simplification is the assumption of simple reproduction of the fixed part of capital, whereas the other parts are reproduced on an extended scale.

The characteristic and distinct feature of the circulation of fixed capital is the existence of latent money-capital during several turnover periods of the rest of capital. Value is here fixed in "dead labour", partly in machinery, partly in money, without circulating.

**The Reproduction of the Capital Relation**

The reproduction schemata give the necessary circulations of commodities and money between various sections of capital and the working-class if social capital is to be reproduced.

Capitalist reproduction is social reproduction in an indirect form (SG 118) i.e. without a conscious social subject, but mediated by the relations of "social things" (cf. CI 79) to each other. This is expressed by Marx with reference to his reproduction schemata:

"The constant supply of labour-power on the part of labourers I, the reconversion of a portion of commodity-capital I into the money-form of variable capital, the replacement of a portion of commodity-capital II by elements of constant capital II in their natural form - all these necessary conditions demand one another, but they are brought about by a very complicated process" - without a conscious subject of action ("Subjekt der Handlung") - "including three processes of circulation which occur independently of one another but intermingle. So complicated as this process is, so many occasions for crisis it offers." (CII 499f.).

Capital continually reproduces itself by simultaneously forcing the worker not only to work under conditions of exploitation but to reproduce these conditions of servitude to capital:

"But that which at first was but a starting-point, becomes, by the mere continuity of the process, by simple reproduction, the peculiar result, constantly renewed and perpetuated, of capitalist production. On the one hand, the process of production incessantly converts material wealth into capital, into means of creating more wealth and means of enjoyment for the capitalist. On the other hand, the labourer, on quitting the process, is what he was on entering it, a source of wealth, but devoid of all means of making that wealth his own. Since, before entering on the process, his own labour has already been alienated from himself by the sale of his labour-power, has been appropriated by the capitalist and incorporated with capital, it must, during the process, be realised in a product that does not belong to him. Since the process of production is also the process by which the capitalist consumes labour-power, the product of the labourer is incessantly converted, not only into commodities, but into capital, into value that sucks up the value-creating power, into means of subsistence that buy the person of
the labourer into means of production that command the producers. The labourer therefore constantly produces material, objective wealth, but in the form of capital, of an alien power that dominates and exploits him; and the capitalist constantly produces labour-power, but in the form of a subjective source of wealth, separated from the objects in and by which it can alone be realised; in short he produces the labourer, but as a wage-labourer." (CI 535f.).

**Remarks on Capital, Vol. II**

Starting from the "General Formula For Capital" which served as a presentational frame for the analysis of the immediate process of capitalist production in Vol. I, chapter 1, Vol. II "The Circuit of Money-Capital" outlines both a structure for the systematic kernel of Part 1, Vol. II (chapters 1-3) and for the entire volume's division into three parts - according to the three stages of the circuit and three forms of the circuit. The three stages are dealt with in chapter 1, the three forms of circuit in chapters 1, 2 and 3. And the presentational frame for Parts 1, 2, 3 are the circuit of money-capital (Part 1), the circuit of productive capital (Part 2) and the circuit of commodity-capital (Part 3).

**Part 1**

We think that a systematic reading of part 1 should concentrate on chapters 1-3. The central assumption of presentation is stated on CII 50 (and relaxed on CII 104f).

Chapter 4 is an anticipation of a transition to a different, more developed level of presentation in chapter 15, dealing with the "division of capital" (CII 106) in terms of "additional circulating capital" (CII 263, 269).

On CII 104-107 the assumption of presentation constitutive for the analysis in chapter 1-3 is relaxed. The argument for the division of capital based on the desire and necessity of giving surplus-value production a continuous existence is complemented by pointing to the fact that productive capital has a continual existence anyway - in the form of fixed capital. But this clearly is jumping into Part 2, precisely, chapter 15 (cf.CII 262ff).

Chapter 5 "The Time of Circulation" for its greatest part can be amalgamated with chapter 14 (which carries the same heading). We take it as an objection against the place of chapter 5, that the circuit of money-capital does not contain the "time of circulation" as a coherent period whereas the circuit of productive capital does and there is no reason for dealing with the same matter twice. The distinction between "time of production", "time of functioning" and "labour-time" (cf. CII 124-127) and its relevance for surplus-value production is focused upon in chapters 12 "The Working Period" and 13 "The Time of Production".

The material dealt with in chapter 6 "The Costs of Circulation" would then best fit in between chapter 14 and 15, maybe as a second part of chapter 14, which could be expressed by changing its heading into "The Time and Costs of Circulation". Both the costs of circulation and the fixation of capital during the turnover period (circulation time and production time) limit capital's valorisation. The application of fixed capital - treating transport here as a sphere of production, (cf. CII 155) - brings down that
limitation (at the price of creating a new one). Another way in which the costs of circulation as a limitation of valorisation (of industrial capital (SG 125)) are fought against will be dealt with in the analysis of commercial capital (SG 125) in Vol. III.

**Part 2**

Chapter 7 is a short systematic introduction to Part 2, necessary for the subsequent analysis of fixed and circulating (SG 98) capital in chapter 8 which is one of the central chapters of *Capital*, Vol II.

Chapter 9 is a redetermination of the concept of turnover, modified by the distinction between fixed and circulating capital

Chapters 10 and 11 belong to the *Theories of Surplus-Value*, (cf. CII 2).

Chapters 12-14 give detailed distinctions of different sub-parts of the turnover period before the "Effect of Time of Turnover on Advanced Capital" is dealt with in chapter 15, another central chapter of *Capital*, Vol. II (Chapter 15 focuses on circulating capital, (cf. CII 298)).

Chapter 16 finally draws attention to a simplification of the presentation of surplus-value production in Vol. I, where the distinction between capital advanced and capital functioning (SG 102) is not yet made. The consequence is that it is only now that the rate of surplus-value as a rate of exploitation ("real rate of surplus-value" CII 308) and as a rate of valorisation ("annual rate of surplus-value" CII 306ff) are distinguished from each other. The matter under consideration could very well be labelled "influence of the time of turnover on valorisation" (CII 261), as long as it is kept in mind that it is a false semblance that, with regard to surplus-value production, "added here to labour-time is a second determining element - time of circulation" (CIII 327).

"This (circulation time in the sense of: turnover time) functions, in fact, only as a negative limitation of value and surplus-value production but it carries the semblance of being an equally positive source (of surplus-value production) as labour itself and of bringing in a determination (of surplus-value production) independent of labour, springing from the nature of capital." (CIII 827f).

Chapter 17, "The Circulation of Surplus-Value" can best be understood as a transition to Part 3. Leaving aside the passages on credit and shares etc., which are systematically out of place, i.e. an anticipation of topics dealt with in Vol. III; and leaving aside the production of the money-commodity, the systematically interesting parts in chapter 17 take into consideration differences in turnover, which pose the problem of reproduction in a different manner for different individual capitals. In Part 3, which deals with the reproduction of the social aggregate capital, this difference in turnovers is ignored in the "reproduction schemata".

**Part 3**

Chapter 18 "Introduction" is very short and worth reading.
Chapter 19 "Former Presentations of the Subject" clearly belongs to the *Theories of Surplus-Value* (cf. CIII 2). So do sections 9 and 13 of chapter 20. The remainder of chapters 20 "Simple Reproduction" and 21 "Accumulation and Reproduction on an Extended Scale" is bulky enough. As we believe it is here that the analysis of reproduction/accumulation has its systematic place, we remind the readers to take Part 7 of Volume I into consideration as well, when discussing this topic.

The systematic difficulty lies in Marx's treatment of gold production as the source of the money-commodity. We suggest that the reader skip these passages because the mediation of commodity-circulation by money is presented under restrictive assumptions. (The changing into the money-form is essential for the circulation of the product of capital. But mere "shortage of the money-commodity" is not an obstacle that can't be overcome.)

Although the systematic place of a Marxist theory of money is very much disputed, we take the view that money can't be properly analysed until credit, interest, banks, national banks are dealt with (cf. *Capital*, Vol. III, Part 5).

**Paper 4**

**The Forms of Appearance of Surplus-Value: Profit of Enterprise, Interest and Rent**

The analysis of the ground-form of capital has revealed the source of the valorisation of capital: it is the surplus-labour time of productive wage-labourers. Which forms are taken on by surplus-value on the surface of capitalist society? Before we can answer this question we have to investigate the transformed form of surplus-value, average profit.

**Average Profit**

The analysis of the transformation of surplus-value into average profit starts from the concept of cost-price (k "Kostpreis") (SG 120). Herein the distinction between the production of new value (v + s) and the transfer of old value (c) is suspended in practice: \( k = c + v \). Cost-price is just the sum of money necessary for starting a profit-making process. At the most abstract level profit (SG 120) is determined here as the difference in magnitude of value between selling-price (SG 120) of the produced commodity and cost-price of the elements of production. We can distinguish between two forms of competition of capitals (SG 121): one which occurs within the sphere where the producers of the same kind of commodity compete and one between the different spheres of production where the aggregate capitals of the different spheres compete for a share in the total social surplus-value produced. The share of the surplus-value which falls to a capital as the end result of this competition is called profit (p).
Profit always refers to the return on the total capital advanced. As opposed to the rate of surplus-value $s/v$, the rate of profit is $p/(c + v)$.

"Now, if the commodities are sold at their values, then as we have shown, very different rates of profit arise in the various spheres of production, depending on the different organic composition of the masses of capital invested in them. But capital withdraws from a sphere with a low rate of profit and invades others which yield a higher profit. Through this incessant outflow and influx, or briefly, through its distribution among the various spheres, which depends on how the rate of profit falls here and rises there, it creates such a ratio of supply to demand that the average profit in the various spheres of production becomes the same, and values are, therefore converted into prices of production." (CIII 195f).

The production price is that selling price which enables the sphere of capital to make average profit (SG 122). To the extent that production price becomes general the spheres of capital become mere shareholders of the joint-stock company 'social capital' (cf. CIII 158). The share of one sphere of production in the aggregate surplus-value is determined by the ratio of the advanced capital in that sphere to the aggregate capital, independently of organic composition ($c/v$) and the turnover of variable capital, both of which are crucial for surplus-value production. This equalised rate of profit of all spheres we call the rate of average-profit. The surplus-value which is produced in one sphere of production does not determine the profit of that sphere. Average profit as a transformed form of the socially expropriated surplus-value is an expression of a social relation: the exploitation of the working-class by the capitalist class.

If we move on from the spheres of capital to the individual capitalist within the spheres, the competition between producers of the same type of commodity and the competition for average profit together determine the selling-price. After the analysis of the average rate of profit of the different spheres has been done the effects of different individual conditions of production i.e. differences in the productivity of individual capitals within one sphere can be articulated as differences of individual cost-prices. But an identical price is paid for commodities of the same kind, a unified market-price (SG 123). We can make a distinction between three forms of profit that exceed average profit (SG 124):

1) Extra-profit stemming from selling the commodity at its production price with production of the commodity at an individual cost-price lower than the average cost-price in that sphere ("extra-profit$_1$").

2) Extra-profit stemming from selling the commodity at a market-price which, as a result of a monopoly of that sphere and organic composition below the social average, is higher than the production price but still below the value of that commodity ("extra-profit$_2$").

3) Extra-profit stemming from selling a commodity at a "monopoly price proper" (eigentlicher Monopolpreis), which is higher than the production price and higher than the value of the commodity ("extra-profit$_3$").

The analysis of capitalist ground-rent will start from these three forms of extra-profit (differential ground-rent, absolute ground-rent and monopoly rent respectively whereas
the analysis of the other two forms of appearance of surplus-value, profit of enterprise and interest, deals with the division of average profit itself. Before dealing with these forms of appearance we outline two other aspects of average profit, firstly the tendency of the rate of profit to fall and secondly that the "final form" (CIII 388) of average profit includes the participation of merchant's capital in social surplus-value.

**A Remark on the Tendency of the Rate of Profit to Fall**

The capitalist mode of production includes substitution of living labour-power by labour objectified in machinery. Along with this application of machinery for the production of relative surplus-value, therefore, the contradiction that the rate of surplus-value can only be increased by diminishing the number of labourers relative to the magnitude of the total capital \( (c + v) \) (cf. CI 383). As average profit distributes the aggregate social surplus-value to the different spheres of capital, the magnitude of the rate of profit is influenced by the substitution of living labour-power by machinery if the increase of the rate of surplus-value does not compensate for the change in the organic composition of capital and therefore the relative decrease of the variable part of capital. For an individual capital this contradiction does not present itself in everyday practice:

"A saving of labour -not only labour necessary to produce a certain product, but also the number of employed labourers - and the employment of more congealed labour (constant capital), appear to be very sound operations from the economic standpoint and do not seem to exert the least influence on the general rate of profit and the average profit. How could living labour be the sole source of profit, in view of the fact that a reduction in the quantity of labour required for production appears not to exert any influence on profit? Moreover, it even seems in certain circumstances to be the nearest source of an increase of profits, at least for the individual capitalist." (CIII 170)

(For our views on the correct systematic place for the treatment of the tendency of the rate of profit to fall see the Remarks on Vol. I, chaps 7-33.)

**Commercial Profit**

The analysis of the ground-form of capital serves as a basis for the analysis of commercial capital as a derivative form of capital. The circuit of capital as analysed in Paper 3 (cf. Capital Vol. II) has three phases. In the phase of productive capital surplus-value is created whereas the phases of money-capital and commodity-capital are unproductive but necessary for the circulation of value as capital.

At this stage of the analysis, capital is now divided into industrial capital, which concentrates on the productive phase, and commercial capital, which deals exclusively with the circulation phases (SG 125). To the extent that commercial capital does the work of circulation at a lower cost by means of concentrating the buying and selling of a number of industrial capitals they create the economic basis for their existence. The costs of circulation work have to be paid out of surplus-value. The commercial capital makes the surplus-value absorbed by unproductive circulation work the source of its profit insofar as it diminishes the socially necessary unproductive work. Commercial capital grabs that part of social surplus-value that corresponds to its share in aggregate capital. After the acknowledgement of commercial capital as capital which makes
average profit the spheres of circulation become just one of the spheres of investment of capital (SG 126). Outflow and influx of capital are determined for this sphere as well, by the competition for profit between the different spheres which is mediated by competition within the sphere.

Commercial capital must succeed in pressing down the costs of circulation work to such an extent that they remain, after the addition of average profit to the capital advanced, lower than the amount an industrial capital would have to spend if it did all the circulation work itself. The division of ground-form capital into industrial capital and commercial capital is dependent on the ratio of the production period to the circulation period and the extent to which circulation work is done by commercial capital (not all the circulation work can be taken out of the hands of industrial capital).

In the form of average profit for the ground-form of capital there is already a quantitative divergence of profit from surplus-value. Looking at commercial profit we find in addition a qualitative divergence in that capital which produces no surplus-value, participates in the distribution of social surplus-value, through making average profit. All capital which makes average profit does so on the basis of the exploitation of productive industrial labourers. All capital which makes average profit also benefits from an exploitation of the commercial labourers analogous to that of the industrial labourers: commercial wage-labourers work part of their time "for nothing" (CII 135).

**Two Derived Forms of Surplus-Value: The Division of Average Profit into Interest and Profit of Enterprise**

With commercial capital we have made acquaintance with the first derived form of capital. Here capital which does not engage in surplus-value production is nevertheless a profitable advance of money on the basis that the portion of aggregate capital engaged in circulation functions is diminished. But we were not confronted with a derived form of surplus-value. Commercial profit takes the form of average profit, the transformed form of surplus-value we already know. When dealing now with interest-bearing capital we do not find a new participation in average profit but rather a division of average profit, including commercial profit, into two parts which are derived forms of surplus-value: interest and profit of enterprise (SG 128). Here the same money functions as average profit producing and interest-bearing, only for two different capitalists. The circuit of the former (functioning capital) is embedded in the circuit of the latter and so we could call interest-bearing capital a capital of 'higher order'. As we deal here with average profit in its final form the embedded circuit of functioning capital can be either a circuit of industrial capital or a circuit of commercial capital.

Interest of interest-bearing capital = \( M_{II} - M_I \), Profit of enterprise of functioning capital = \( M_I - M \). Average profit = \( M_{II} - M \).
In overcoming the latency of money-capital caused by necessary periods of fallow for functioning capital, interest-bearing capital has its first raison d’etre. Besides overcoming fallow, the form of interest-bearing capital allows for the gathering together of several capitals' newly accumulated surplus-value, each of which is too small to function independently. Because of the possibility of lending money in exchange for interest, interest itself becomes a fixed form, the price of the 'higher order' commodity, capital (SG 129). On the other hand, this leads to a permanent division of average profit into interest and the remainder, called profit of enterprise. Just as interest appears to be a property of money, profit of enterprise appears to stem from the activity of the entrepreneur, the functioning capitalist's labour-power, (cf CIII 382).

**A Third Derived Form of Surplus-Value: Transformation of Extra-Profit into Capitalist Rent.**

At this level of the presentation nature (the unproduced conditions of labour) is given its systematic place.

Landed property is the power to make the use of nature dependent on paying money to the rentier (SG 130). Capital working on e.g. a certain plot of land for which it pays rent, can make better than average profit if that plot of land gives it an advantage over others so that in addition to average profit an extra-profit is made which partly or wholly can be transformed into ground-rent. These natural advantages in production or circulation can be listed in three groups:

1) Extraordinary productivity (e.g. as a consequence of exceptionally fertile ground)

2) Extraordinarily favourable location and hence a quicker turnover and lower costs of circulation.

3) Natural limitation of production in a sphere (e.g. as a consequence of scarcity of a mineral).

The first two advantages result in lowering the individual cost-price below the average cost-price. The third advantage enables the seller of the product to ask a market-price above the price of production. Advantages (1) and (2) are reasons for extra-profit. Advantage (3) is a source of extra-profit$_2$ or extra-profit$_3$ (see the above section on average profit). By selling products at the price of production while the individual cost-price is below the average cost-price, an extra-profit is made as against competing capitals in the same sphere of production. By selling the product at a market price above the price of production, the particular sphere is making extra-profit$_2$ if the price does not exceed the value of the product, and it makes extra-profit$_3$ against other spheres of capital if the price exceeds the value. Extra-profit$_1$ can partially or wholly be transformed into differential ground-rent (cf. CIII 40ff, 745f) (SG 131), extra-profit$_2$ into absolute ground-rent (cf. CIII 760ff) (SG 132) and extra-profit$_3$ into monopoly rent proper (cf. CIII 762, 832f) (SG 133).

At this level of analysis land itself becomes a commodity (SG 134) whose price is determined by the capitalisation of the ground-rent which it draws i.e. investment of capital in land draws ground-rent as interest. The price of the land is therefore determined as the price of buying the property that draws ground-rent and is given by
the expression rent/(rate of interest). In this way land becomes a higher order commodity.

**Remarks on Capital, Vol. III**

The 3rd volume of *Capital* as we have it now was set down by Marx essentially in one manuscript, most likely written in 1865 (before the final draft of Vol. I in 1866/7). Engels acknowledges: "As the reader will observe from the following, the work of editing the third volume was essentially different from that of editing the second" (Where there were several substantial manuscripts from after 1867 in Engel's hands and notes by Marx on how to do the selection. E/R). "In the case of the 3rd volume there was nothing to go by outside a first extremely incomplete draft. The beginnings of the various parts were, as a rule, pretty carefully done and even stylistically polished. But the farther one went, the more sketchy and incomplete was the manuscript, the more excursions it contained into arising side-issues, whose proper place in the argument was left for later decision." (CIII 2)

It seems that material additional to the 1865 manuscript was only incorporated by Engels into the first part. Chapter 1 was written by Engels on the basis of "two attempts at revising" (done by Marx at a time which Engels doesn't give, cf. CIII 3) Chapter 2 is "taken from the main manuscript". (CIII 3), but must have been there at a different place, for Engels states that the manuscript started with the topic of today's chapter 3. This version was written by Engels on the basis of Vol. II, "Beginning with Ch. 5, the main manuscript is the sole source for the remainder of the part" - and indeed the book - "although many transpositions and supplements were also essential". (CIII 4)

With parts 2, 3 and 4 Engels claims to have done no more than "stylistic editing." But he restructured parts 5 (on interest) and 6 (on rent), cf. CIII 4 and 6f. The theoretically very important last part "was available complete, but only as a first draft, whose endlessly involved periods had first to be dissected to be made printable. There exists only the beginning of the final chapter." (CIII 7). Engels printed the fragment and made no attempt to bring it to its systematic end. At the very beginning of part 7 Engels collected short (but very dense) passages on the trinitary formula from different places within the manuscript in its part on ground-rent.

In short: Engels has edited as Vol III of *Capital* a draft by Marx done before the final shape of Vol. I came into being. Engels does not refer to any later hints of Marx on how to do the editing.

On the contrary, it seems that Marx's view about the matter is expressed in his letter to Engels on February 13th, 1866. "Obgleich fertig, ist das Manuskript, riesig in seiner jetzigen Form, nicht herausgebar für irgend jemand außer mir, selbst nicht für Dich." (although finished, the manuscript, gigantic in its present form, is not editable by anyone but myself, not even by you).

Does this matter? Only a successful attempt at unfolding the systematic argument in a dialogue can answer the question.

**Part 1**
Chapter 1 begins with a passage that could well function as an introductory remark to Vol 3 of Capital as a whole; it ends:

"The various forms ("Gestaltungen" MEW 25, p. 33; see also Marx's letter to Kugelmann of October 13, 1866) of capital as evoked in this book ... approach step by step the form ("Form") which they assume on the surface of society, in the action of different capitals upon one another, in competition, and in the ordinary consciousness of the agents of production themselves" (CIII 25).

As regards 'profit' as such a form of appearance we read in chapter 2:

"The transformation of surplus-value into profit must be deduced from the transformation of the rate of surplus-value into the rate of profit, not vice versa ... surplus-value and rate of surplus-value are, relatively, the invisible and unknown essence ("das zu erforschende Wesentliche" MEW 25, p. 53) that wants investigating, while rate of profit and therefore the appearance of surplus-value in the form of profit are revealed ("zeigen sich") on the surface of the phenomenon" (CIII 43).

In our view, as the reader may remember from the remarks on CI ch 16, the concept of profit does have a systematic meaning in Vol I already. The difference with respect to 'profit' on the level of Part 1 Vol. III comes to mind when focusing on the results of the analysis of the circulation of capital and taking account of the distinction between circulating and fixed capital (cf. CIII 33) and considering the annual rate of profit (ch 4, cf. CIII 74 especially).

Chapter 5 deals with a topic that was raised in Parts 3 and 4 of Vol. I already (cf. CI 251, 308, 365ff.): 'Economy in Employment of Constant Capital'. The material used for the illustration of the systematic points is to a great extent identical: reports of the inspectors of factories for the period 1845 to 1864 (in the case of Vol III chs 5 and 6) and the period 1841 to 1866 (in the case of Vol I).

The claim is expressed (CI 308) already:

"Economy in the use of the means of production has to be considered under two aspects. First, as cheapening commodities, and thereby bringing about a fall in the value of labour-power. Secondly, as altering the ratio of the surplus-value to the total capital advanced, i.e., to the sum of the values of the constant and variable capital. The latter aspect will not be considered until we come to the third book, to which, with the object of treating them in their proper connexion, we also relegate many other points that relate to the present question. The march of our analysis compels this splitting up of the subject-matter".

This refers to the analysis of relative surplus-value production. But a similar point can be made with respect to the analysis of absolute surplus-value production or surplus-value production in general: "Capital has one single life impulse, the tendency to create value and surplus-value, to make its constant part, the means of production, absorb the greatest possible amount ("Masse" MEW 23, p. 247) of surplus-labour. Capital is dead labour, that, vampire-like, only lives by sucking living labour, and lives the more, the more labour it sucks" (CI 224).
This relation of variable and constant capital can obviously be looked at from its two opposing sides. In Vol I: the existence of money in the form of constant capital treated as given, the analysis of surplus-value production focuses on capital's tendency to increase surplus-value production. In Vol III: given the valorisation of capital's variable part ("mass and rate of surplus-value" CIII 79) the analysis focuses on capital's tendency to reduce the portion of constant capital in total capital. The labourers suffer from both alike. Compare Vol I ch 10 Sec. 4, "Day and Night Work. The Relay System" with Vol III ch 5 Sec. 2, "Savings in Labour Conditions at the Expense of the Labourers" and the remark CIII 86:

"Since the labourer passes the greater portion of his life - a great part anyway - in the process of production, the conditions of his active living process, or his living conditions, and economy in these living conditions is a method of raising the rate of profit; just as we saw earlier (in Vol I) that overwork, the transformation of the labourer into a work horse, is a means of increasing capital, or speeding up the production of surplus-value".

Taking into consideration the distinction between circulating constant capital and fixed capital as developed in Vol II a number of different cases of economising the employment of constant capital or effects of a cheapening of elements of constant capital are discussed in the 5th and 6th chapters.

Chapter 7, "Supplementary Remarks" is information on the assumptions of presentation used in Part 1 as opposed to Part 2.

**Part 3**

In Marx's manuscript of 1864-65 the text of Part 3 has no subtitles. The segmentation into chapters is Engels' work.

Systematically there are two different strands of argumentation.

1) Rise in the organic composition in the course of the development of machinery. This leads to a sinking rate of profit if not matched by even greater rise in the rate of surplus-value. Cf. ch 13.

2) "Absolute over-production of capital" (CIII 251)- "i.e., the increased capital C + ΔC would produce no more, or even less, profit than capital C before its expansion by C... there would be a steep and sudden fall in the general rate of profit, but this time due to a change in the composition of capital not caused by the development of the productive forces, but rather by a rise in the money-value of the variable capital (because of increased wages) and the corresponding reduction in the proportion of surplus-labour to necessary labour." (cf. ch 15 III)

We take the view that the difficulty for capital which arises from a rise in the organic composition has to be dealt with at the end and that the over-accumulation problematic has its systematic place within the analysis of the revenue-forms when competition and 'bourgeois class-struggle' are dealt with.

**Part 4**
The sections (our chapters) and their titles - with the exception of the title of ch 20 - are in the manuscript of 1864-65.

Systematically the most interesting is ch 17. On the problematic of historical development vs. systematic order cf.:

"In the course of scientific analysis, the formation of a general rate of profit appears to result from industrial capitals and their competition, and is only later corrected, supplemented, and modified by the intervention of merchants' capital. In the course of its historical development, however, the process is really reversed. It is the commercial capital which first determines the prices of commodities more or less in accordance with their values, and it is the sphere of circulation, the sphere that promotes the process of reproduction, in which a general rate of profit initially takes shape". (CIII 287)

Part 5

Of this part comprising two component parts, the first one (chs 21-28) is more structured and systematically more relevant. The second one's subtitles cannot be found in the 1864-65 manuscript. Engels acknowledges in his editorial note: "The real difficulty, however, began with Chapter 30. From here on it was ... a matter ... of putting the train of thought into proper order" (CIII 6). It is an open question, to what extent the material dealt with there belongs to the general analysis of the capitalist form of society, e.g. to a theory of money. For those without a special interest in this question we can offer the advice to skip chs 30-35.

Part 6

It is helpful to read the beginning of the text, CIII 614ff. carefully, as Marx states explicitly the assumptions of the subsequent presentation. That rent is not a "characteristic peculiarity of agriculture" is expressed CIII 637ff.

Thanks to Engels - who used Marx's hints (cf. CIII 762f and 7) - this part is clearly structured. For good information about the topics (especially the sub-forms of differential rent) see the table of contents CIII p X.

Part 7

With the possible exception of the three fragments which Engels placed at the very beginning of the text and his remarks (which might not be true) "here the manuscript breaks off" (CIII 817) and "here one folio sheet is missing" (CIII 822) - the text as printed in CIII does not offer editorial problems but a number of systematic ones.

The fragmentary character of this final part of Capital is a real pity. That this fragment remained unfinished without any attempts to complete it in the years 1866-1883 (cf. Marx's letter to Engels of February 13, 1866) must cause astonishment. Worth reading is the appendix "Revenue and its sources", printed at the end of the third volume of "Theories' of Surplus-Value", which was written two or three years before the corresponding text in Capital.
Paper 5

The Surface-Forms of Everyday Economic Life in Capitalist Society

The Mystificatory Character of the Wage-Form

Although the analysis of the wage-form is done by Marx in *Capital* Volume I immediately after the analysis of surplus-value production, we think that, because the wage-form is the way that the exchange between labour and capital is lived, the correct systematic place for its treatment is with the analysis of the revenue-form (cf. below), which constitutes the "religion of everyday life" (CIII 830).

For productive labour the basic wage-form (SG 135), which signifies the exchange between labour and capital as an exchange of labour for wages, dissolves the division of the working day into necessary labour-time and surplus-labour-time (SG 39), and hence makes invisible the source of surplus-value. The wage-form therefore conceals the exploitation of the productive labourers. At the same time as the wage-form obliterates the source of surplus-value it obliterates the distinction between productive and unproductive labour (SG 91) and both the productive wage-labourer and unproductive wage-labourer live their relation to capital in the same everyday form of life. (Marx gives an account of the (unproductive) commercial wage-labourer as an aside in his analysis of the costs of circulation. Their wages are a deduction from surplus-value, cf. CIII 135).

In entering into a transaction with capital under the wage-form, the wage-labourer has agreed to submit to the command of capital for the duration of the working-day. But how long is the working-day to be? Under the basic wage-form, the antagonism between labour and capital can be lived as a struggle on the labourers' side for a short working-day and with capital pressing in the opposite direction.

The time-wage (SG 138) in which an hourly rate is paid, confuses this struggle by making it in the workers' interest to work a long working-day so as to get a high wage, thereby partially internalising within the wage-form the interest of capital for a long working-day. Speaking of an internalisation here is not restricting the mystification of the wage-form (or indeed any practical signification of the form of bourgeois life) to the workers. The various wage-forms which we speak of here are general forms of life and at the same time as they internalise capitalist class interests in a contradictory workers' consciousness they equally mystify the inner connexions for the bourgeois. The workers' consciousness is contradictory because they want to be better paid but they can only do this by prolonging their submission each day to capital. Limiting the pace of work, however, is quite in the workers' interest in terms of the time-wage form and is the practical resolution of the internalised contradiction.
A development in the wage-form which counteracts the interests of workers to limit the pace of work and which further internalises the interests of capital in the workers is the piece-wage wage-form (SG 138). In this form what appears to be paid for is the use-values produced. As well as having an interest in prolonging the working-day the worker has an interest in producing as much as possible in a given time both by raising the intensity of labour and by increasing its productivity e.g. by co-operation. On the other hand, the determination of the piece-rate (SG 139), because it is divorced from the determination of value by labour-time, becomes an object of fierce class struggle. With an increase in productivity, once that new level of productivity has become the social average, the increased wages paid under the piece-rate system eat into surplus-value and it becomes necessary for capital to press the rate down. This can be illustrated in the following schema:

**Value of a day's labour in all cases: $80.00 (intensity and duration of labour assumed constant).**

<table>
<thead>
<tr>
<th>Piece-rate equivalent: $5.00</th>
<th>Daily wage: $40.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 pieces produced in normal working day before introduction of piece-rate.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Piece-rate equivalent: $3.75</th>
<th>Daily wage: $30.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piece-rate introduced and set so that with the same productivity only part of the previous wage can be earned.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Piece-rate equivalent: $3.75</th>
<th>Daily wage: $45.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>With an increase in social productivity, to 12 pieces/day the wage is above the previous wage and eats into surplus-value.</td>
<td></td>
</tr>
</tbody>
</table>

The contradiction immanent in the piece-wage (SG 139) is that in the determination of the value of the product it is labour-time, but in the determination of the wage is it labour intensity and productivity, which is decisive. This separation of the measure of the value of the product from the measure of the wage, is, on the one hand fundamental for the wage-form itself and on the other hand continually forces capital to adjust the piece-rate to re-establish the correspondence to labour-time. This readjustment of the piece-rate delegitimates piece-wages as a form of seemingly fair payment and actually turns the internalised interests of capital, in an ossified form against capital i.e. workers in living the piece-wage form as a fair basis for the relation to capital resist any attempt to change it.
Nevertheless the increase in intensity, as opposed to increases in productivity, brought about by piece-wages remains an advantage for capital.

The fully developed wage-form (SG 139) obliterates from consciousness the antagonism between capital and labour. With this form labour becomes a source of revenue for its possessor no matter whether the 'labourer' be a wage-labourer or an entrepreneur. The wage-labourer receives for their contribution to the production-process a fair share of the result and the entrepreneur also receives a fair share for his labour of supervision. The fully developed wage-form is also the form in which all labouring activity is seen as being for the good of society as a whole (the community), with each labourer receiving a slice of the social cake. The contradiction in this form is twofold: firstly, the worker's wage is compared with the entrepreneur's wages of supervision and the question arises: Why should the entrepreneur receive a bigger return for his labour than the worker? Secondly, the entrepreneur is not forced to work but can delegate the labour of supervision to his managers without foregoing a return; here wages are paid to one who doesn't labour and to that extent the entrepreneur becomes superfluous.

**The Revenue Forms of New Value**

In a further elaboration involving the fully-developed wage form, new value appears to divide into three parts: wages (of productive, circulation and entrepreneurial labourers), interest and rent. The three forms of property (SG 140) appear to be three trees that bear as their fruits wages, interest and rent. In relation to the particular property (source of revenue) from which they spring wage, interest and rent appear as revenue: the fruit can be consumed without preventing the tree from bearing more fruit. The mediation of this fruit-tree metaphor is done by the interest form of surplus-value which is the "mother of all crazy-forms" (MEW 25, 483 and CIII 465). In interest it appears to be a quasi-natural characteristic of a sum of value that it draws interest to itself. In the particular inverted price-form of labour-power as wage all the labour of the wage-labourer appears to be paid. At the same time, labour appears to be the source of the magnitude of value, wage, under the dominance of the interest form. When labour appears as the source of no more and no less than a wage then this labour is excluded as a source of the other revenues. Those other revenues, in analogy with the relation of labour-power to wage, seem to spring from the other factors of production. From the produced means of production stems profit/interest and from the natural means of production stems rent. The revenue in each case is paid to the owner of the source of revenue but herein the grounds for the distribution of the new value falsely appear as sources of the creation of value. Every revenue source seems to create its particular revenue.

The contradictions in this trinity formula are that firstly, the factors of production can only bear their revenues when co-operating - which is revealed when labour "strikes" - and secondly, even if it is recognised that the factors must co-operate for each of them to bear their fruits, in times of crisis they cannot co-operate and many workers' trees are made infertile. So long as 'normal' times continue the trinity formula expresses the optimism that the co-operation of the three factors of production leads to prosperity and a fair share for all. As soon as rough times come along, the workers are told that they need to take a wage cut. But why is it that the labourers' labour no longer creates the
value which drew its wage to it as revenue? And why is it no longer possible for some workers to combine with the other factors to create value and get a wage?

**The Creation of a Relative Surplus-Population as a Background to the Struggle between Wage-Labour and Capital**

In order to understand why it is that workers are thrown out of work by capital it is necessary to work out the conditions in which capital can accumulate and create more surplus-value. These conditions are at the same time the conditions under which the class struggle is fought. The contradiction immanent in the accumulation of capital (SG 142) is that as capital attempts to convert surplus-value into an additional source of surplus-value it demands more labour. But it is just the increased demand for labour which puts the workers in the position of gaining higher wages. In *Capital* Vol I, the analysis has already dealt with the striving of capital to squeeze more labour out of its labourers. At the level of the revenue form, having already dealt with absolute surplus-value production, the only way in which capital can obtain more labour is to get more workers. In this way, the assumption of presentation that the workers are paid the value of the given quantity of means of life is relaxed and the analysis looks at the struggle over wages. In Vol. I, the concept of class struggle was limited to that of maintaining a wage equal to the value of the habitual means of life; when capital attempts to obtain more labourers it creates the conditions of a struggle over the carving up of the working day into necessary labour time and surplus labour time. At the limit, the increased demand of capital for labour-power can enable the workers to gain a wage which threatens the surplus-value production of the extra capital.

One way that capital has out of this contradiction is to replace labourers by machines, which is at the same time, a way in which capital produces relative surplus-value. In throwing labourers out of work by the introduction of machinery, capital is in a stronger position to fight the demands of the workers for higher wages. The relative surplus-value production is no longer a result of the lowering of the value of the means of life, as it was in Vol. I, but a lowering of wages through capital gaining the upper hand in the class struggle. Hence a condition for capital to accumulate is the creation of an industrial reserve army on which capital can call, as it requires, more labour-power. The creation of an industrial reserve army divides the working class into the employed and unemployed, who compete against each other for the jobs capital has to offer. Apart from the industrial reserve army, the relative surplus-population which functions as a background to accumulation is composed of those who are unable to work. In times of upward movement of the industrial cycle, individual workers and individual sections of the working class are in a position to gain higher wages without harming other sections of the working class. However, in times of depression, the competition between employed and unemployed leads to the former having to accept lower wages and worse conditions of work to keep their jobs, and the latter remains a labour reserve which acts as a lever for capital to maintain lower wages (cf. CI 599). Within the revenue-form it is only the employed who are revenue-source earners and who qualify for recognition as bourgeois subjects. It is otherwise with those who are thrown idle by capital. For the unemployed (in particular women, children, blacks, youth, etc and sick) their position as bourgeois subjects which does not have an economic base, comes to be questioned and leads to attempts to prescribe the way they can live on the basis of their economic dependence on the ‘charity’ of the rest of society.
Bourgeois Consciousness and Class Consciousness

From what we have shown in the development of the wage-form it follows that on the surface of society, the social being of possessors of sources of revenue is lived as an equality of property owners. Owners of labour, capital and land are equal subjects. Within this present form of bourgeois consciousness (SG 143), in which the contradictions of bourgeois society are resolved, the general interest of society is the interest of the private owner of a revenue source. Every possessor of a source of revenue has the interest that their source of income flows continuously and strongly, and hence they all have qualitatively the same interest. As the "great cake" of the material social wealth grows, so grows the share of each revenue source owner, if the proportions remain the same. This pure form focuses on a readymade bourgeois subject who has no sex, race, or other social differentiation. In fact, the bourgeois subject at this level of the analysis is only a character mask for the revenue sources and may be a group of individuals.

The wage which the workers gain is not a natural constant but a result of social struggle. On the side of capital the working-day itself is class struggle in a thousand particularities. In 'peaceful' times it is only capital that actively leads an offensive against the working class in trying to transform their life time into labour time "(and the mere reproduction of labour-power) and trying to get as much surplus-labour time as it can out of the working class. Capital makes the working class dependent on capital by separating the immediate producers from their product and the social forces of production. The experience of the class struggle led by capital against the workers provides the possibility (though not necessity) of a consciousness which recognises that the relation to capital is a struggle. The consciousness of being in a struggle may at first be articulated as a demand for equality (within the revenue-wage-form ideology) but as soon as 'peaceful' times are interrupted by unrest the ideological consciousness of equality loses its material basis and a contradiction arises. The experience of ensuing struggles helps reveal that the workers are no longer the equal of the other 'income earners' and that labour-power is the target of exploitation by capital. (Though this does not mean that the workers acquire the scientific concept of 'surplus-value extraction' merely by experience.) Now the workers fight back; they are no longer merely passive in class struggle but take an active part in it. In peaceful times it is capital that makes them work together. Now they co-operate according to aims which are opposed to the aims of capital. To take full opportunity of the assault on capital, it is quite crucial that the workers do not fall into the trap of imitating the hierarchical structures of the factory, trade unions, parties etc., as this limits the possibilities of developing a consciousness of what lies beyond bourgeois life. The realisation of revolutionary possibilities can only come when experiments in new forms of social relations lead into a dialectic with the already developed but formerly dissociated theoretical critique of bourgeois society (Capital).

The experience of struggles in which normal life (SG 144) is replaced for a time by a life form which is not dominated, disciplined etc. by capital shakes up hitherto dominant ideologies.

There is no hope of revolutionary change (i.e. change which spells the destruction of bourgeois life and the creation of a new socialist life) merely by a scientific understanding of capitalist society. But when deep spontaneously developing struggles
are combined with a theoretical understanding of the breakdown of normal bourgeois life, the practical possibility exists of radically reconstructing life in a way which does not lead unwittingly back into the bourgeois form of society. For the determination of how radical that reconstruction must be the analysis of the capitalist mode of production (*Capital*) is not enough. The *Capital* analysis only constructs the bourgeois subject as a personification of economic categories. In addition, and systematically grounded in it, the analysis of the bourgeois state (SG 145) (comprising both the political and ideological) is necessary to construct the bourgeois form of life as reproduced by family, school, police, church, army, welfare, trade unions, work-places, political parties, juridical apparatuses, etc. Because of the absence of a theory of state, which gives a theory of the form of life and so indicates what it means to destroy the bourgeois form of life, the way has been left open to dogmatism of various sorts. Perhaps the most important of these dogmas is that it is the proletariat which must be in the lead in any revolutionary movement. This idea flows from extracting a theory of revolution from *Capital*, so that productive labour, because it is the source of surplus-value is also identified as the centre-piece of a revolutionary movement. Although it is unlikely that a revolution can be made without the industrial proletariat, many different forms of struggle and various social groups act in a chaos which opens the possibility of constructing life anew. One central component in this chaos is the breakdown of the relation between labour and capital, which takes the life blood of capital away from it.

**Appendix I**

*Family in Capital*

Animated by the feminist movement, some people have recently begun to pay attention to the significance of sexist language. Others, including many Marxists, have regarded a principled avoidance of sexist language as an unnecessary complication of expression. With regard to a central Marxist concept 'the labourer' we would like to deal with the question whether the replacement of Marx's sexist formulation is mere feminist tokenism or leads to new systematic insights into *Capital* and the place of a theory of family in a systematic theory of the bourgeois epoch.

There is a tendency both in English and German to give collective nouns that refer to people a male gender. In German this tendency is stronger and more apparent because the definite article also has gender. Thus 'der Arbeiter', as used by Marx, if translated as 'the labourer' does not express the male gender, but nevertheless the gender comes out in the use of the pronoun 'he' with 'the worker'. In English there is a more convenient way of avoiding the male gender by replacing the standard pronoun, 'he' by 'her' or 's/he' or 'their', whereas in German, to avoid the male gender would require a rather awkward expression 'Der Arbeiter beziehungsweise die Arbeiterin ... er/sie' must be used because the female noun has a different article and suffix ('die Arbeiterin'). Was it only for convenience that Marx used the ambiguous collective noun?

**Women (and Children) and the Value(?) of Labour-Power**

At first glance 'labourer' is to 'labour' as 'capitalist' is to 'capital' and with regard to the latter it can be asked: would it make any difference if instead of 'the capitalist ... he',
There is no such thing as female or male capital but there are female and male labourers and this in itself signals the end of a parallelism between capitalist and labourer with respect to simply personifying the categories 'capital' and 'wage labour' respectively.

Let us then inspect a few relevant passages in which Marx deals with labour-power, the male adult labourer, the children of the working class and the female labourer and try to find out whether Marx' comments have the status of asides or occasional historical illustrations, etc. or if a theory of family (or a sexist treatment of the family) is essential to the capital-analysis. In the latter case an objection against Marxism would arise out of feminist questioning.

1) "For the conversion of his money into capital, therefore, the owner of money must meet in the market with the free labourer, free in the double sense, that as a free man ('freie Person' = as free persons; cf. MEW 23, p. 183) he can dispose of his labour-power as his own commodity, and that on the other hand he has no other commodity for sale, is short of everything necessary for the realisation of his labour-power.

The question why this free labourer confronts him in the market, has no interest for the owner of money, who regards the labour-market as a branch of the general market for commodities. And for the present it interests us just as little. We cling to the fact theoretically, as he does practically". (CI 166)

In this passage, Marx uses the method of the dialectic (cf. Introduction) to select a piece of everyday knowledge and, at the same time, postpones objections which arise with this selection i.e. the 'free labourer' in the market is taken as a given and the question of how the labourer comes to appear on the labour market is set aside. Thus the objection that the male labourer is only 'free' to sell his labour power because he has a wife at home doing unpaid domestic labour, etc, is postponed. In addition, it should be noted that 'free labourer' is not narrowed down to the male worker, which is suggested by the phrase 'as a free man he can dispose of his labour-power as his own commodity'. (The original has 'freie Person', which would be more accurately translated as 'free persons'.) Thus this passage can be taken as referring to labour-power in the most abstract and general way without reference to sex, race, age or religion.

2) "The labour-power withdrawn from the market by wear and tear and death, must be continually replaced by, at the very least, an equal amount of fresh labour-power. Hence the sum of the means of subsistence necessary for the production of labour-power must include the means necessary for the labourer's substitutes, i.e., his children, in order that this race of peculiar commodity-owners may perpetuate its appearance in the market." (CI 168)

In this passage Marx forgets that he has already set aside the question of the way in which labour-power is reproduced (cf. 1 above) and discusses a very specific case: the working class, nuclear family. The expression 'his children' suggests that the father is...
the breadwinner for his children and the existence and role of his wife is ignored. (It should be noted that the German original has an equivalent of "the workers' children". Thus the bias seems to be stronger in the English version.)

3)

"The value of labour-power was determined, not only by the labour-time necessary to maintain the individual adult labourer, but also by that necessary to maintain his family. Machinery, by throwing every member of that family on to the labour-market, spreads the value of the man's labour-power over his whole family." (CI 373)

There cannot be any doubt here (in the German version also) about Marx using 'the labourer' not in an abstract sense but as the 'male labourer'. Firstly, the sexism of this passage cannot be avoided by giving it an abstract formulation because of the phrase 'spreading of the man's labour-power over his whole family'. Secondly, as it is implied in the quotation that the women's and children's labour-power have no value in themselves but only as part of the man's value, a criticism of this sexist formulation gives rise to challenging the category 'value of labour-power' itself.

4)

"The value of labour-power resolves itself into the value of a definite quantity of the means of subsistence". (CI 169; our emphasis)

In our view this passage expresses that the concept of the 'value of labour-power' dissolves into thin air when looked at carefully. What can be said is that the price of labour-power is the equivalent of the value of a certain quantity of industrial commodities (Lebensmittel = means of life) but a 'value of labour-power' in itself cannot be coherently formulated. Hence it is not that the man's labour-power has a value and the woman's and child's labour-power a value derived from the man's but that labour-power has only a price, which is systematically derived from the value of industrial commodities.

5)

"We must now examine more closely this peculiar commodity, labour-power. Like all others it has a value. How is that value determined?" (CI 167)

It is theoretically inconsistent to claim that labour-power is a commodity like all other (industrial) commodities and at the same time raise the question of how its 'value' is determined. For, if it is like any other commodity its value has already been determined. We find it is only sensible to raise a question like: How is the price of labour-power determined? For the price of labour-power which here confronts us for the first time in the presentation, cannot be understood as a commodity with its own value. Up to this point in the presentation the price of a commodity has been conceived as the value of the commodity expressed in money, but this is only possible with things that have a value i.e. industrial commodities.

6)
"The value of labour-power is determined, as in the case of every other commodity, by the labour-time necessary for the production, and consequently also the reproduction, of this special article. So far as it has value, it represents no more than a definite quantity of the average labour of society incorporated in it. Labour-power exists only as a capacity, or power of the living individual. Its production consequently presupposes his existence. Given the individual, the production of labour-power consists in his reproduction of himself or his maintenance. For his maintenance he requires a given quantity of the means of subsistence (Means of Life). Therefore the labour-time requisite for the production of labour-power reduces itself to that necessary for the production of those means of subsistence (Means of Life)." (CI 167)

Here Marx forgets that the question of how labour-power is reproduced has been postponed by an assumption of presentation (cf. 1 above) and attempts to answer the question how the value of labour-power is determined by looking at how it is reproduced. The answer - that the value is determined by "a definite quantity of the average labour of society incorporated in it" and that this "definite quantity" resolves itself into the abstract labour embodied in the means of life - leaves aside the necessary but unpaid domestic labour performed by women. This poses a problem for the presentation: either the 'value' of labour-power is determined by all the socially necessary labour embodied in it - in which case an account of domestic labour and the family has its systematic place in the analysis of the economic - or its 'value' is not determined by the labour necessary to reproduce it but the money received as wages is the equivalent of the 'socially necessary labour-time' embodied in a certain quantity of means of life. The first alternative is rejected on the grounds that it uses the systematic category 'socially necessary labour' introduced in CI, Chapter 1 with sole reference to industrial commodities, in a quite different sense which surreptitiously depends on an everyday notion of labour. Thus 'socially necessary labour' does not here refer to the value-form but to a loose notion of what social activities (eg. birth, cooking, child-minding, nurturing, education, entertainment, discipline, etc.) are required for the reproduction of the labourer. The presentation cannot cope with all these activities at once and the way out is to bring some systematic order into dealing with them. We can only foreshadow that the analysis of the bourgeois State (including the family as a 'State apparatus', to use a phrase of Althusser's, which anticipates "results still to be proved"[2]) will have to deal with those social activities listed above that do not fall under the heading of industrial labour. In the second alternative socially necessary labour appears as a technical term, referring only to abstract labour embodied in industrial commodities. The labourers are not paid in means of life but in money and it is this amount of money which is the nub of the transaction between labourer and capitalist. The amount of money, of course, determines the amount of means of life that can be bought. If the quantity of means of life is taken as given then the price of labour-power is tied to the value of means of life and Marx's formulation of the 'value' of labour-power amounts to an assumption that real wages are uniform and constant. The effect of opting for the second alternative is to free the concept of 'price of labour-power' from a determination by the value of a given set of means of life and to point to the importance of class struggle in the determination of the price of labour-power.

In setting aside the question of the family and of the distinctions between men and women in the determination of the price of labour-power, we conclude that in all systematically important parts of Capital, 'the labourer... he' can be replaced by 'the labour-power... it'. Let it only be remembered that Marx, in using a uniform 'value of
labour-power' in Vol I, is only making an assumption of presentation that all labourers get the same wage and that this assumption should be relaxed in the treatment of competition.

Having questioned the concept 'value of labour-power' the treatment by Marx of skilled labour-power and its value becomes shaky. If the price of labour-power is determined by a struggle between wage-labour and capital, then the higher price of skilled labour-power is a result of its better position in that struggle rather than an inherently higher value of their labour-power. In Vol I, Chapter 1, where an objection that skilled labour-power creates more value than unskilled (CI 51f) is dealt with, all that is necessary is to point out that only a qualitative analysis of value is necessary at this stage and that the question of differing 'values' of labour-power can be treated later.

In pressing home the point that skilled labour-power does better in the class struggle than unskilled labour-power because of its monopoly of a particular skill, we conclude that the higher price of skilled labour-power can be treated analogously to monopoly rent as in Capital Vol. III. The capitalist buying more expensive, skilled labour-power can sell the commodity produced above its price of production and recoup the cost of higher wages, precisely because of the relative scarcity of skilled labour-power, in the same way as a monopolisation of land can allow a commodity produced on that land to be sold above its price of production (cf. Paper 4). This does away with the so-called 'reduction problem'. The difference from ground-rent is that skilled labour-power can lose its monopoly position as capital strives to reorganise the production process so that it doesn't need skilled workers.

For the capital-analysis, the reproduction unit of labour-power need only be treated as a 'black box' into which industrial commodities (means of life) are fed and from which labour-power emerges. The details of how this 'black box' functions are not necessary for the systematic presentation at this level. Marx, in fact, in some places leaves out the reproduction of the labourer, treating them as a sexless, raceless individual and in other places treats of a special form of the reproduction unit: the nuclear family. We prefer to take a general view of the reproduction unit as a 'black box' and reserve an analysis of it to the theory of State.

Footnotes


Appendix II

Science in Capital

'... but where would natural science be without industry and commerce?' - The German Ideology.

Introduction

A lot has been written about science and knowledge in recent Marxist literature. Althusser has given, at a very abstract level, elements of a general epistemological
theory which emphasises the production of theory as a social practice. However, what he has stressed is the internality of criteria of validity for scientific practice and has not given an account of how theoretical practices articulate with other social practices. The reason for Althusser's emphasis is quite clear; what he was combating was empiricism and to do this he needed to contrast the internal nature of scientificity to the empiricist attempts to compare the theoretical object with the real object as a proof of the validity of theoretical products.

This paper attempts to extract from Marx's *Capital* the presentation that he gives of the ways in which capital requires science and stimulates its development. In the main, the account given here is Marx's and we do not alter his account in line with our criticisms in the main body of the book. There are four broad ways in which capital as a relation of production gives impetus to natural scientific practices, viz. relative surplus value production, capital accumulation, economising in constant capital and minimising the costs of circulation. The application of science in the last mentioned way is not explicitly treated by Marx but the application is clear.

We have given references to *Capital* in the body of the text as well as a bare list of all the places in *Capital* we have found where Marx refers to science or its application. It will become clear on reading this paper that Marx does not give a crude account of why certain specific scientific events in the history of scientific practice occurred but rather the limits and impetus which economic practice within capitalist relations of production give to the development of the natural sciences. An account of specific theoretical events can only be given through a more detailed study of the internal practice of a science.

**Science in the Creation of Value**

Commodities are the form that wealth takes in capitalist societies and the analysis of commodities is the starting point for Marx's systematic presentation in *Capital*. So too, it is natural for us to begin to investigate the role of science under capitalism with an analysis of the relation between science and commodities.

A commodity is a unity of two things: use-value and value. As a use-value, a commodity is a socially useful thing which fulfils a human end in its consumption. A use-value 'may be looked at from the two points of view of quality and quantity. It is an assemblage of many properties, and may therefore be of use in various ways. To discover the various uses of things is the work of history. So also is the establishment of socially-recognised standards of measure...' (CI 43). This discovery of the useful properties of things ('the various uses of things') can be taken as the first rudimentary appearance of (natural) scientific activity in *Capital*. Our task is to discover the specific marks which natural science bears in capitalist society. To this end we must look at commodities not only from the point of view of use-value, but also from the point of view of value.

The form of manifestation of value is exchange-value, 'the mode of expression, the phenomenal form, of something contained in it (a given commodity)' (CI 45). When the use-values of commodities are put out of sight, what is left is only one common property, that all commodities are the product of human labour. The substance of value then, the something contained in commodities which brings them into equivalence is
human labour, but not human labour considered in its concrete, particular form which produces a particular use-value with specific properties; it is abstract human labour where the concrete, particular form of the labour congealed in a commodity is put to one side in the act of equating them in exchange.

The magnitude of value is to be measured by the quantity of value-creating substance, abstract labour, contained in it and the quantity of abstract labour is measured by its duration. The value of a commodity is determined by the amount of socially necessary labour-time embodied in it. 'The labour-time socially necessary is that required to produce an article under normal conditions of production, and with the average degree of skill and intensity prevalent at the time.' (CI 47). The socially necessary labour-time therefore changes with every variation in the productivity of social labour. The more productive the labour, the more use-values produced in unit time and the less abstract labour represented by each article. Productivity 'is determined by various circumstances, amongst others, by the average amount of skill of the workmen, the state of science, and the degree of its technical (technologischen) application, the social organisation of production, the extent and capabilities of the means of production, and by physical conditions.' (CI 47; our emphasis).

This is the first occurrence of the term 'science' in Capital and it is important to note several things about it. Firstly, science is here implicitly taken to mean natural science and mathematics. For Marx, the term 'science' denoted physics, chemistry, astronomy, biology, geology etc., and mathematics. The bourgeois social sciences had not yet been firmly established and, if they had been, their application would have been to 'the social organisation of production', which is qualitatively different from the 'degree of technical application' of natural science. Secondly, science is a sphere of activity which is distinguished from its application in the production of commodities. Science is not only the discovery of the useful properties of things but a determinate practice which exists outside the sphere of direct production and whose aim is such discovery. We only mention this point here and will return to it further on.

Thirdly, it is not spelt out here how science is applied but we shall see further on that science has important application in extending the capabilities of the means of production. Although Marx uses the term in this narrow way in Capital, application and development of science depends on, and has effects on the skill of workers, social organisation of production and physical conditions. We shall see that Marx does not regard science as being applied to increasing the skill of workers or the social organisation of production.

Fourthly, the role of science is to increase the productivity of labour, or in other words, to develop the productive forces. This first occurrence of the term 'science' is important because it gives the fundamental link between science and capital at the level of everyday knowledge. Everyone knows that science helps in making new things and with a saving in labour.

Lastly, science is connected with the value form via its role in increasing productivity. We must bear in mind that science is important to capital because of its link with value (and later on we shall see more particularly) with surplus-value and relative surplus-value. The use-value of commodities produced by the capitalist is a thing which in itself is of no interest to him. It is only because a thing, to have value, must also have
use-value, otherwise it is not a commodity and has no exchange-value on the market. In like manner, science in itself is of no interest to the capitalist but only through its application in the more efficient production of commodities and hence in the creation of value.

Science in the Capitalist Production Process

The capitalist buys labour-power in order to produce a particular commodity. The labour-process is an activity engaged in on the basis of a particular plan and with a particular end in mind. Such plans and ends are innumerable and are susceptible to modification and to revolutions.

A labour-process has three elementary factors: 1) human activity or active labour-power;[4] 2) the object of that activity; and 3) the instruments used in that activity (CI 174). This may be depicted diagrammatically as:

\[
\text{labour-power} \quad \text{object of labour} \quad \text{------transformed------} \quad \text{new use-value} \\
\text{instruments of labour}
\]

Science reappears in connection with the instruments of labour which are utilised by the labourer, an apparatus 'which the labourer interposes between himself and the subject[5] of his labour and which serves as the conductor of his activity. He makes use of the mechanical, physical and chemical properties of some substances in order to make other substances subservient to his aims' (CI 174f). The properties and uses of the instruments of labour are taken advantage of in the transformation of the object of labour into a new use-value with different properties and uses from the initial object of labour. Changes in the instruments of labour lead to modified commodities and to more commodities being produced in unit time.

The instruments of labour used in an historical epoch serve as indicator of the degree of development of human labour (CI 176). The historical development of the dominant types of labour-process in particular modes of production and between modes of production reveals an increasing complexity in the instruments of labour and therefore an increasing level of scientific knowledge of the usefulness of things, which enables the transformation of nature. The level of scientific development corresponds to the level of development of the instruments of labour. At first Nature itself endows the labourer with their[6] first tools in the form of stones, sticks etc. This corresponds to the most rudimentary knowledge of the properties of things. The domestication of animals and the development of agriculture require development of the instruments of labour and of the knowledge of their design and use. Finally, in capitalist society we find the vast and complex array of instruments of labour which make use of the mechanical, physical and chemical properties of materials and which take the most pressing palpable form in complex, enormous machines, vats, pipes, motor vehicles etc. Corresponding to this we have the enormous sophistication and development of physics, chemistry and mathematics which enable the labour-processes of capitalism to take the complex form they do (CI 175).[7]

The capitalist does not set up a production process in order only to produce mere use-values, but commodities in which value is embodied. Marx shows (CI Chapter VII) that
the origin of the capitalists' profit is surplus-value which is extracted from the worker in the production process. The labourer, in each minute of the working-day adds new value to the product by incorporating living labour into it. In one part of the working-day the labourer creates the value of their own means of life whose value is equal to their wage; the length of this part of the day is called the necessary labour-time. In the other part of the working-day the value created by the labourer does not correspond to any outlay of the capitalist and is surplus-value which is appropriated by the capitalist along with the product; the length of this part of the day is called surplus-labour time.

The surplus-value process is just the extension of the value-creating process of production past a certain point; past the point where the value of the labourers' wage is created. In the quest for extra surplus-value the capitalist strives to maximise the surplus-labour-time or the working day and this can be done in two ways. Firstly, the working day can be extended, the necessary labour-time remaining the same, giving rise to absolute surplus-value. Secondly, the length of the working-day remaining the same, the necessary labour-time can be shortened thus extending the surplus-labour-time. This second aim is achieved by the following route: an increase in the productivity of labour in those industries whose products enter as means of life into the labourers' family lowers the value of labour-power and hence reduces the time necessary for the labourer to reproduce their wage. The extra surplus-value thus derived is called relative surplus-value. 'The object of all development of the productiveness of labour, within the limits of capitalist production, is to shorten that part of the working-day, during which the workman must labour for his own benefit, and by that very shortening, to lengthen the other part of the day, during which he is at liberty to work gratis for the capitalist.' (CI 304)

Co-operation is one way in which the capitalist derives relative surplus-value. By co-operation is meant simply the working together of numerous labourers in the one labour process. The combined working-day of a large number of co-operating labourers produces a greater quantity of use-values than the same labourers working separately and hence increases the productivity of labour. Whether co-operation achieves an increase in productivity because it heightens the mechanical force of labour, or extends its sphere of action over a greater space, or contracts the field of production relatively to the scale of production, or at the critical moment sets large masses of labour to work, or excites emulation between individuals and raises their animal spirits, or impresses on the similar operations carried on by a number of men the stamp of continuity and many-sidedness, or performs simultaneously different operations, or economises the means of production by use in common, or lends to individual labour the character of average social labour ...the special productive power of the combined working day is ... the productive power of social labour. This power is due to co-operation itself.' (CI 311f.).

It is capital itself which sets up a co-operative labour process and as co-operative labour processes become socially widespread the power of capital extends and capital becomes a power needed to organise a labour process. Combined labour on a large scale requires work of supervision and management, but in addition, under capitalism, the requirement of extracting surplus-value from the workers necessitates the hierarchical organisation of the capitalist production process. The labour-process being set up and controlled by the capitalist thus confronts the labourer as something foreign, as 'a preconceived plan of the capitalist' (CI 314). Furthermore, co-operation whose
fruits cost the capitalist nothing *appears* as a power that is immanent in capital. Hence even in the earliest stages of capitalist development where the labour-process is not yet revolutionised by science, the power of capital confronts the labourer in the form of an already-set-up production process into which the labourer is merely inserted. We shall see further on that the application of science in the capitalist production process furthers a tendency which is immanent in the earliest forms of capital, viz. the confrontation between the labourer and the alien power of capital.

**Manufacture**

The period of manufacture is characterised by *division of labour* both socially between different branches of industry and in detail within the factory of the capitalist. For our purposes the division of labour in detail within the workshop, a particular form of co-operation, will suffice for our investigation. Division of labour within the labour process has a number of consequences.

Firstly, the labourer who is employed to do one simple task becomes expert at it and consequently takes less time to do it and perfects the simple act by repetition. The collective labourer, which is made up of these specialised detail labourers, hence becomes more productive (CI 321).

Secondly, division of labour requires a certain scale of production. The proportions in which labourers in different tasks must be employed is established by experience and the scale of production has a smallest 'unit' determined by the division of labour and the number of workers required in each task in order to have the whole collective labourer running smoothly. Only by discovering and complying to such proportions can bottlenecks in production be avoided. Furthermore, the scale of production can only be increased in multiples of this smallest unit. The labour of superintendence can be done just as well on a large as on a small scale which again leads to an increase in the scale of production (CI 327).

The simple co-operation of labourers working under the one roof is extended by the division of labour in the factory as the dependence of detail labourers on one another in order to achieve continuity of production develops. No one labourer now produces the whole commodity or even knows how this is done; the different fragments of the labour process can even be carried on in different places with only a final assembly required under the same roof. The labourer is no longer only confronted by 'a preconceived plan of the capitalist' as in the early development of capitalism but by a process in which they play but only a small and incomplete part. The *formal subordination of labour to capital* which comes about by capital taking over the handicraft industries is transformed into the *real subordination of labour to capital* (cf. CI 293 and 478) where living labour-power can only find employment by insertion as a specialised part in the collective labourer. 'If, at first, the workman sells his labour-power to capital, because the material means of producing a commodity fail him, now his very labour-power refuses its services unless it has been sold to capital. Its functions can be exercised only in an environment that exists in the workshop of the capitalist after the sale.' (CI 340).

Thirdly, the knowledge and judgement of the labourer is required less and less as the specialisation and detail of the system of division of labour is elaborated; the accumulated experience of the collective labourer manifests itself in the finer and finer
fragmentation of the labour process, to which the individual labourer is subjected. Intelligence is 'now required only for the workshop as a whole. Intelligence in production expands in one direction because it vanishes in many others' (CI 341). Tasks which once required the skill of the individual labourer are broken up, simplified and routinised so that labourers in one job are subjected to mind-dulling work and are easily replaced. The need for long apprenticeships diminishes and for short apprenticeships vanishes altogether, the necessary training being provided in one or two months instead of a couple of years and one or two days instead of a couple of months. Intelligence and planning are manifested in fine adjustments to the labour process which squeeze out the last ounce of productivity from a given labour process. Intellectual labour is no longer required by the individual labourer but is concretised in the structure of the collective worker. This historical development of capitalism 'is completed in modern industry, which makes science a productive force distinct from labour and presses it into the service of capital' (CI 341). Thus the role of science in modern capitalism is prefigured in the division of labour in the manufacturing period and its consequent separation of manual and intellectual labour, the intellectual labour being in the form of a despotic preconceived plan of the capitalist. Here are the beginnings of science as a servant of capital and against the labouring masses.

Fourthly, division of labour creates a dependence of one group of workers on another in that each group only makes part of the product and the end product for one group forms the starting point for another group. The uniform flow of production can only be maintained if each labourer spends only the minimum time necessary for their part of the process and so is forced to work more uniformly, continuously and intensely than in a comparable handicraft industry. The habit of doing only one thing converts him into a never-failing instrument, while his connection with the whole mechanism compels him to work with the regularity of the parts of a machine' (CI 330). The order necessary for the smooth running of the labour process is provided by a hierarchical organisation. Whereas the smooth running of the labour process imposes an order, regularity and intensity of work on the labourers, that very hierarchy of labour-powers which carries out the function of capital in the production process is a concrete expression of the antagonistic interests of labourer and capitalist (CI 314).

Lastly, the tricks of the trade which are acquired by a generation of labourers become established and are handed down to the next. Although each detail labourer's knowledge is highly specialised and limited, the collective experience of the collective worker is necessary for the efficient running of the factory. Capital is still dependent, if not on highly skilled individual labourers, on the skill of the collective labourer. The productivity and quality of the product depend as much upon the degree of care and skill of individual labourers and on their voluntary co-operation with one another as on the control and discipline exercised over the labourers by the capitalist or his agents. 'Since handicraft skill is the foundation of manufacture, and since the mechanism of manufacture as a whole possesses no framework, apart from the labourers themselves, capital is constantly compelled to wrestle with the insubordination of the workmen... Hence, throughout the whole manufacturing period there runs the complaint of want of discipline among the workmen.' (CI 346f.) The problem of keeping order in a manufacturing process is finally ameliorated with the advent of machinery which converts the factory into an automaton which dictates the work process of the labourer and diminishes markedly the need for control to be exercised by the capitalist.
Division of labour in manufacturing is based on a decomposition of the handicraft into its component manual parts with the individual worker's handling of their tools determining the satisfactoriness of the operation. With this narrow handicraft basis a really scientific analysis of the production process and a revolutionising of the labour process is not possible as the product is constrained to go through many hands, each of which performs a handicraft operation on it. Analysis and application of science is precluded by the unavoidable reliance on the efficient operation of the individual worker which presents to science a factor too complicated at first to handle. Science first takes hold of the production process with the advent of machinery, to the investigation of which we now turn.

**Modern Industry**

The interest which capital has in the application of machinery to industry is, in the last instance, the drive for relative surplus-value. The increase in productivity which machinery brings about cheapens commodities and hence reduces the necessary labour-time of the labourer and increases the surplus labour-time given to the capitalist.\[^{21}\]

Marx considers a machine to consist of three elements (CI 352): the motor mechanism, the transmitting mechanism and the tool or working machine. A machine once set in motion performs with its tools the same operations as the labourer did previously with similar tools. The essential characteristic of the machine, and one of the greatest importance to capital is that the machine replaces the labourer who handles a single tool with a mechanism which, with a single motive power, sets in motion a number of tools.

Machinery made by manufacturing methods depends on the handicraft skill of the labourers who make it and hence the production of machinery was limited by the number of skilled machine makers. As well as this, the tendency towards increasing size and regularity of the details of machines was limited by their manufacture by manual labour. The discovery of mechanical principles allowed machines to be built which were no longer based on the 'traditional form of tool which gave rise to it' (CI 362) but which could be designed entirely in accordance with the principles of mechanics. The construction of large and more complicated new machinery required a greater understanding of the workings of machines which went beyond the accumulated experience of machine building acquired in making machines based on handicraft tools.

These two factors, the inadequate technical foundation for the construction of machines by manufacture and the need for machines to be designed and constructed according to scientific principles, led to the construction of machines, not by manual labour, but by machines. The construction of machines by machines at once allowed the construction of enormous machines with a precision not possible by manual methods, the use of iron instead of wood as the main material and the incorporation of precise mechanical principles in construction. The 'geometrically accurate straight lines, planes, circles, cylinders, cones and spheres, required in the detail parts of the machines' (CI 363) are a result of the use of mechanical principles in designing machines. The subject of mechanics deals largely with such solid objects as spheres and cylinders moving on inclined planes or hanging from straight wires\[^{10}\], and the mathematical solution of problems in dynamics and statics requires that the objects and configurations involved take such simple mathematical shapes and forms. The construction of precise
mathematical shapes, made possible only by machines, is a requirement imposed by the theory of mechanics which is only able to grasp theoretically nice Euclidean figures. Conversely, the construction of complicated and intricate machines gives rise to a number of problems in mechanics, which in turn gives impetus to the development of analytic geometry so as to handle theoretically ellipses, hyperboloids, catenaries, paraboloids etc. Here we have a much mediated link between the needs of capital and the development of science.

Science is not only applied to industry proper but also to agriculture. The domination of the capitalist mode of production in agriculture involves a long struggle in history in which the masses of the peasantry are dispossessed of their land and the political and economic domination of the landed aristocracy and other landowners broken. An immediate consequence of the spread of domination of capital to agriculture in pursuit of surplus-value is that the previously simple and unchanging empirical methods of agriculture are transformed by 'the conscious scientific application of agronomy'. (CIII 617) in the effort to raise productivity. The application of agronomy is limited by private ownership of land and the capitalist nature of agricultural enterprise. The dictates of a commodity economy result in the severe impoverishment of the soil when this is the easiest way for capital to derive surplus-value. The short term interests of capital, constantly in conflict with the long term interests of society, are most clearly shown to be so in agriculture, as the soil takes a long time to recover from the ravages of capital. In the long run, capital has to take account of the effect of its activities on the soil and the sciences of agronomy, horticulture, entomology and biometry are vigorously developed. The application of science to the soil in the form of fertilisers, rotation of crops, insecticides has consequences far beyond affecting the yield or liveweight of the current harvest or generation of livestock. The development of machinery is also important for agriculture just as it is in industry proper.

Science, whose application produces a revolution in the production process in one sphere of industry does not remain applied only in isolated spheres of industry. The enormous increase in productivity in one sphere necessitates a corresponding increase in those industries or spheres of industry which either supply the given sphere with raw materials or consume its product as a means of production. This applies no matter whether the stages of production of the final commodity are carried on by one or several capitals. Marx gives the example of the textile industry, where 'spinning by machinery made weaving by machinery a necessity, and both together made the mechanical and chemical revolution that took place in bleaching, printing and dyeing imperative' (CI 362). Such industries, whilst having branches which are isolated from one another as a result of the social division of labour, form a unity from the point of view of the labour process which at its end turns out a commodity with an independent use-value, that is, it does not merely enter another production process as a raw material.

As well as the social division of labour which calls forth the application of science in related branches of industry, the geographical separation of different branches of industry requires a radical development of the means of transport and of communication in order to move and co-ordinate the movements of immense quantities of materials. Mechanics, hydraulics, electro-magnetism, electricity as well as the branches of mathematics needed for their development now become of direct interest to capital in their application to the construction of railways, steamships, telegraphs and, in the twentieth century, of aeroplanes, radios, telephones and trucks (CI 363). The
development of these 'pure' sciences is mediated by engineering, whose special branches undertake the task of applying the developments of particular sciences to industry and of discovering and formulating in theoretically amenable terms the concrete problems of the labour process.

In modern industry proper the construction, use and modification of machinery require the 'conscious application of science, instead of rule and of thumb' (CI 365). We have already seen that the construction of machinery requires the use of science. The installation and use of a machine also requires, if not the knowledge of its workings, at least the compliance with a procedure which has been worked out on the basis of such a knowledge. Failure to comply with such a procedure leads to either inefficiency in operation or the breakdown of the machine. The modification and improvement of a machine, although this can be done piecemeal 'on the factory floor' on the basis of experience of its operation, is of no general use to capital if it remains the mere application of 'rule of thumb'. The modification must be incorporated in the design of the machine and is often itself modified once formulated in scientific theoretical terms and perhaps generalised. More often, the ideas which arise from the experience of using the machine in the labour process must be formulated in such a way as to allow their application via scientific theory, engineering and draughting. This is because machines, being constructed according to mechanical principles require modifications to comply with those same mechanical principles.

The formulation and understanding of a modification in scientific terms gives the result a generality which finds application in widely diverse fields. Thus the slide rest, which was originally designed for the lathe was applied to other constructive machines in a modified form (CI 363). The results of science have an application which go beyond the specific interests of a capitalist interested in increasing productivity in his particular production process, and hence it is in the interests of social capital as a whole to support the development of science. Thus, for example, the same laws of mechanics suffice for the building of a hydraulic press as for a power loom, although their uses are very different. Conversely, scientific production supported by a single capital can only be kept for its own exclusive use and profit by artificial means such as patents. Such artificial means are in contradiction with the generality of science's application which invariably resolves itself in favour of the latter. Thus patents only have a limited term.

The domination of the production process by machinery and the consequent freedom from consideration of the labouring of human hands enables the production process to be viewed in objective terms. The process can now be 'analysed into its constituent phases; and the problem, how to execute each detail process, and bind them all into a whole, is solved by the aid of machines, chemistry, &c.' (CI 359). Here we are reminded that Marx equates science with natural science, which only finds application to the instruments of labour and not living labour itself. Capital at first seizes science in the state in which it finds it and makes science its servant. Only in more modern times does the theoretical understanding extend to humans and that in a very incomplete and inadequate way. The application and development of science of living labour lies outside the bounds of this essay. However, the application of science to the instruments of labour has far-reaching consequences for the labourers. Earlier we noted that whilst the division of labour
under manufacture required the co-operation of the workers. the capitalist had constant trouble in maintaining order. This was because the labour process still rested upon the skill and co-operation of the individual labourer performing their essentially handicraft task. Whilst the functioning of the collective worker provided a certain rhythm and increased intensity of work, the antagonism between labour and capital manifested itself in the non-co-operation of the labourers.

The use of machinery largely solves the capitalist's problem of keeping order in the production process. With the perfection of the automatic system the work of the labourer becomes that of superintendence of the machine, of regulating its function and correcting foul-ups caused by low-grade raw material &c. The machinery sets the pace of production and importunately demands the co-operation of labour if it is to function at all; 'the co-operative character of the labour-process is ... a technical necessity dictated by the instrument of labour itself (CI 365). The intensity of labour is set by the speed of the machinery and the feverish, demonic speed of the machinery creates unheard of records in the pace of work. It is sufficient now for the capitalist or his agents that in order to fulfil the task of control and surveillance, he ensures the machines are kept running smoothly; the machinery dictates the rest.

Another aspect of the effect which the introduction of machinery has on labour is that to some extent machinery frees capital from labour. The enormous increase in productivity afforded by machinery makes labour-power redundant in large masses. The proletariat wages a long and bitter struggle against the introduction of machinery. The automatic functioning of machinery diminishes the effect which strikes have on the production process and many improvements in machinery were made under the impetus of strikes (CI 411). The role of science in aiding capital is explicitly recognised by bourgeois apologists in such passages as, 'This invention [the self-acting mule] confirms the great doctrine already propounded, that when capital enlists science into her service, the refractory hand of labour will always be taught docility' (Ure, quoted in Capital CI 411).

In the case of machinery, the development of the productive forces, which is indirectly in the interests of capital through producing relative surplus-value, is also in accordance with the maintenance of the relations of production in the sense of control of the means of production and the production process. In fact, here the development of the productive forces coincides with the cementing of the relations of production. It is not true, as Ure states, that science in the hands of capital will always teach 'the refractory hand of labour … docility.' However, it is a condition for the application of science-that it not threaten the maintenance of the relations of production.

Although once discovered, a scientific result costs capital nothing, the application of that result generally requires the construction of intricate, enormous or technologically sophisticated machines. For example, the application of the principles of electricity and electromagnetism to a telephone network involves the construction of an elaborate and extensive system of cables and complicated machines. The construction of such complicated machinery involves a great amount of labour and 'it is as clear as noon-day, that machines and systems, the characteristic instruments of labour of Modern Industry, are incomparably more loaded with value than the implements used in handicrafts and manufactures' (CI 365f.). This raises the question: since the construction of machines 'loads them with value', how is it that overall the commodities
produced by the new machine methods are cheapened? The answer which Marx gives is two-fold (CI 366): firstly, the value of the machine is transferred to the product bit by bit, through the wear and tear of the machine. The enormous productivity of machines means that their value is spread over a very large number of articles during their 'life-time' in the production process. Secondly, the construction and use of machinery according to scientific principles of mechanics enables the wear and tear of the machine to be kept to a minimum, and so spread its value over a still larger quantity of commodities. Science allows the construction of machines from more durable materials than manufacturing tools, which further increases their life. As well as this, economies of scale are realised since a large prime mover and an extensive transmission mechanism can be used to drive many working machines.\[14\]

After allowance has been made for the daily wear and tear of the machinery, and consumption of auxiliary materials such as oil, grease &c., machines perform their work gratuitously, like the forces of nature (CI 366). Science serves to harness the diverse forces of nature to drive a mechanism which performs a useful function. Science is necessary to theoretically explain how such energy can be harnessed and how particular useful effects can be obtained. The former field of research falls primarily to 'pure' science and the latter to the engineering sciences. As the basic harnessing of energy is of universal applicability,\[14\] such research comes to be supported by the bourgeois State. The particular problems of constructing a machine to obtain a certain useful effect are theoretically solved in research which is supported by private capital and the State. Once science has enabled a theoretical explanation of how energy can be harnessed to obtain a useful effect, labour must be performed to 'materialise' the theory in machinery. The substitution of machinery for human labour results in a net saving of labour time through the combined effect of an increase in productivity and the gratuitous services of the machine.

In order for it to be profitable for capital to introduce machinery, the value of the machine must be less than the value of the labour-power it replaces (CI 371). Hence the value of labour-power sets the limits on the application of science. In industries or countries (under imperialism) where either wages are depressed and the commodity standard of living is low, the use of machinery is precluded. The value of the labour-power replaced by machinery is less than the value of the labour congealed into commodities by that labour-power in action in the ratio of $v : v(s_1 + 1)$, where $v$ is variable capital replaced and $s_1$ is the rate of surplus-value. In other words, under capitalism, it is not enough for the application of science to the production process that it result in a net saving of human labour but that it result in a saving of variable capital over and above the cost of the new machinery. In this way there is a link between science in capitalist society and the class struggle which determines the value of labour-power.

**Science and Capital Accumulation**

The development of the capitalist mode of production requires the expansion of the amount of capital needed for an undertaking. The individual firm experiences the laws of capitalist production as external pressures of competition which force it to keep on expanding its capital merely in order to preserve it and this expansion can be done in no other way than accumulation, the conversion of part of the surplus-value contained in commodity-capital into extra capital.\[14\] In *Capital*, Volume I, where only industrial
capital is considered, the surplus-value fixed in the commodities of the capitalist is realised in their sale and either goes towards the consumption of the capitalist or enters the circuit of capital, thereby augmenting it. 'To accumulate, is to conquer the world of social wealth, to increase the mass of human beings exploited by him, and thus to extend both the direct and the indirect sway of the capitalist.' (CI 555). The accumulation of capital implies both the extension of capital's ownership and control over an increasing mass of means of production and also an extension of the power of capital to valorise, i.e. the power to create more surplus-value.

The degree of productivity of labour is an important factor in the accumulation of capital (CI 566). With an increase in productivity the mass of products in which surplus-value is congealed increases and, the rate of surplus-value remaining the same, the mass of surplus-product increases. Along with an increase in productivity, the value of labour-power falls and hence the same variable capital sets more labour-power in motion. Also, the same value in constant capital is contained in more means of production, so facilitating the production of more use-value and value with the extra labour-power. 'The value of the additional capital, therefore, remaining the same or even diminishing, accelerated accumulation still takes place. Not only does the scale of reproduction materially extend, but the production of surplus-value increases more rapidly than the value of the additional capital.' (CI 566).

With the advance of science and technology the instruments of labour are reproduced in more efficient, cheaper machines already in use. Science, whose application is the main means by which the productivity is increased, thus contributes substantially to the accumulation of capital. These advances are incorporated in the means of production gratis; again the fruit of theoretical production 'costs capital nothing' once it is produced.

Science, by discovering more useful properties of things actually creates new use-values and thereby new commodities, 'thus extending with the growth of capital its sphere of investment' (CI 567). Conversely, of course, the new use-values discovered by science cannot be produced in a capitalist society except by capital. Science and capital are thus hand-in-glove in extending the dominion of capital over every sphere of human productive activity.

In particular, advances in science allow the waste products of a production process to be fed back into the same or another process thereby utilising another source of raw materials without any extra capital outlay (CI 567). Thus 'science and technology give capital a power of expansion independent of the given magnitude of the capital actually functioning' (CI 567).

As we have seen earlier, machinery, once allowance has been made for consumption of auxiliary materials and daily wear and tear, performs its function gratuitously, like a natural force. With the accumulation of capital the natural forces harnessed by machines increase, so long as the machinery has living labour to set it in motion (CI 569). However, the benefits of the quasi-natural forces of machines are reaped not by the labourer but by capital which incessantly presses the fruits of human control over nature into relative surplus-value. Accumulation, which physically manifests itself in the growing mass of means of production is a condition and a consequence of the growing productivity of labour (CI 583). The latter results in a diminution of the labour
employed in a production process relative to the mass of means of production moved by it.

We have pointed out above that the accelerating accumulation of capital, the increased productivity of social labour and the advance of science and technology form an indissoluble three-part unity under capitalism. No one of the elements of this unity could be achieved without the others. But more than this, the very historical prerequisite for the capitalist mode of production is the accumulation of capital in the hands of individual producers of commodities, and this occurs in the transition from handicraft to capitalist industry. In the historical context, the quest for surplus-value devolves on methods for raising the productivity of social labour which in turn depends on the state of science and results in the beginnings of accumulation (CI 585). Hence the capitalist mode of production develops only with accumulation and hence the increasing productivity of labour and the advance of science.

For the first time in history, the state of science becomes a dominating, all-pervading influence on the productive existence of humankind. Under capitalism, science cannot be regarded only as an activity which increases theoretical understanding of the world but as a practice necessary for the continuation of the capitalist mode of production and a practice whose product intrudes in every sphere of human productive activity.

Alongside the growing mass of social wealth in the hands of capital and the growth of productivity of labour, the relative control of labour by capital increases with the growth of an industrial reserve army. 'The same causes which develop the expansive power of capital, develop also the labour-power at its disposal. The relative mass of the industrial reserve army increases therefore with the potential energy of wealth.' (CI 603). This tendency, which Marx calls the absolute general law of capitalist accumulation, is modified by many factors, the main one being the resistance and organisation of the proletariat which struggles to preserve jobs and to increase the workers' share in the quantity of commodities produced. Science, by aiding the accumulation of capital, serves in this connexion only to increase the domination of capital over the proletariat.

On the other hand, the accumulation of capital means that larger and larger capitals are necessary for profitable production in a given industry. This results in the centralisation of capital, the concentration of ownership in a few hands. Along with this centralisation, 'the co-operative form of the labour process, the conscious technical application of science, the methodical cultivation of the soil, the transformation of the instruments of labour into instruments of labour only usable in common, the economising of all means of production by their use as the means of production of combined, socialised labour, the entanglement of all peoples in the net of the world market' increase and develop (CI 714).

**Economy in the Employment of Constant Capital**

In the preceding sections we have dealt with the role of science in increasing productivity (and hence in producing relative surplus-value) and in capital accumulation. Both of these interests which capital has in science are dealt with by Marx in Volume I of *Capital* where science plays a role in a positive sense by helping capital produce relative surplus-value and accumulate. Volume II, which deals with the
circulation of capital and not with the capitalist production process proper, does not concern us here. Science as a servant of capital in the production process next occurs in the presentation in Volume III, chapter 5, Economy in the Employment of Constant Capital. In this connexion, science helps overcome a negative tendency of the capitalist mode of production, namely, the tendency for the ratio of constant to variable capital to increase, thereby lowering the rate of profit,

\[ P_1 = \frac{s}{c + v} \]

In its quest for relative surplus-value, capital is forced to increase its outlay of constant capital. Firstly, an increase in productivity or intensity of labour requires more raw materials as more are processed in a given time. Secondly, an increase in productivity is generally brought about with the aid of new or modified machinery, so that the amount of machinery, both in value and use-value terms, set in motion by a given number of labourers increases. The greater investment of constant capital, that is, the higher organic composition of capital required, decreases the rate of profit (CIII 78).

An increase in the productivity of labour usually requires an increased outlay in fixed capital for two reasons: firstly, the new, more productive labour process dictates the requirements for machinery etc. as a technical necessity; secondly, increases in productivity resulting from the social, co-operative nature of the labour process generally requires an extension of the scale of production. On the second point, the extension of scale which may involve larger motors, more transmission equipment, larger frames for the machines, larger buildings, more expenditure on fuel, lighting, requires an increased outlay of constant capital, but not in the same proportion as the mass of these means of production increases. This economy, arising from the concentration of the means of production, necessitates the ‘accumulation and co-operation of labourers’ and hence arises from the social nature of labour (CIII 79).

Science is required to enable buildings and machines to be constructed on a larger scale, as once a construction passes a certain size qualitatively new engineering methods are required which in turn call on theoretical work to theoretically produce them.

A major economy of constant capital is achieved through the utilisation of the excretions of production, ie. waste. Waste products can only be used when (i) the scale of production has reached a certain point where the waste products are produced in large enough quantities, (ii) new machinery, which is capable of handling these waste products or preparing them for a new production process, is developed and (iii) the progress of science (particularly chemistry) has discovered the useful properties of the waste (CIII 101). The re-employment of waste products effects an economy of constant capital in two ways: (a) it provides raw materials for another production process and (b) since the cost of raw material includes the normal waste, the use or sale of this waste effectively reduces the cost of raw materials.

From the point of view of the labour process, it is the use-value of machines and raw materials which matters, not their value (CIII 80). It is the use-value of the means of production which determines the amount of use-values which can be produced in a given time. It is here, in his own labour process, that the capitalist is vitally interested in the use-values of the commodities he has bought. The use-value of the commodities
produced by his production process is of no concern to the capitalist, so long as they find a market; their particular use-value is of no importance, only that they have a socially recognised use-value. Because the capitalist buys commodities from another capitalist, he has no direct control over the production of these use-values. Insofar as the capitalist is interested in the use-value of commodities produced elsewhere in society and as science is vital in discovering the methods of producing use-values (and hence the use-values themselves), the social nature of science is revealed and the interest which the capitalist class as a whole has in scientific production.

Moreover, from the value (or surplus-value producing) point of view, the capitalist is not indifferent to the value of the means of production he purchases: '. . .the development of the productive power of labour in any one line of production, e.g., the production of iron, coal, machinery, in architecture, etc., which may again be partly connected with progress in the field of intellectual production, notably natural science and its practical application, appears to be the premise for a reduction of the value, and consequently of the cost, of means of production in other lines of industry, e.g. the textile industry, or agriculture'. (CIII 81). Hence a rise in the rate of profit in one industry depends on the development of the productive forces in another. The development of the productive forces in department I, that is, that department which produces means of production, is of especial interest to capital because (i) the use-values produced there enter as means of production into other production processes (CIII 80) and (ii) economies in constant capital depend on production in department I (CIII 82). Because of this, the interest of capital in science is more crucial in department I than department II, it only being necessary in department II to produce a consumable commodity without regard to the technical requirements of a labour process. Such development of the productive forces depends on the social nature of the labour process, the division of labour in society and 'the development of intellectual labour, especially in the natural sciences'. (CIII 82). Thus scientific production is part of the entire system of the social division of labour and its development and application depends on, and furthers the socialisation of, the production of human existence. The progress of science transcends the interests of any individual capital both from the use-value and surplus-value point of view (although the latter necessarily dominates its interests) precisely because its progress and application inevitably impinges not only on its own individual interests but those of the bourgeoisie as a whole.

There are savings of constant capital to be made in the continuous improvement of machinery by (1) using different materials in the construction, (2) cheapening of machinery due to improvements in machine building, (3) special improvements which allow the machine to be used more efficiently, (4) the reduction of waste through better machinery and (5) the reduction of wear in the machinery. The last point has a value aspect in that with a reduction in wear a smaller part of the value of the machine is transferred to each article thereby cheapening it (CIII 81). The role of science in these improvements is clear.

Not only good machinery but good raw and auxiliary materials are required for the production process. Because good raw materials produce less 'waste, less are needed to absorb the same quantity of labour. Also the machinery runs more smoothly with good raw materials and less time is needed for the labourer to work up the same quantity of material (CIII 83). Science is applied to both improving the quality of raw materials, as
in the quality of yarn for weaving, and also to discover substitute raw materials with superior qualities or low value, as in the substitution of plastics for glass.

The discoveries of science are usually not immediately applicable to fulfilling the needs of capital and must find their application within the social system of production. It is only the experience of the collective labourer which reveals the simplest methods of applying discoveries and the way of reorganising the process in accordance with the theory (CII 104). Nevertheless, scientific discovery and invention have an aspect of universal labour which transcends any particular application (CIII 104). A theoretical product, once produced, does not have to be produced again and can be applied again and again in widely different production processes and elsewhere. Furthermore, the product of universal labour, that is, theory, is used in the theoretical labours of other scientists. Hence there is a cumulative aspect to theoretical production, because a product of theory can never be consumed, ie. used up. This production of science on the basis of past theoretical labours makes science into a broadly social practice which depends on the universal labour of society as a whole. We have already pointed out that science applied in machinery, once allowance is made for its wear and tear, serves capital as a natural force.

On the other hand, the universal character of scientific production effectively prevents an individual capital from keeping a scientific discovery for itself. Such measures as patents are only effective for a limited time and only possible through extreme legal casuistry because patents essentially contradict the social nature of all scientific invention. Industrial secrets are also rare for the same reason, viz., any scientific discovery uses the product of past theoretical labour in its production and these existing theoretical products are a social possession. Often scientific discoveries are made more than once by independent researchers. A further consequence which Marx points out (CIII 104) is that the capitalist who first uses a new invention often goes bankrupt because of (i) the great difference in the cost of the first model of a machine and succeeding models and (ii) the greater cost of running a factory based on a new invention.

The Sphere of Circulation

Up until now we have dealt with the relation between science and the capitalist production process proper. Science is employed there to increase the productivity of labour, assist in the accumulation of capital and to economise in the employment of constant capital. In the sphere of circulation, science is not used in the creation of value, but to facilitate the two parts of the circulation process: M-C, the transformation of money-capital into productive capital, and C₁-M₁, the transformation of commodity-capital into money, which is at the same time the realisation of the surplus-value contained in it. Marx deals with the concrete process of circulation in Chapters V and VI of Volume II under the heading of the time of circulation and the costs of circulation. As in the economising of constant capital, science plays a role in counteracting aspects of capitalist economy which impede the self-valorisation (Selbstverwertung) of capital. The role of science is not explicitly dealt with in this connexion, but from everyday knowledge it is clear that science is applied to minimise the negative effects of the circulation process which are pointed out by Marx, and examples readily come to mind.
Within the sphere of production, the distinction between production time, time of functioning and working time has important consequences. The *time of production* is the time from the purchase of the means of production to when they emerge from the production process as finished commodities, i.e. the time which the circulating capital spends in the sphere of production (CII 125). This time exceeds the *time of functioning* of the means of production because of the times (e.g. night) when the means of production lay idle. The time of functioning in turn may well exceed the *working time* of living labour on the object of labour as in the case where the partially finished commodity is left for a time to undergo natural or chemical processes (e.g. the fermentation of wine).

In the time outside of working-time but within the time of production no new value is created although value can be transferred to the product in the time of functioning. As these periods are unproductive of surplus-value, they stand in the way of the self-expansion of capital and hence capital seeks to reduce the gap between the time of production and the working-time to a minimum.

The time of functioning outside of the working time (fermentation time) is dictated by the technical requirements of the labour process and is a necessary part of the production process. Science, especially chemistry, reveals new methods of production (essentially new labour-processes) in which the fermentation time is reduced. Such is the case when chemicals are used to accelerate a natural process e.g. the maturing of cheese or the tanning of leather. Besides science being applied to reduce the fermentation process itself, it can also discover entirely new substitute use-values in which the fermentation period is either completely done away with or greatly reduced, e.g. processed cheddar cheeses have negligible maturation periods compared with matured cheeses and their production has been made possible with food technology.

In the sphere of circulation the time taken for the two phases \(C_1-M_1\) and \(M-C\) constitute the *time of circulation* and this, together with the time of production, disjointly make up the turnover time. 'During its time of circulation capital does not perform the functions of productive capital and therefore produces neither commodities nor surplus-value' (CII 127). Hence capital, *ceteris paribus*, seeks to keep circulation time to a minimum although below we shall see that there are good reasons why the circulation period cannot be completely eliminated.\[447\]

The transformation \(C_1-M_1\), besides being more important than \(M-C\) because it realises the surplus-value contained in the commodities (CII 120), is also more difficult because of the anarchy of the market and the occurrence of gluts and crises. Apart from the intrusion of the movements of the capitalist economy into the transaction \(C_1-M_1\), the character of the commodity as a use-value makes itself felt in the circulation process. Use-values are perishable by nature and this imposes an absolute limit on the circulation time (CII 130f.). When a commodity loses its use-value, it loses also its value and is no commodity. 'The more perishable a commodity and the sooner after its production it must therefore be consumed and hence sold, the more restricted is its capacity for removal from its place of production, the narrower therefore is the spatial sphere of its circulation, the more localised are the markets where it can be sold.' (CII 131). The more perishable a commodity the less suitable it is from the point of view of the capitalist producer. Technology can help overcome the problems of perishable commodities In several ways: (i) by discovering processes which make the product less
susceptible to perishing, (ii) in agriculture, by discovering the optimum time for the harvest of a crop eg. avocados present a difficult task for science because there is no easy indicator of optimum picking time,\(^{[11]}\) (iii) by discovering ways of preserving the product, the most important of these being refrigeration which has revolutionised the variety and abundance of commodities available on the market;\(^{[12]}\) pasteurisation and the use of artificial preservatives are also important, being used not because they benefit the consumer, but because they allow capital to extend its markets, and (iv) by developing faster transport with a bigger range, the market for perishable goods is effectively extended and places which previously could not provide a market for a perishable commodity because their population was not dense enough now become a viable size.

The time and labour-power employed in accomplishing the transactions M-C and C\(_1\)-M\(_1\) do not create value, although they are necessary for the reproduction of capital (CII 133). If the capitalist does not perform these functions himself but employs wage-labourers to do these tasks, their labour creates no value and hence no surplus-value (CII 135). These costs of circulation do not add value to the product and reduce the amount of capital that is functioning productively. If wage-labourers perform the functions of buying and selling, then part of their labour is given gratis to the capitalist. The wage received by these workers may be equal to the product of six hours' labour, whereas they work for eight hours. The capitalist has the same interest in increasing the productivity\(^{[12]}\) of these circulation wage-labourers as he has in the case of productive labourers, only here not relative surplus-value is extracted but the costs of circulation are reduced.\(^{[12]}\) An increase in the productivity of the agents of circulation increases the efficiency of the circulation process and decreases the capitalists' costs of circulation. The role of science is hence that of increasing productivity and in this the development of communications is of major importance; ease of making transactions and knowledge of the market are both dependent on the state of communications. The development of the telephone and telegraph allows transactions to be made without buyer and seller meeting face-to-face, and within a minimum of time. Similarly, the system of communications allows the buyer to gain knowledge of supplies and prices and the seller to find buyers all around the world. Computers have become increasingly important in recording transactions in commodities and generally providing instantaneous knowledge of the market.

Another cost of circulation is that of book-keeping (CII 136ff.) and, like the task of buying and selling, the recording and accounting for movements of value and the calculation of prices and profits, whilst requiring labour-power and means of production do not create, but absorb value.

The tasks of book-keeping can assume enormous proportions, as witnessed by the growth of banks. As in the costs of buying and selling, the employment of wage-labour for book-keeping enables the capitalist to reduce the expenditure of surplus-value on circulation and hence have an interest in increasing productivity. The prodigious importance of computers in enabling large numbers of transactions to be recorded, lightening-fast calculations to be done and hence enormous savings in labour-power to be made is evident from everyday knowledge. What formerly required a whole roomful of clerks to accomplish now is done in a few seconds on a computer with a small staff of machine operators, punch-card operators, etc.
The costs of maintaining and expanding a money supply in the system of capitalist commodity production is a sacrifice of social wealth to the process of circulation. "They are the faux frais of commodity production in general..." (CII 139). Here again capital has an interest in maintaining the money supply with the least possible outlay of social wealth and labour-power, such costs being deductions from productive capital.

For continuity of production to be maintained the means of production must be available in the market so they can be bought. The labourer must be able to buy the means of life with their wage and hence must be able to find these on the market. But what is a transformation M-C for the capitalist or the purchase of means of life for the labourer is the transformation C₁-M₁ for some capitalist. From this capital's point of view the existence of a supply of its commodities in the market is an impediment to the valorisation of its capital (CII 141). With the development of transport and the means of communication the need for a large supply on the market diminishes, as the product of one process may be rapidly transported as means of production to another production process (CII 145).

A supply may take three forms: (i) as productive capital, as a stock in the hands of the capitalist ready for use in the labour process; (ii) as a stock for individual consumption; or (iii) as a commodity-stock or commodity-capital available on the market. The costs of formation of a supply include those of buildings and labour-power, which entails the expenditure of capital in the first and last cases. In addition to this, measures must be taken to prevent or diminish the deterioration of the commodities stored and this generally requires an extra outlay. The development of refrigeration is important here and allows the formation of a supply where none was possible. This has the greatest impact on the formation of a supply of means of life whether it be food stored in the capitalist's cold store or in the labourer's fridge.

With developed capitalist production, supply tends to take the form of commodity-stock rather than production or consumption stock (CII 150). A commodity-stock is necessary for the continuity of circulation and insofar as this holds, the costs incurred by the capitalist in maintaining the stock can be added to the cost of the commodity. But insofar as the commodities lying in the 'reservoir of circulation' stagnate because of gluts or crises, the extra expenditure incurred is pure loss (CII 151). The costs of commodity-supply fall into three categories (CII 151): (i) a reduced mass of commodities is available for use; (ii) the quality of the commodity deteriorates; and (iii) materialised and living labour are required to maintain the supply. Science is used by capital to reduce the deterioration of commodities and to develop new use-values which either do not deteriorate as quickly or, by their nature do not have to take the form of a large commodity-stock. In connexion with the latter point, the replacement of agricultural products with annual supply by synthetic ones whose production and supply is under human control is of major importance. The most prominent example is that of wool and synthetic materials, the latter having several advantages for the capitalist over wool; synthetics are cheaper, their supply is not subject to the vagaries of the weather and, because their supply is not annual, a whole year's supply does not have to be maintained either as a commodity or as productive stock.

The costs of transportation (CII 152ff.) are different from the costs of of circulation which arise from the changes in form M-C and M₁-C₁, do not add value and are a deduction from surplus-value. By contrast, in the transport (and storage) industry, an
additional process of production goes on which is, ‘within the process of circulation and for the process of circulation’ (CII 155). The means of production and labour-power invested in the transport industry is a productive investment, the means of transport transferring value to the goods transported and the labour performed in transport adding new value (CII 153; CII 53f; see also CII 253).

Just as in any other productive sphere of investment, capital seeks relative surplus-value through an increase in productivity. Larger and faster means of transport lower the costs of transportation for the individual commodity. On the other hand, the capitalist mode of production, by making almost all products into commodities and by developing a world-wide economy, markedly increases the productive activity expended in transportation.

Footnotes


[2] This consumption can be of two kinds: either individual consumption or consumption in further production.

[3] 'Useful' here means not only useful from the point of view of individual consumption but useful in the production of other commodities.

[4] On CI 174, Marx calls the human activity which is a component of the labour-process 'work itself' but elsewhere uses 'labour' or 'work' to refer to the whole labour-process not just a part of it.

[5] 'Subject' is used in the English translation, although the German is 'Gegenstand' and would be more strictly translated as 'object.'

[6] The plural pronoun is consciously used here with a singular noun as a way around the built-in sexism of the language. This is a linguistic change which is already quite advanced in spoken English. On the other hand, there is no objection to using 'his' etc. with 'the capitalist' because everyone knows that capitalists are men.

[7] The view that there is a linear progression from 'more simple' forms of society to 'more complex' forms was an idea prevalent in the anthropological literature of Marx's time. The coexistence of hunter/gatherer societies and pastoral societies however shows that a simple evolutionary view of social development on the basis of stages in the development of the productive forces is untenable.

[8] For a criticism of the concept 'value of labour-power' see Appendix 1: 'Family in Capital'.

[9] The great increase in productivity brought about by machinery in no way brings about the increased leisure of the working class. On the contrary, machinery increases the power of capital over labour, intensifies the pace of work and gives the impetus for capital to extend the functioning of its machinery to all hours of the day. Thus under capitalism, the development of the productive forces by way of machinery serves only
to increase the exploitation of the proletariat and the surplus-value of social capital (CI 351).


[14] This point has to be modified for modern times where electricity is widely used to power machines. In this case the prime mover is the power station and the transmission mechanism consists of the power grid; the individual capital, therefore, no longer needs its own prime mover. Marx's treatment of machines covers only the special case of mechanical machines, and the general conception of a machine must be formulated in order to encompass other types of machine. A machine, at the most general level, is a thing or complex of things built by human activity which serves to harness natural sources of energy (solar, thermal, chemical, physiological) and change their form in a way which produces a useful effect. With a mechanical prime mover, the transmission mechanism serves to transmit movement (kinetic energy) as well as changing its speed, direction of motion etc. With other energy sources (eg. electrical) the transmission mechanism must also accomplish changes in the form of energy (eg. electrical to kinetic).

[15] Everyone, not only capital, benefits from electricity, which is a splendid material demonstration of the social interconnections and interdependencies in capitalist society.

[16] The mass and extent of the means of production can increase without a corresponding increase in their value, if the productivity of labour has increased. In this way there can be an accumulation of use-values without extra capital being advanced. Cf. below.


[19] The development of commercial refrigeration was necessary before the Australian meat export industry could develop. James Harrison was the first person to produce ice in commercial quantities by mechanical means in Geelong, Victoria, Australia in 1855. Thomas Mort pioneered the development of refrigeration for frozen meat shipments from Australia to England which culminated in the voyage of the Strathleven from Sydney and Melbourne to London in 1879-80. Cf. Fitzpatrick B, The British Empire In Australia, An Economic History 1834-1939, p 171. Melbourne Univ. Press, 1941.
Here productivity is not measured in terms of use-values produced in unit time but by the time taken to produce a given useful effect, which may or may not have a palpable material form.

No extra surplus-labour is extracted as this is determined by the wage of the circulation labourer (Zirkulationsarbeiter) which in turn is determined by the industrial commodities necessary for their reproduction in the family.

Hence costs of storage are productive (as are transportation costs)-but only socially necessary storage costs, i.e. the socially necessary expenditure of labour-power in the maintenance of a socially necessary commodity-stock. Just as unnecessary transportation costs do not add to the value of a commodity, neither do socially unnecessary storage costs. Marx does not make this point about supply clear (CII 151), as he does the productiveness of transportation. Transportation and storage add a space-time index to commodity production, i.e. commodities must be consumed and this requires transportation and supply-formation.

References to Science in *Capital*

CI

p. 43, 47, 175, 314, 320, 341, 356, 359, 362-6, 411, 477, 567, 570, 583-5, 604, 714-5

CII

p. 360, 241, 243

CIII

p. 81f, 101, 104, 117, 266, 300, 617, 760, 819

*Eldred/Roth: Guide to Marx’s Capital (1978)*

Appendix III

*With Marx against Marx?*

Histomat, and Histomat 2 - An Alternative to Jürgen Habermas’ Theses Towards the Reconstruction of Historical Materialism

*by Mike Roth*

In this debate it cannot be so much a matter of criticising false assertions and replacing them with true statements. For Habermas’ theses are principally a research programme,
directed against certain other research programmes. For me, the dispute is still\[1] on the same level as in 1969, which Renate Damus formulated as "confrontation ... of a Critical Theory which ... renounces a preoccupation with political economy and a position which, after being buried for decades, holds this preoccupation for most imperative".\[2] The incompleteness of the attempts at a presentation within the rival research programmes admits of discussion only preparatory to systematic argumentation and in partial anticipation of results which have yet to be proven.

The question I address is what is to be understood under reconstruction of historical materialism and what programmatic direction is indicated by Habermas' reconstruction of historical materialism? In this connection it is important to explicitly distinguish two meanings of the term 'historical materialism'.

'Historical materialism' can be understood i) as designating that theory whose subject matter is the historically specific character of the present\[3] form of material reproduction of life, to anticipate the capitalist form of society (Histomat\(_1\) is synchronic).

'Historical materialism' can be understood ii) as designating that theory which treats the history of the development of humankind as a chain of class societies (Histomat\(_2\) is diachronic).

Histomat\(_1\) and Histomat\(_2\) have the common characteristic that here theory is undertaken with the perspective of the practical dissolution of, to anticipate, class society. On Histomat\(_2\) on the history of development of class societies, there are only occasional asides from Marx, apart from the hitherto scarcely systematically evaluated excerpts on early history and ethnology from 1880-82. These asides, I claim, serve Marx mainly as contrasting illustrations for the capital-analysis. This function is probably also fulfilled by the remarks in the draft of a general introduction from 1857 to the text *Zur Kritik der politischen Ökonomie*, the first published book of the capital-analysis.

In the Preface to this work of 1858, he states:

"I suppress a general introduction which I had sketched, since, on closer consideration, to me any anticipation of results which have yet to be proven seems disturbing."

'Anticipated' results which have yet to be proven are strictly speaking, not a result of scientific argumentation.

Next I will try to demonstrate that precisely these favourite parts of the Preface which are used to support Histomat\(_2\) fall to the criticism of the above cited marxian self-critique of the suppressed 'general introduction'. (I do not shy away from establishing an inconsistency in Marx which has many later consequences.) My argumentation aims at the following: Jürgen Habermas treats as basic postulates of a universal theory of development (Histomat\(_2\)) what Marx can only claim as 'results' of his analysis of the capitalist epoch and therefore related only to capitalism. It seems to me, firstly, that this analysis is precisely 'the point' and, secondly, that not only Habermas was led astray by marxian formulations which go beyond this.
Marx writes in the 1859 Preface with regard to his 'Critical Revision of the Hegelian Philosophy of Right':

"My investigation culminated in the result that relations of right, as well as forms of state, are neither to be conceptualised out of themselves, nor out of the so-called universal development of the human spirit, but rather are rooted in the material relations of life whose totality (Gesamtheit) Hegel, following the precedent of the English and the French in the 18th century, summarised under the name of 'bourgeois society' (bürgerliche Gesellschaft) that, however, the anatomy of bourgeois society is to be sought in political economy."

Against the transepochal marxian formulation ('relations of right as well as forms of state'), it is to be emphasised that here bourgeois society is the object of attention. For Marx mentions that, following on from his critique of Hegel, he had studied the system of bourgeois economy. And regarding these studies he says: "The general result at which I arrived and, once won, served as guiding thread to my studies...": here Marx's studies of the anatomy of bourgeois society are again referred to. It is important to note that not only 'result' but also 'guiding thread' relate to the not yet completed research process.Only after this prelude follows the 'classic' formulation, which is mostly cited in isolation: "In the social production of their life, humans enter ..."

I draw attention to the fact that this marxian formulation (relating generally to 'humans') stands in marked contrast to its prelude, where it is a matter of preoccupation with the capitalist epoch. The theme becomes, without notice, no longer the humans in bourgeois society, but generally related to various social formations and their change.

Thus it is explicitly and concisely said one page later:

"In crude outline, asiatic, antique, feudal and modern bourgeois modes of production can be designated as progressive epochs of the economic social formation."

To me, however, the continuation seems important since it gives the purpose of the quick marxian view over the history of human development. Immediately following on it reads:

"The bourgeois relations of production are the last antagonistic form of the social production process ... but the forces of production which develop in the womb of bourgeois society create at the same time the material conditions for the solution of this antagonism. With this social formation therefore, the prehistory of human society comes to a close."

The purpose which Marx has in referring to the precapitalist modes of production is the discussion of the solution of class antagonism. In this connection, the observation of the intimate bond between development of the productive forces and tendencies towards the changing of relations of production belongs to the discussion of bourgeois society, even though Marx's formulations are often inappropriately general. Asiatic, antique, feudal and capitalist modes of production appear as a chain of class societies from the perspective of Marx's analysis of capitalist society, which has tracked down the fundamental division of the working day of the immediate producer into the necessary labour time for his/her immediate individual reproduction and surplus labour time.
Only when this is presupposed as result, can one talk of class society. The non-materially producing class always appropriates the surplus product of the immediate producers. (This prevalent trait of Histomat₂ - class society - is eliminated in Habermas' theses for reconstruction.)

I want to underline that also with regard to the central formulations of the 1859 Preface, it is a matter of 'anticipated results'. I think Marx sees himself forced to such an anticipation for, without reference to the final aim of his theory, to present the conditions for and resistances against the 'solution of class antagonism', the mediating steps to those results which have yet to be proven, as tiresome investigations of apparent 'economic minutae', threaten to meet with a lack of interest on the part of a politically motivated general public. Here one should think in particular about the time of publication of Zur Kritik der politischen Ökonomie and its content ²³ (see below).

Now that I have indicated why Marx allows himself to go against his previous explicit attitude to the anticipation of results which have yet to be proven, I want to touch on what has to be done to prove them. The marxian anticipation of results can be understood in two contexts corresponding to the distinction between Histomat₁ and Histomat₂: i) in relation to capitalism (Histomat₁); ii) in relation to the chain of class societies from the Asiatic via the antique and feudal to capitalist society (Histomat₂).

The proof restricted to the bourgeois form of society and its genesis out of pre-industrial European feudal society as well as its transition into a fully industrial socialist society - this proof can only be carried out through the completed analysis of the bourgeois form of society. With the analysis of commodity and money which follows the Preface, Marx offers, when one views the entire analysis which has to be performed, only a tiny initial piece of the required proof in which, in particular, the specific capitalist productive forces of labour, the mechanical means of production and therefore also the base-superstructure thesis, the "dialectic of productive forces and relations of production", as well as the "unity of theory and practice" are not treated at all.²⁴ In relation to the analysis of bourgeois society, the base-superstructure passage of the Preface is therefore a claim which still has to be substantiated according to the architecture²⁵ indicated at the beginning of the Preface.

"I treat the system of bourgeois economy in the order: capital, landed property, wage-labour, state, foreign trade, world market."

With 'capital, landed property, wage-labour', the three revenue sources are mentioned whose investigation completes the analysis of 'capital in general' available in the three systematic volumes of Capital. As a detailed draft²⁶ by Marx, it can sensibly be taken as the object of efforts at reconstruction. In the last decade, such attempts have been published in West Germany by the Frankfurt theoreticians Alfred Schmidt, Hans-Georg Backhaus, Hans-Jürgen Krahl, Helmut Reichelt; by the Konstanz Research Project²⁷ in which I have worked; the Berlin Group Project around Joachim Bischoff; Jürgen Ritsert (Frankfurt); the Marxistische Gruppe (Arbeitskonferenz) in Munich; and Wolfgang Fritz Haug (Berlin).²⁸ In relation to bourgeois society, the base-superstructure thesis, which is treated as the kernel of historical materialism, can only be substantiated through the reconstruction of the general capital-analysis and its continuation in a theory of the superstructural forms which is grounded on the capital-analysis.²⁹
The present state of research into Histomat, in my view, offers grounds for optimism regarding the scientific demonstration of the results anticipated by Marx with respect to our capitalist society. The marxian anticipation in programmatic phrases, when explicitly demonstrated as result, can be grasped in a less misunderstandable way and with well defined area and grounds of validity.

With this I have done nothing more than to express an expectation. That isn't much. I want to draw attention to the fact that Jürgen Habermas' theses have implicitly the contrary expectation as their point of departure. I don't believe that Habermas has for this alternative assessment, an argument at his disposal which I don't have. The matter can only be settled by a convincing working out of the capital-analysis. One way or the other. To be consistent, Habermas would have to work out the capital-analysis "as a subtheory" of historical materialism in the sense reconstructed by him.\[13]\]

The background of our opposed expectations, however, is different. Habermas and Wellmer have already criticized \[14]\ the marxian value theory several years ago. They have not yet taken a position on the answer given in 1969 to this critique. On the other hand, they have not followed the attempts at reconstruction of Capital undertaken since 1971, at least not directly and without having explicitly taken an attitude towards them.

Now to the marxian anticipation of results when one understands it in its second context. There is a striking difference: in relation to Histomat, there is nothing following up the hints and claims strewn by Marx in various places which could be conceived even provisionally as an outline of a systematic presentation. (On this point Habermas has the same opinion\[15].) The treatment of Histomat by Engels, Lenin and Stalin have in no way the same scientific status as Marx's Capital. They are in part quickly 'thrown together' (hingehauene) (Engels)\[16] works of intervention or apologetics for a definite politics (Stalin).

Viewed with a scientific eye, these 'classic' texts on Histomat prove themselves to be in part internally inconsistent, and partly as standing in contradiction with the marxian postulate that the economic structure constitutes the basis. This holds not only for the ambitious Engelsian text, The Origin of the Family, Private Property and the State, which earlier was much read by social democratic workers (Erhard Lucas has brought together material for its critique)\[17]\ but also in particular for a publication by an official Party writers' collective under Stalin's leadership, On Dialectical and Historical Materialism(1938 distributed in an edition of 200 million), as the commentary by Iring Fetscher shows.

From the fact that Habermas does not take up anything substantive out of the classical texts of Engels and Stalin, I conclude that we agree in our low estimation of them. If that is so, then it is misleading with respect to the development of humankind when going backwards from the capitalist epoch to, in particular, the early historical development of humankind, to represent the programme as a "reconstruction of historical materialism". For what is to be reconstructed? Not Marx and also not Stalin.

To summarise so far: Jürgen Habermas can support his programme for reconstruction on an inconsistency which has eluded Marx. The point is to explicitly criticise this weakness in Marx by taking up Marx's systematic course of argumentation and not, following the model of the official marxist party orthodoxy, to make this weakness into
the receptacle for a relatively capricious filling out of the empty formula Histomat₂, be it in the form of reflections on mating groups and incest (as in Engels) or the compilation of learning-theoretical, developmental-psychological, communication-theoretical aspects of the development of humankind.

Thoughts on the history of humankind which have been stimulated by the occasional 'classical' statements by Marx cannot, in view of the totally shaky status of Histomat₂, be served up as 'reconstruction'. It should by now have become questionable whether Habermas in fact undertakes a reconstruction of Marx. The next question is then, what is the relation between the habermasian research programme within Histomat₂ and what can be called 'reconstruction of historical materialism,' (understood as a methodologically explicit reconstruction (Nachkonstruktion) of the capital-analysis and the execution of the transition to the theory of the bourgeois state and private life? I have the impression that at the end of the sixties, at the high point of the student movement, Habermas came to a dead end with his own attempts at reconstruction of the capital-analysis and that Habermas and Wellmer therefore formulated their results as a critique of Marx. However, they have not directly answered the anti-critique of their critique nor the subsequent more recent attempts at reconstruction. Rather, Habermas now tries to get over the problem with his version of the development theory Histomat₂.

In conclusion I want to offer for discussion some thoughts on the relation of Jürgen Habermas' considerations to the marxian theory of emancipation from class society, which proceeds from the analysis of the capitalist form of social synthesis (Vergesellschaftung). Like the contemporary (positivist and anti-positivist) theory of science, Habermas obviously also wants to see a very extensive piece of theory come before the preoccupation with capitalist society. With the theoreticians in theory of science, this piece is a doctrine of scientific speech, abstracted altogether from the object of the theory of capitalist society. With 'Critical Theory' a la Habermas 1975, we have a development theory over epochs, a doctrine of human development in general. The capital-analysis remains in this universal development theory - and herein lies the parallel to the marxist orthodoxy - but only with the status of a "partial theory" (Habermas). Consequently, this partial theory would have to be newly formulated in the framework of the universal development theory Histomat₂. And herein lies the real point: the ostensible efforts at reconstruction on closer inspection prove themselves to be a revision of the claim to autonomous validity made by Marx for the capital-analysis. For, the criterion for the testing of the validity of Capital in future is to be provided by the purportedly systematically prior universal development theory. Here too, the procedure has the same model as the 'reconstructions' of the positivist and anti-positivist theory of science.

But is that a deficiency? Does that constitute a knock-down argument against Habermas? I think that through such references connections can only be made to scientific, scientifício-political and political experiences which can be distinguished among the disputers. In particular, it depends on the degree of optimism held for the possibility of the reconstruction of the capital-analysis as an analysis of the boundary conditions of action for the emancipation from class society, whether the habermasian research programme, which diverges strongly from the marxian programme, should be pursued or not.
I personally see in Habermas' theses on a modified version of a development theory Histomat₂ no occasion for interrupting or restructuring the work on the reconstruction\textsuperscript{[2]} of Marx's analysis of the "anatomy of bourgeois society". If the reconstruction and completion of Histomat₁, the systematic theory of bourgeois society, should actually succeed, the following questions can be posed. To what extent is it necessary to have a development theory alongside the systematic theory of our form of society, which contains the conditions for and resistances against the emancipation from class domination? What would this development theory look like, and why should we bother ourselves with it?

Footnotes


\[1\] Emilio Agazzi told me that "a deficit of the Frankfurt School in political economy" was also expressed by American and Italian theorists at a colloquium on the reception of Critical Theory in the Starnberg Institute, December 1980.(Cf, also Iring Fetscher's foreword to Reichelt \textit{Zur logischen Struktur des Kapitalbegriffs bei Karl Marx}, Frankfurt a.M.,1970, pp. 10f; "Subtle in the uncovering of hidden reaction in the representatives of the left bourgeois people's front, inventive in the discovery of secret protest in the apolitical artists of L'Art pour L'Art, Critical Theory remained deficient in the actualisation of the Marxian critique of the economy. Some of its representatives prematurely held this critique to be obsolete because they overlooked the necessary distance from the 'general concept of capital' to the apparent phenomena of the economic sphere. Unconsciously, feudalistic questions of status may have played a role in this neglect. 'Economics is dirty.'"

\[2\] \textit{Sozialistische Politik}, 4, p. 23.

\[3\] Capitalism is also, with respect to those societies which understand themselves as socialist, in their connections to world trade and in a series of internal "birthmarks of the old society", a still-present reality.

\[4\] That the research process is not yet complete is expressed in the above formulation from the Preface: "That, however, the anatomy of bourgeois society is to be sought in political economy." This research process is, however, nothing other than a series of attempts at a presentation. The most important attempt at a presentation to which Marx can refer in 1859 are the \textit{Grundrisse der Kritik der politischen Ökonomie} (Rohentwurf 1857-1858) first published Moscow, 1939.
Today (1981), I would not formulate class exploitation in terms of periods independent of the value-form. Cf. Roth/Kleiber/Hanlon/Eldred, *Die gedoppelte Verdopplung: Zum Ausbau des Marxsehen Systemfragments*, forthcoming. Form-independent formulations are of importance for Histomat₂, which strives to make its categories transepochal. Such formulations are central for an understanding of the fascination of the workers' movement with Histomat₂ ("All previous history was a history of class struggles.").

From the viewpoint of the politically interested reader, the political relevance was to become stark with the third chapter, 'Capital', which is not contained in the 1859 work *Zur Kritik*. "For with Chapter 3 the real battle begins." (Marx to Lassalle, 28.3.1859, in *Briefe über 'Das Kapital'* , p. 99) On the other hand, Marx wanted to impress his bourgeois critics with his scientific achievement before letting "the kernel of the bourgeois shit" (Marx to Engels, 7.11.1859, Briefwechsel, Vol. II, Berlin 1949, p. 531) out of the bag: "... it appeared to me advisable not to horrify right from the beginning ..." (Marx to Lassalle, 28.3.1859, *Briefe ..., loc.cit*.). With this strategy of holding back "Chapter 3", Marx wanted to "force the dogs later to take my views on capital rather seriously" (Marx to Engels, c.13.1.1859, *Briefe...,* p. 94). The political content of *Zur Kritik*, which contains two chapters on Commodity and Money, is contained in the critique of 'Proudhonian socialism, now fashionable in France, which wants to let private production stay, but organise the exchange of private products; which wants to have the commodity, but not money ... Communism must, above all, free itself from this 'false brother'." (Marx to Weydemeyer, 1.2.1859, *Briefe...,* p. 96) This critique, together with the analysis of "the commodity, of the specifically social, in no way absolute character of bourgeois production." (Marx to Engels, 22.7.1859, *Briefe...,* p. 100) is what Marx wanted Engels to bring out in a review of *Zur Kritik* (cf. ibid.).

Engels however, was far more impatient than Marx with regard to the political impact of Marx's theory: "The undelayed appearance of your second book (the continuation of *Zur Kritik*, tr.) is ... of course most important ... For once be a little less conscientious with your own work; it is still much too good for the lousy public. That the thing gets written and appears is the main thing; the weaknesses which occur to you won't be discovered by the asses in any case; and when troubled times start, what do you win from the fact that the whole thing becomes interrupted before you are ready with capital in general?" (Engels to Marx, 31.1.1860, *Briefe...,* pp. 100ff.) In his review of *Zur Kritik* published in 1859, Engels goes even further than Marx in the anticipation of results for the sake of political effect. The materialist postulate that being determines consciousness becomes a statement which "is so simple, that everybody must be able to understand it on its own", although, he is quick to add, "... it is plain as day that one cannot make anything out of the mere phrase". (MEW 13, pp. 470, 471.) For Engels, however, the proof of the results lies in "massive, critically viewed, completely mastered historical material". See Backhaus, 'Materialien zur Rekonstruktion der Marxschen Werttheorie 3', in *Gesellschaft* 11, 1978, for a discussion of 'logical' and 'logical-historical' modes of presentation, (tr.)


[9] The first volume of Capital (first and second editions) were prepared by Marx himself for the press. The third volume is taken from a draft of 1864-65. An examination of the manuscript in the International Institute of Social History in Amsterdam reveals that, in his posthumous edition, Engels has stuck close to the single draft. For the second volume, there are over ten manuscripts. Engels comments on these in the Preface to the second volume. A careful investigation is contained in Ivan Glaser, Warum 'Das Kapital' ein Torso blieb (Why Capital Remained a Torso), Habilitationsschrift, Universität Konstanz, 1980. With regard to the second volume it is still an open question whether plausible alternatives to the engelsian edition could be given.

[10] Since the 1975 Hegel Congress, the author has spent a year in the Department of General Philosophy, Sydney University as a guest lecturer (1976), during which time a collaboration with the translator began. Since then, the research project has straddled the distance between Konstanz and Sydney, resulting in Eldred/Roth Guide To Marx's 'Capital', London 1978, and the forthcoming Roth et.al.


[14] In the meantime, the Konstanz-Sydney Project has also come to a critique of the labour theory of value which consists of separating a labour content theory from an analysis of the value-form. Cf. Roth et.al., and Eldred/ Hanlon, 'Reconstructing Value-Form Analysis', in *Capital & Class*, No. 13, London, 1981.


[16] According to Erhard Lucas, Engels wrote the text *The Origin of the Family, Private Property and the State* in two months. In addition, the visit of friends took place.


[19] Habermas’ jump from Marx to Engels/Stalin may disguise the fact that in the marxian listing of "progressive epochs" in the 1859 Preface, the "primitive community" does not appear, in his extensive text for the preparation of the colloquium, essential parts of Habermas' considerations relate precisely to the "neolithic revolution" and earlier epochs of the development of humankind. Habermas does not go explicitly either into the relation of the capital-analysis (Histomat1) to his own reflections on the theory of development (Histomat2), nor does he treat the relation of Engels' text, *The Origin...*, which is taken to be a classic of Histomat2, to Marx's excerpts, on which Engels presumably bases himself. The way in which this happens has been represented in a flattering light by Krader, to whom Habermas refers, and in an unflattering way by Lucas, who obviously is unknown to Habermas. Cf. fn. 6.

[20] An inconsistency insofar as it says that to Marx, "on closer consideration, every anticipation of results which have yet to be proven seems disturbing". Above, I have indicated why Marx, in spite of this, lets himself be moved to an anticipation.

[21] Here, the way of argumentation which, in the analysis, leads to the various contents should always be given in discussing these contents. Cf. Eldred/Roth Guide, pp. 9ff, and Eldred, 'Material Dialectics and Socialist Polities', *Thesis Eleven*, 2.
[22] Cf. footnote 10, but note that the references given there (apart from Roth et.al.) have no analysis of the private sphere.

[23] Important points are made in some of the contributions to the polemic Die Linke antwortet Jürgen Habermas, Frankfurt a.M., 1968. Extended and unanswered anti-critiques have been published in the first numbers of the journal Sozialistische Politik: Wolfgang Müller, 'Habermas und die Anwendbarkeit der Arbeitswerttheorie', SoPo, 1; Renate Damus, 'Habermas und der "heimliche Positivismus" bei Marx', SoPo, 4; Claus Rolschausen, 'Technik und Wissenschaft als Ideologie', SoPo, 4.


[26] In such 'systematically prior' preludes, it is a matter of the separation of 'dialectical method' from dialectical theory. It seems that Habermas and Wellmer still represented Adorno’s position in Der Positivismusstreit in der deutschen Soziologie, Maus/Fürstenberg (eds.), Neuwied and Berlin, 1970. See Adorno's introduction. On the occasion of the awarding of the Adorno Prize to Habermas on September 11, 1980, Michael Theunissen remarked (it seems not without irony): "On the way, Habermas has distanced himself from Adorno, and the oeuvre on which he can today already look back on owes its richness more to the emancipation from the common heritage than to faithfulness to him. It's true that he has thought of his teacher several times. But since, on such occasions, he speaks a different language, to a certain extent, than usual, the estrangement is revealed. The differences in the language games which the teacher and his former pupil have practised, point to a difference in the respective representative works. Adorno, the emigrant, was to the last at home in German philosophy, whose language participates in the formation of his thought. Habermas, still in the country in spite of all the animosities, has opened himself to the Anglo-Saxon spirit and thereby to a language which passes on finished thoughts in the most precise way. In any case, always ready to work over something new and, apparently, almost limitless in his learning capacity, he is particularly receptive to this spirit, thanks to the analytical sharpness of his own thinking. His great insights are based on distinctions such as in behaviour theory between purposeful/rational and communicative action, labour and interaction, the differentiation of purposeful/rational action into instrumental and strategic, the marking off of all action from discourse. To the thought of Adorno, however, such analytics is just as alien as is the constructivist tinge which in Habermas' development, to this point, has come forward ever more strongly. As the starting point of the path on which Habermas has won more and more distance from Adorno, we can view, in this simple presentation, his contribution to the positivism dispute in German sociology. Habermas still fights on Adorno's side against Popper and his school. There he represents a dialectical theory of society as totality. Born out of the spirit of Adorno, this social theory is firstly dialectical, secondly, knowledge of the totality, and thirdly, above all, a diagnosis of the contemporary social formation. Just how much this theory
frees itself from its heritage in its progression can be read in its increasing de-
dialectification (Entdialektisierung) for which it is telling that its author silently takes
back the once rejected separation of is from ought." This trend is presently on the
increase; cf. Honneth/Jaeggi, Arbeit, Handlung, Normativität: Theorien des

[27] Cf. footnote 11.

Systematic Glossary

(Referred to in text of papers as SG)

1. Industrial Products of Labour that are Commodities CI 43

There is nothing theoretical here to define. 'Products of labour and commodities' are
expressions in everyday use in our society. The general characteristic of a commodity
is that it cannot be used until it is bought. In our society commodities are used both as
means of production (25) and means of personal consumption. Marx is not explicit that
commodities in Chapter 1 are industrial products of labour, and this qualification is
necessary to follow the presentation (i.e. commodities like labour power, works of art
and land are excluded at this level of the analysis).

2. Productive Activity

Productive activity in our society is that social activity which produces industrial
commodities (1). Productive activity is a vital part of every form of society but in our
society industrial production (including mining and agriculture) plays the key role. (Cf.
CI 175).

3. Exchange Relation CI 44

Industrial commodities (1 and 2) stand in an exchange relation to one another mediated
by money (17). The mediation by money however comes in at a later stage of the
analysis. Within this exchange relation the owners of commodities give up the
commodity which they own for another commodity. 'A commodity cannot stand in an
exchange relation to itself' (CI 49). We are not interested in the definite quantities here;
the analysis starts from the fact of the exchange of products of labour considered in its
qualitative social aspect. The exchange relation is the point of departure in everyday
life for the determination of the central category of Marx's analysis; Value (8). The aim
of the first part of the presentation is to develop the concept of money on the basis of an
analysis of the practice of commodity exchange.
4. Exchange-values of a Commodity CI 44

All the commodities which are in an exchange relation (3) with a given commodity are the exchange-values of that commodity. For our society, where commodity production is universal, this means that every other commodity is an exchange value for a given commodity.

5. Concrete Labours CI 49

Every commodity is produced by a very particular kind of labouring activity. The labours required to produce different commodities differ as concrete labours, e.g. as spinning differs from weaving.

6. Private Labours CI 49

Industrial commodities are produced by independent producers (capitalists (20) ) who undertake production on their own account. Therefore labours which produce commodities can differ not only as concrete labours (5) but also as private labours. Two labours which are considered the same as concrete labours may differ as private labours.

7. Abstract General Labour CI 46; CI 51; CI 64; CI 78

In the exchange relation (3) between industrial commodities one commodity is as good as another. Commodities which are the product of different concrete labours and different private labours are factually reduced in the practice of exchange to the products of abstract general labour. The exchange relation forms the social connexion between private labours factually reducing them to general labour and between concrete labours factually reducing them to abstract labour, i.e. in the practice of exchange both concrete labours and private labours are transformed into their respective opposites: abstract labour and general labour. In the theoretical explication of this factual reduction (by the social practice of exchange) the theoretical project of the capital-analysis can begin.

8. Value CI 46, 50f.

As a value a commodity is an embodiment of abstract general labour (7). Although a commodity has many exchange-values it has only one value. We can only talk of abstract general labour and therefore of value with reference to the exchange relation (3) of industrial commodities. Before exchange the value of a commodity is only anticipated; value can only be manifested in another commodity.
9. Use-Values of Commodities CI 43f., 491.

Once a commodity is treated as a value by virtue of exchange its use-value as a product of a determinate concrete labour can be realised in consumption. Before consumption the use-value is only anticipated. For a material commodity its use-value can be said to reside in its physical body, because it is the physical body which is consumed. But use-value and value exist only within the framework of historical social practices namely, consumption and exchange respectively. In commodities those social practices are objectified as properties (use-value and value) of non-human entities (commodities). Although commodities which are material objects provide the simplest case it should be noted that immaterial industrial commodities e.g. transport and making electricity can also be 'embodiments' of value. There is no theory of wants connected with the concept use-value; when Marx relates use-value to human wants he adds, 'the nature of such wants, whether, for instance they spring from the stomach or from fancy, makes no difference' (CI 43). Neither is use-value connected exclusively with personal consumption but includes the consumption of industrial commodities as means of production (25).

10. Substance and Forms of Appearance of Value CI 54

The substance of value is abstract general labour (7) and the forms of its appearance are the various exchange-values (4) of the commodities which are in exchange relation (3) with a given commodity.

11. Natural-form and Value-form CI 54

This pair of terms is used to talk about the commodity as a unity of use-value and value. Every commodity is both an object of utility and a depository of value and so has the form of a commodity 'only in so far as (it) has two forms, a physical or natural form, and a value-form' (CI 54).


The expanded expression of value expresses the exchange relation of a given commodity with respect to all other commodities. This is illustrated in the schema:

\[
x \text{ commodity A is exchanged for: } \begin{cases} y_1 \text{ commodity } B_1 \\ or \\ y_2 \text{ commodity } B_2 \end{cases}
\]
13. Position of Relative Value-form CI 56ff.; 68f.

In the expanded expression of value (12) the commodity (standing on the left-hand side of the schema) whose value is expressed (i.e. whose exchange-values are listed on the right-hand side) is in the position of relative value-form.

14. Position of Equivalent Value-Form CI 61 ff; 69

In the expanded expression of value (12) the commodities (standing on the right-hand side of the schema) which express the value of the commodity on the left-hand side are in the position of equivalent Value-form. (Note that we make a clear distinction between 'expression of value' and 'value-form'. The former refers to the whole exchange relation whereas the latter refers to the part played by a commodity in this expression).

15. General Expression of Value CI 70ff.

Where the value of all commodities is expressed in one commodity (which is thereby set apart from all the other commodities) we have the general expression of value. This is illustrated in the schema:

\[
\begin{align*}
y_1 & \quad \text{commodity } B_1 \\
y_2 & \quad \text{commodity } B_2 \\
& \quad \ldots \\
y_n & \quad \text{commodity } B_n
\end{align*}
\]

is exchanged for \( x \) commodity A

The general expression of value has to be systematically conceived as a step towards the money expression of value (16) and not as a merely formalistic turning around of the expanded expression of value. The connexion between the expanded and general expressions of value is that one and the same exchange relation (3) is viewed from two complementary perspectives. What, in the exchange relation, is for \( x \) commodity A its value-expression in all other commodities is, for the world of commodities excepting commodity A, a value-expression in a single commodity. In the general expression of value all the commodities (excepting commodity A) have an expression of value common to all of them. At this point in the presentation we definitely leave the level of pure commodity exchange (cf. (3)) i.e. abstracting from its mediation by money. Using the categories which have been developed at the level of pure commodity exchange the
Concept of money can now be articulated in connection with and distinction from the concept of commodity.

**16. Money Expression of Value, General Equivalent Value-Form and Price-Form CI 74f**

Once having reached the level of presentation on which the mediation of commodity exchange by money can be dealt with, the general expression of value (15) becomes the money expression of value. It is part of everyday knowledge that commodities do not express their value directly in another commodity but indirectly. Commodities directly express their value in money:

\[
\begin{align*}
y_1 & \text{ commodity } B_1 \\
y_2 & \text{ commodity } B_2 \\
\vdots & \\
y_n & \text{ commodity } B_n \\
\end{align*}
\]

is sold for x money

In this expression of value the money is in the position of the General Equivalent Value-form and all the commodities are in the position of relative Value-Form. What was at the preceding level of presentation (cf. 15) only a difference in positions in an expression of value is now fixed in different social things: commodities and money. As things they can be looked at in isolation; a single commodity is linked to all other commodities by its price-form; Y commodity B is sold for x money which is a segment of the money expression of value. In the price-form the value of a commodity is divorced from the social practice of commodity exchange and is objectified in a single thing-money. (Terminological note: Whereas the expression of value relates to the totality of commodities the value-form relates to a separate commodity).

**17. Commodity-form of Value and Money-form of Value**

Once the concept of price-form (16) is systematically developed value can be found in two forms; the commodity-form and the money-form. We can now talk about value changing its forms.

**18. Commodity-circulation CI 97ff**

Commodity exchange at the systematic level of money economy (as opposed to pure commodity exchange cf. 15) we call commodity circulation.
19. Means of Circulation CI 106ff

The mediation of commodity exchange by money can be illustrated by looking at two money expressions of value (16) in two subsequent phases of a process of commodity circulation:

![Diagram of commodity circulation](image)

The result being $Y_1 \text{commodity } B_1 - x \text{ money} - Y_m \text{commodity } B_n$ (for short $C - M - C$) where money serves as a means of circulation.

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Capital is money advanced to make more money. The one who advances the money is the capitalist, who can equally well be an individual or a company. The capitalist here is only a character mask for the category capital. In the language of analysis, this everyday description of capital becomes a special form of circulation of value $M - C - M_1$ where money is the starting point and end point of the circuit. This form of circulation of value is to be contrasted with $C_1 - M - C_2$, simple commodity circulation (cf. 18 & 19) where the net result of the circulation is an exchange of commodity $C_1$ for commodity $C_2$. In the circulation of capital the increase in value (valorisation 44) is the determining motive of the circulation whereas in simple commodity circulation it is an exchange of use-values. An individual capital is one sum of value undergoing the special form of circulation of capital. Total capital refers to the aggregate of the circuits of individual capitals.

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21. Surplus-value CI 149
The aim of capital (20) is to expand value and analysing this requires quantitative considerations, viz. \( M_1 \) is a greater amount of money than \( M \). Since money is value (cf. 16) and so represents abstract, general labour, we can say that \( M_1 \) represents more abstract, general labour than \( M \) or, equivalently, that \( M_1 \) is a greater magnitude of value than \( M \) (cf. 28). The difference in magnitude of value between \( M \) and \( M_1 \) is called the surplus-value.

### 22. Ground-form of Capital and Derivative-form of Capital

To discover the source of surplus-value of total capital the analysis assumes a form of capital where a production process, \( P \) (23), intervenes between \( C \) and \( M_1 \), thus making the formula (20) for the ground-form of capital: \( M - C \ldots P \ldots C_1 - M_1 \). The derivative forms of capital are those in which no production process intervenes and the surplus of \( M_1 \) over \( M \) has to be explained by distribution. But there can only be a distribution of something that has already been created. The derivative-forms are dealt with in CIII. Marx also calls ground-form capital 'industrial capital'. We reserve this latter term for the level of analysis where the derivative-forms are developed.


We seek a process which, starting with \( C \) produces a commodity of \( C_1 \) of greater value than \( C \). Since abstract labour is the substance of value this process must incorporate additional labour in \( C \) which is thereby transformed into \( C_1 \), i.e. a labour process. This process is a productive consumption of \( C \) for two reasons: 1. the consumption of \( C \) is the production of \( C_1 \) and 2. a surplus-value (21) is produced. We do not make Marx's distinction between labour process and production process, where the former is given a general ahistorical characterisation (cf. CI 173f.). The term 'labour process' is used by us to emphasise that labour is performed during the process and the term 'production process' as the more general term.

### 24. Labour-power as a Second Order Commodity CI 167f.

What is the connexion between the productive consumption of \( C \) and the labour that transforms \( C \) into \( C_1 \)? Part of \( C \) serves as means of life (36) for the labourers who produce \( C \). In exchange for means of life the labourers give their labour-power, i.e. their capacity for labour, which at this level becomes a commodity. We call labour-power a second-order commodity because it is only on the basis of the industrial commodities which serve as means of life that labour-power can be understood as a commodity.

Up to now we looked at the production of $C_1$ out of $C$, with all commodities being industrial commodities. This view is modified now that labour-power has been introduced as a second-order commodity. $C$, in which labour-power has replaced the means of life is thereby changed into

$$C < \frac{MP}{LP}$$

the elements of production. Apart from labour-power (LP) $C$ comprises raw materials and instruments of labour. These latter two are called the means of production (MP). Nature itself as a general condition of production is excluded here and is dealt with when the derivative-forms of capital are considered.

### 26. Immediate Process of Capitalist Production

The immediate process of capitalist production is the activity of the labour process which transforms the commodities

$$C < \frac{MP}{LP}$$

into the commodities $C_1$ of greater value (P in 22). The paradigm for a capitalist production process is the large-scale factory. However, any labour process (23) set up by a capitalist which produces an independent material or non-material commodity will do. 'Independent commodity' here is meant to exclude commercial and financial activities of capital which do not produce commodities in their own right but perform services for other capitals.

### 27. Duration of Labour Process CI 181f.

The duration of a labour process is the time during which labour-power is being expended for the production of a commodity, i.e. the time during which new value (35) is being created. The duration of the labour process which produces $C_1$ includes the labour process which produced $C$.

### 28. Magnitude of Value CI 181 f., 46, 386.

The duration and intensity of the labour process (27) determines the magnitude of value of a commodity. The concept of magnitude of value of commodities is necessary to get to the bottom of the surplus-value riddle (37).

### 29. Individual Consumption CI 168
The second-order commodity labour-power (24) is bought by the capitalist by a wage which the labourer uses to buy industrial commodities. Those industrial commodities are individually consumed by the labourer and dependants. At this stage of the analysis the individual consumption of the capitalist is not taken into account. (Cf. 23 Labour Process as a Productive Consumption of Commodities.)


Capital sets up a production process on its own account and the labour undertaken in, the productive consumption of labour-power and means of production is the private concern of the capitalist. In contrast to the social exchange of commodities, the sphere of production is a sphere pf private labour.


The commodities MP and LP bought by the capitalist are his private property.

32. Appropriation of the Product of the Production Process CI 180.

Since the commodities MP and LP are the capitalist's private property (31 (31) and their productive consumption is his private labour (30), the produced commodity $C_1$ is also his private property and is appropriated by him.

33. Socially Necessary Labour-time CI 181, 183, 184.

The productive consumption of MP and LP (23) which comprises part of the labour which produces $C_1$ and determines the magnitude of its value (28) must be the minimum necessary under the general social conditions of production of $C_1$ i.e. only that labour which is socially necessary counts in the determination of the magnitude of value of $C_1$. (Cf. CI 183). If the intensity of labour is given, the magnitude of value of $C_1$ depends entirely on the socially necessary labour-time.

34. Value Transferred to the Product and the 'Old Value' CI 193.

The value of MP, which are productively consumed in producing $C_1$, is not lost but transferred to the product $C_1$. This 'old value' reappears in $C_1$. 
35. New Value CI 184.

The labour incorporated in MP in its transformation of LP into C₁ is newly added value. Thus the value of C₁ is composed of two parts: the 'old value' of MP and the 'new value' of the newly incorporated labour.

36. Means of Life CI 167f.

The means of life are the industrial commodities necessary for the maintenance of the labourer and dependants under prevailing social conditions. The means of life are bought with the wages of the labourer which in turn are determined through class struggle (45). (Means of Life is a translation of Lebensmittel, which elsewhere has been translated as 'means of subsistence')

37. Solution to the Riddle of Surplus-value CI 188f.

Surplus-value is the difference in the magnitude of value M and M₁, or what is the same thing, between MP and means of life on the one hand and C₁ on the other. Since the value of MP is common to C and C₁ the difference in value between C and C₁ is explained by the difference in value between the means of life (36) and the new value (35), i.e. the labourer incorporates labour in producing C₁ greater than the labour embodied in the means of life.


The necessary labour-time is the duration of that part of the labour process (23) during which the labourer adds new value equal to the value of the means of life (36).

39. Surplus Labour-Time CI 209.

Surplus labour-time is the duration of that part of the labour process (23) during which LP creates surplus-value (21 and 37).


Constant capital (c) is the 'old value' which is transferred to C₁ (34). Constant capital is equal to the magnitude of value (28) of MP but is not the same as MP.

Variable capital \( (v) \) is the capital expended in LP. It is called variable capital because LP creates new value \( (35) \) which varies according to the duration of the labour process. The new value created is equal to \( v + s \), where \( s \) is surplus-value.

42. Working-day CI 222.

The labour process \( (23) \) which capital sets up goes on from day to day. The working-day is the natural unit for measuring the duration of the labour-process. It is the time each day during which the labourers submit to the control of capital. (Shift-work can be treated as more than one working-day occurring on the same day.) At this level the assumption of presentation is that the working day is uniform.

43. Rate of Surplus-Value CI 207, 210.

The rate of surplus-value, \( s/v \) denotes the division of the working-day \( (42) \) into necessary labour-time \( (38) \) and surplus labour-time \( (39) \). Hence we can draw the diagram:

```
\[ \begin{array}{c}
  v \\
  \text{necessary labour-time} \\
  \text{working-day} \\
  \text{surplus labour-time}
\end{array} \]
```

44. Valorisation

Valorisation \( (\text{Verwertung}) \) refers to the expansion of the value advanced through the production of surplus-value. The rate of surplus-value \( (43) \) is the rate of valorisation of variable capital \( (41) \). Valorisation is also used as a translation of \( \text{Selbstverwertung} \) which refers to the self-expansion of capital through its own movement and not according to the will of the capitalist.

45. Class Contradiction and Class Struggle CI 224ff.

The extraction of surplus-value from the labourers by capital is the basic class contradiction which underlies all forms of class struggle between wage-labour and capital. At this level of analysis the concept of class is very restricted: on the one hand to the class of industrial wage labourers and on the other to ground-form capital.
46. Degree of Exploitation of Labour-power CI 209.

The rate of surplus-value (43) is a measure of the degree of exploitation of labour-power because it expresses the ratio of unpaid to 'paid' labour (47).

47. 'Paid' and Unpaid Labour CI 208f.

The surplus-labour time (39) of the labourers is unpaid labour, for which capital has outlaid nothing. The necessary labour-time (38) is paid for by variable capital (41) advanced by capital. The variable capital advanced however was originally expropriated as surplus-value.

48. Capital

Not only is capital 'money advanced to make more money' (cf. 20) but it is money advanced to make as much money as possible. In the language of analysis, this implies that capital seeks to maximise surplus-value production in its circuit. The circuit of capital can now be depicted as:

\[ M - C \overset{MP}{\longrightarrow} P \ldots C_1 - M_1, \]

where P stands for the labour process in which C₁ is produced.

49. Increase in Valorisation of Variable Capital CI 222f.

There are two possibilities for increasing the amount of surplus-value produced in the working-day:

50. Absolute Surplus-value CI 299.
Absolute surplus-value is produced by a prolongation of the working-day, thereby increasing the surplus labour-time (cf. 49).

51. Productivity of Labour CI 298.

The productivity of labour is measured by the amount of labour embodied in the commodity produced. The higher the productivity of labour, the less labour embodied in each commodity. The amount of labour is determined by the duration and intensity at which labour-power is expended.

52. Relative Surplus-value, CI 296ff.

Relative surplus-value is produced by decreasing the necessary labour-time (38) of the working-day (42, 49). Given that the (real) wages of the labourers are not forced down, the necessary labour-time can only fall if the value of the means of life falls through an increase in productivity (51) in those industries which produce means of life. In those industries it can happen that necessary labour-time decreases and wages rise at the same time:

![Diagram of decrease in value of means of life, increase in wages, relative surplus-value, and before and after change]

53. Real Wages CI 525.

Real wages are wages in use-value terms, i.e. in terms of the quantity of use-values which the wage can buy. We emphasise that real wages are determined by class struggle and do not automatically adjust to the value of the means of life, as suggested by a formalistic reading of the determination of the 'value' of labour-power (25). Hence wages (money value paid to labourers) and real wages are distinct concepts. Marx's assumption of presentation that commodities exchange at their values means the following for labour-power: since labour-power has no 'value' (cf. Appendix: Family in Capital), the assumption of presentation must be that the price of labour-power is uniform and equal to the value of a given set of means of life i.e. the concept of class struggle at this stage of the analysis is limited to a struggle to maintain real wages.

54. Individual Value, Social Value and Extra Surplus-value CI 384, 300f.
By introducing a more efficient method of production a capitalist can reduce the amount of labour embodied in each commodity produced so reducing the individual value of each below the (social) value of the same commodity produced by the socially general method. While this more efficient method does not become socially general, the capitalist can reap an extra surplus-value by selling his commodities at, or a little below, their social value.

55. Relative Surplus-value2 CI 302.

In the motives of the individual capitalist (which properly do not come into the analysis at this point) the production of relative surplus-value (52) is mediated by the attempt to improve productivity in order to appropriate extra surplus-value (54). So soon as the new method of production becomes general, however, this extra surplus-value disappears.

56. Organic Composition of Capital CI 574.

The increase in productivity of labour (51) generally requires an increase in the ratio of the mass of means of production to the mass of labour-power. In value terms, this means an increase in the ratio of constant (40) to variable capital (41). The generic name for these (strictly correlated) ratios is organic composition of capital.

57. Rate of Profit and Rate of Valorisation of Total Capital CI 207, and CIII 42.

The production of relative surplus-value (52 and 55) by the application of machinery displaces value creating labour-power relative to the dead labour objectified in machinery. Thus, while the rate of surplus-value may rise (43), the rate of valorisation (44) of the total capital may fall i.e. although in the ratio: \( p_1 = \frac{s}{c+v} \), \( s \) may rise, the increase in \( c \) may offset this rise in \( s \) so that the net result is a decrease in \( p_1 \), the rate of profit.

58. Contradiction inherent in Relative Surplus-value Production CI 384.

The production of relative-surplus-value (52 and 55) is directly related to the productivity of labour. The rate of profit (57) is inversely related to the productivity of labour. Hence there is a contradiction between relative surplus-value production and the rate of profit, mediated by the incessant drive of capital to increase productivity.
59. Consumption by the Working Class.

At this level of the analysis, consumption of the working-class is restricted to industrial commodities. For the capital-analysis, the consumption of products of the unpaid labour of wives and lovers is not taken into account (cf. Appendix: Family in *Capital*).

60. Methods of Relative Surplus-value Production CI 304.

Methods of Relative Surplus-value Production, or ways of increasing the productivity of labour (51) so that the price of labour-power (24) is reduced, are three: co-operation (61), Division of Labour (62) and Application of Machinery (63).

61. Co-operation CI 305ff., 308.

"When numerous labourers work together side by side, whether in one and the same process, or in different but connected processes, they are said to co-operate, or work in co-operation." (CI 308). Co-operation is, conceptually, improving productivity of labour (51) by developing the subjective factor in the production process: labour-power.

62. Division of Labour CI 310ff.

Division of labour is a particular sort of co-operation (61) in which the production process is decomposed into various steps and each step assigned to a different group of labourers.

63. Application of Machinery CI 351ff.

The application of machinery, historically, marks the characteristic development of capitalist production. It is the increase in productivity of labour (51) through the development of the objective factor in the production process; the instruments of labour.

64. Fully Developed Capitalist Production CI 394ff.

Fully developed capitalist production involves the combined development of co-operation (61) (including division of labour (62)) and the application of machinery (63) in the production process.
65. Combined Working-day CI 306f.

Only when a number of labourers are employed by the capitalist and work together are their individual deviations from socially average labour ironed out and the character of the (combined) working-day as an expenditure of average social labour realised. Thus the everyday knowledge that labour for the capitalist is merely a social average labour only is possible in a society where individual differences in labour-power are compensated in productive practice.


Since it is capital which sets up a labour-process the social productiveness of cooperation (61) and the application of machinery (63) appear as powers immanent in capital itself. The labourer is merely inserted into an already-set-up labour-process of the capitalist.

67. Social Division of Labour and Division of Labour in Detail.

The social division of labour refers to the division between different capitals, which may form separate branches of industry, of the production of a commodity e.g. the manufacture of cars is divided between engine, electrical, tyre, electro-chemical industries. Division of labour in detail, which is what Marx mainly deals with, refers to the decomposing of the production process within the factory into its components, and the assignment of those component tasks to separate groups of labourers (cf. 62).

68. Intelligence in Production CI 341,330.

The development of division of labour in detail (67), at the same time as being the result of intellectual labour which modifies the production process in the interests of greater productivity, reduces the part of the labourer in the process to the repetition of a simple mind-dulling task. The need for the individual skill of the labourer vanishes.

69. Minimum Scale of Production CI 327.

The division of labour requires that labourers be assigned to the various fragmentary tasks in a certain ratio, which is fixed by the technical requirements of the labour-process. This division creates a dependency of one group of workers on another, since production can only run smoothly when the different parts of the labour-process are in phase.
70. Tricks of the Trade CI 321.

Historically, while the division of labour was based on handicrafts and the skill of individual work was important, the tricks of the trade were an important possession of the handicraft workers. With the development of the modern factory, it is the collective worker that is the inheritor of the tricks of the trade which no longer are monopolised by a trade.

71. Natural Science and Capital CI 341.

The production of machinery (63) requires the application of principles of the natural sciences, especially mechanics, chemistry, electronics. The development and importance of the natural sciences in bourgeois society finds its fundamental support in the connection it has with relative surplus-value (52) production. Cf. Appendix 'Science in Capital'. From time to time a breakthrough in natural sciences leads to new technology, a dramatic increase in productivity and a revolution in value of commodities.


A machine 'consists of three essentially different parts: the motor mechanism, the transmitting mechanism, and finally the tool or working machine. The essential characteristic of a machine is that it replaces the labourer, who operates one tool, with a mechanism which operates many tools.'

73. Construction of Machines by Machines CI 363ff.

The application of scientific theory to the construction of machines requires that machines be used to make components of machines with an accuracy not possible by traditional handicraft methods. Instead of ad hoc improvements to machines being made on the basis of experience in use, technology, as the practice of applying the natural sciences to the problems of production, becomes a specialised practice for scientific workers.

74. Means of Transport and Communications CI 363.

The development of the social division of labour calls forth the development of means of transport and communication to facilitate and co-ordinate production that is now broken up into many different industries widely dispersed around the globe.
75. Real and Formal Subordination of Labour to Capital CI 293 and 478.

These terms are, strictly speaking, terms to distinguish between the historically different relations of labour to capital. The formal subordination of labour to capital occurs with the assembling under the command of one capitalist a number of handicraft labourers under the one roof. The real subordination of labour to capital occurs when co-operation and application of machinery have developed to such an extent that the labourer is merely an unskilled appendage of a machine. Cf. 66 and 69; cf. CI 364.

76. Intransigent Labours, Intensity and Regularity of Work CI 365, CII 411.

In transforming the labourer into 'a mere appendage to an already existing material condition of production' (CI 364), the pace of the machinery, and the dependence of one group of workers on another brought about by division of labour, dictates the intensity and regularity of work and consequently ameliorates many of the problems which capital has with intransigent labourers.

77. Scientific Result Costs Capital Nothing CI 365.

Once discovered, a scientific result costs capital nothing.

78. Machines Laden with Value CI 365ff.

Since the enormous machines used in modern industry are laden with value, the question arises; how can the use of these machines lead to a reduction in value of the commodity produced? This is possible because 1) the enormous productivity of machinery spreads its value over a very large mass of commodities; and 2) the construction of machines according to scientific principles and by machines lessens the wear and tear of machinery.

79. Value-condition for the Application of Machinery CI 371.

The value of machinery introduced must be less than the price of the labour-power it replaces. This implies that, for the application of machinery by capital, more than an increase in productivity be achieved i.e. that the increase in productivity achieved must be enough to offset the loss of surplus-labour time caused by displacing labour-power.

As it was treated in Volume I, the circuit of capital has the formula:

\[ M - C \overset{MP}{\leftarrow} \overset{LP}{\rightarrow} P \overset{\cdots}{\rightarrow} C_1 - M_1, \]

(cf. 48) which comprises three stages: 1) Money-capital, i.e. capital in the form of money that buys the elements of production; 2) Productive capital, i.e. capital in the form of a productive consumption of commodities purchased; and 3) Commodity-capital, i.e. capital in the form of industrial products produced by the production process, which are then sold, realising the surplus-value contained in them as money.

After these three stages the circuit is now back to its starting point, capital in the form of money.


The two stages of the circuit of capital apart from the stage of productive capital, P, comprise the circulation process of capital. It thus consists of two changes of form of value:

\[ M - C \overset{MP}{\leftarrow} \overset{LP}{\rightarrow} C_1 - M_1, \]

In simple terms, these two changes of form are the object of investigation in Capital, Volume II.

82. Repetition of Circuits of Capital CI 150, CII 63.

Capital is not merely money advanced to make more money on a single occasion. Once money returns to the hands of the capitalist it is ready to begin another circuit. Capital is thus a circular movement of value in a process of valorisation (44) (Selbstverwertung).

83. Forms of Circuit of Capital: Circuits of Money-capital, Productive Capital and Commodity-capital CII 63.
By taking different starting points in the repeated circuit of capital (82) according to the three stages of the circuit (80) we get three forms of circuit of capital:

I. Circuit of money-capital \( M - C <^{MP} L_P \ldots P \ldots C_1 - M_1 \)

II. Circuit of productive capital \( P \ldots C_1 - M_1 .M - C <^{MP} L_P \ldots P \)

III. Circuit of commodity-capital \( C_1 - M_1 .M - C <^{MP} L_P \ldots P \ldots C_1 \)

84. The Production Process as Interruption in Process of Circulation CII 58.

In the circuit of money-capital (83), the production process \( P \) appears as an unavoidable interruption of the process of money-making represented by the formula \( M - C - M_1 \). This appearance disguises its opposite: the interruption of the process of surplus-value production \( P \), by the process of circulation.

85. Comparison of Magnitudes of Value CII 109.

Capital as self-expanding value includes a comparison of the change in the magnitude of value brought about by its circuit. In particular the advanced value \( M \) is compared with the value containing surplus-value \( M_1 \).

86. Assumption of Presentation that Capital Passes as a Whole from one Stage to the Next CII 50, 104f.

The assumption that capital passes ‘in bulk’ from one stage to the next is made whilst analysing the different circuits. The assumption is dropped when this analysis has been done, and the continuity of capitalist production is conceived as the unity of the three circuits.

87. Assumption of Presentation that all Capital is Ground-form Capital CII 50.

Throughout CII the assumption holds that all capital is ground-form capital (22), or as Marx calls it, industrial capital.
88. Necessary 'Fixation' of Capital in its Functional Forms

CII50.

The circuit of capital (83) requires that value take on the functional forms of money-capital, productive capital and commodity-capital (80). Hence capital is fixated in these forms for varying lengths of time in the performance of its circuit.

89. Central Topic of 'Capital', Volume II.

The necessary 'fixation' of capital in its functional forms (88) imposes limitations on its circulation as capital; there is a contradiction between fixation and circulation. To unfold this contradiction is the central topic of CII (cf. 90, 104).

90. Unproductive Capital CII 57.

It is only in the stage of productive capital (80) that capital creates surplus-value and thereby expands itself (37). In the other two stages capital (necessarily) assumes a form which is not productive of surplus-value. Money-capital and commodity-capital insofar as they become functions of separate capitalists obtain an independent existence as unproductive capitals. This circumstance is not treated however until Volume III. The necessary fixation (88) of capital in unproductive forms is a limitation on the valorisation (44) of capital (89). The necessary transformations of form of value:

\[ M - C \xrightarrow{\text{MP}}_{LP} \text{C}_1 - M_1 \]

create no value, although requiring time and labour-power to perform.

91. Functions of Circulation and Unproductive Labour CII 134f.

The capitalist or circulation worker who carries out the transformations of form of capital \( M - C \) and \( \text{C}_1 - M_1 \) (90) performs the functions of circulation. These functions create no value and the labour performed is unproductive labour.


The materials consumed in performing the functions of circulation (91) are called means of circulation, to distinguish them from means of production. The means of circulation are for the most part made up of desks, chairs, office paraphernalia, offices and computers and constitute the outlay on book-keeping.

The extra outlay on labour-power and means of circulation (92) necessary to perform the functions of circulation (91) constitute the costs of circulation.

94. Relaxation of Assumption of Presentation (86): Division of Capital into Several Circuits in order to Maintain Continuity of Production CII 105ff.

Continuity is the mark of capitalist production and this is achieved by a division of capital into a number of circuits. Thus capital exists simultaneously in production and circulation.


The duration of capital's stay in production is its time of production. The duration of its stay in circulation is its time of circulation. The total time during which it describes its circuit is therefore equal to the sum of its time of production and its time of circulation.' (CII 124).


In the case of the division of capital into three parts, where the time phases are of equal length (cf. paper 3), the three circuits are in phase and capital released in the commodity capital stage of one circuit is immediately re-employed. In other cases where the circuits are not in phase, the released money capital is not immediately re-employed but is latent for a time until it is required to keep production continuous: here there is a break in circulation of capital.

97. Turnover, Turnover Time and Number of Turnovers CII 158f., 156.

'A circuit performed by a capital and meant to be a periodical process, not an individual act, is called its turnover. The duration of this turnover is determined by the sum of its time of production and its time of circulation. This time total constitutes the time of turnover of the capital' (CII 153). The concept of turnover already has the notion of time so we can talk of the number of turnovers per year.
98. Fixed and Circulating Capital CII 161.

Looking at the manner of turnover we can distinguish between fixed and circulating capital. Fixed capital is that capital whose value is transferred to the product only bit by bit during repeated production processes. Circulating capital is composed of variable capital and that constant capital whose value is transferred in bulk to the product during one production process. It is important to emphasise that the distinction between fixed and circulating capital depends on the manner of circulation of value and not on the material character of the particular elements of capital.


These concepts arise from considering again the division of capital (94) with the distinction of fixed and circulating capital in mind. In the productive circuit (83) the original capital is outlaid on fixed and circulating capital. When the circulating capital enters the sphere of circulation, the fixed capital remains, in its natural form (11) with a slightly reduced value, within the sphere of production. An additional capital advanced for circulating capital is then needed to keep the fixed capital functioning.

100. Circulating Constant Capital: Raw and Auxiliary Materials CII 161f.

The circulating constant capital passes its value in bulk to the product during the production process. According to whether the material enters materially into the product or not, it is called raw or auxiliary material respectively. It is worth noting that under auxiliary materials Marx lists oil etc. and the energy for the instruments of labour. We do not see any systematic relevance in these terms and they properly belong perhaps in Theories of Surplus-Value where the mistakes of bourgeois economists are dealt with. (Cf. The Ramsey Critique, CII 162).


Apart from the portion of its value which remains fixed in the sphere of production during its lifetime, the value of the wear and tear of fixed capital must be hoarded so that when it is finally extinguished, enough has been set aside to replace the fixed capital. Thus, fixed capital has a double existence: in the sphere of production and as a hoard of latent money-capital (96).
102. Production of Surplus-value per Year, Advanced and Functioning Variable Capital CII 304ff.

The rate of surplus-value, $s_t$, given, a functioning variable capital $V$ of a given magnitude results in a surplus-value in one year given by the formula; $s = s_t . V$. (The functioning variable capital is the total variable capital employed in the course of one year). $V$, in turn, depends on the price of labour-power, $w$, the advanced variable capital, $v$, and its number of turnovers per year, $n$, hence,

$V = n \cdot v = n \cdot w \cdot m$ (where $m$ is the number of labourers employed)

103. Annual vs. Real Rate of Surplus-value CII 299, 308.

The annual rate of surplus-value coincides with the real rate of surplus-value in the case when turnover time is one year. In that case advanced capital (102) and functioning capital (102) are equal.

\[
\text{Real rate of surplus-value} = \frac{\text{surplus-value produced per year}}{\text{functioning variable capital}}
\]

\[
\text{Annual rate of surplus-value} = \frac{\text{surplus-value produced per year}}{\text{advanced variable capital}}
\]

104. Circulation as a Limitation of Valorisation

We have already seen (102, 103) that the longer the turnover time of variable capital, the less surplus-value produced in one year. Apparently, then, capital itself has the property of creating more surplus-value by increasing its rate of turnover. But, a higher rate of turnover only results in a greater functioning variable capital i.e. a greater number of labourers exploited. Hence it is not two factors, turnover and exploitation of labour-power which determines the mass of surplus-value, but only one: the exploitation of labour-power by capital.

105. Working Time, Time of Functioning and Production Time CII 124f.

Production time (95) comprises two parts: the time when the means of production are functioning (the time of functioning) and the time when they are not (e.g., night time). That part of production time in which the means of production function in the process of production further splits into time during which human labour is incorporated (working-time) and the time when it is not (‘fermentation time’).
106. Decreased Turnover Time of Circulating Capital through Application of Machinery CII 127, 243f, 238.

There are two ways in which the application of machinery decreases the turnover time of circulating capital: 1) The use of machinery and other technology can replace a natural process which is part of the production process by a quicker, artificial process that is under human control. In this way the gap between time of functioning (104) and production time (104) is reduced; 2) By increasing productivity so that it takes less time to produce the commodity i.e. by reducing the time of functioning.


The contradiction in the application of machinery with regard to the decreasing of turnover time of circulating capital (106) is that it requires a greater outlay on fixed capital and therefore tends to increase the turnover of the total capital and the total capital advanced (cf. 58).


Up to now there has been an implicit assumption of presentation that an individual capital can find on the market the elements of production (25) it needs to buy. Now that we come to consider the sum total of all these individual capitals, i.e. the aggregate social capital (20), this assumption must be relaxed and the way in which the aggregate capital produces its elements of production must be analysed. The conditions of reproduction mean that certain use-values must be produced in more or less definite quantities by aggregate capital i.e. capital consumed in annual production must be replaced out of the annual product. The complications of these conditions and their failure to be realised is another limitation on valorisation of capital.

109. Assumptions of Presentation which hold for the Analysis of Reproduction of Social Capital

1. Products are sold at their values.

2. There are no revolutions in value in the course of the year.

3. Production time of all capitals is one year.

4. Circulation time of all capitals is zero.

5. Costs of Circulation are nil.
6. All commodities are paid for in advance (no credit) cf. 87.

110. Two Departments of Social Production CII 399

"The total product, and therefore the total production, of society may be divided into two departments:
I Means of production [25]…
II Means of consumption [29]" (CII 399).

Means of consumption include here both the individual consumption (29) of the working-class and the capitalist class. An assumption of presentation at this stage of the analysis is that there are no means of circulation (92).

111. Simple Reproduction CII 398ff.

In simple reproduction the assumption of presentation is that all the surplus-value produced in the course of the year is consumed by the capitalist as means of consumption. This means that the product of department I replaces the constant capital (old value cf. 34) consumed by aggregate capital in the course of the new and the product of department II represents value (35) (variable capital and surplus-value) created in the year, which is distributed for individual consumption of capitalists and workers. The introduction of the two departments enables a presentation which starts from the division between aggregate old value and aggregate new value, and our view is that this is the reason Marx gave the presentation in two steps: simple reproduction and then extended reproduction (116).


The products of department I and department II each embody old value and new value. To be reproduced the old value must be exchanged with products of department I and the new value must be exchanged for products of department II (cf. 111). The old value transferred to products in department I is replaced out of the product of department I. The new value created in department II is consumed by a circulation within department II. This leaves the new value created in department I, which is exchanged for the old value embodied in the products of department II, i.e. \( v_I + s_I \) (the new value of department I) is exchanged for \( c_{II} \) (the old value of department II), or simply \( v_I + s_I = c_{II} \) is the formula that governs exchange between departments in simple reproduction.

At the present stage of the analysis all exchanges of commodities are mediated by money (cf. 16). For the reproduction schema, the money needed to accomplish the various exchanges is assumed to exist in the hands of the capitalists of the two departments. The sum of money can be reduced by having several turnovers per year and by credit. (Cf. CII 504).


The exchange of $v_I$ for part of $c_{II}$ (cf. 112) is mediated by department I advancing its variable capital to workers of department I as wages. The workers' families buy means of life with these wages from department II. The capitalists of department II then buy means of production from department I, which at the same time returns the advanced variable capital to department I capitalists. Department II advances its variable capital to workers in department II as wages. These workers' families then buy means of life from department II which at the same time returns the advanced variable capital to department II capitalists.


The difference between fixed and circulating capital with regard to reproduction is that all circulating capital must be replaced in kind at the end of the year. The wear and tear of fixed capital must be accumulated in money from year to year so that the money is available to buy new fixed capital when it wears out. Some capitals will have to replace their consumed fixed capital whilst others will still be in the process of forming an accumulation fund for subsequent replacement. For department I, the still accumulating capitals sell more than they buy, and the capitals that are replacing fixed capital buy more than they sell, so that accounts balance within that department. For department II, the still accumulating capitals sell more to department I than they buy, whilst those capitals that are replacing fixed capital buy more from department I than they sell. So in this case too accounts balance. Here again use value shows its face as a limitation of valorisation (cf. CII 471).


Simple reproduction forms an integral part of extended reproduction (cf; CII 399), the only difference being the expenditure of surplus-value. Accumulation, i.e. the employment of a part of surplus-value as extra capital, however is fundamental to capitalist reproduction and hence the assumption of simple reproduction must be relaxed (cf. CII 507). In extended reproduction, part of surplus-value is consumed individually by the capitalists and part is accumulated.
117. Exchange between Departments in Extended Reproduction CII 510ff., 521ff.

The rate of accumulation, \( r \), is the fraction of surplus-value accumulated by capital. The new value of department I which is individually consumed is now \( v_1 + acv_1 + (1 - r)s_I \) and this is exchanged for the augmented constant capital of department II, \( c_{II} + acc_{II} \). i.e. \( v_1 + acv_1 + (1 - r)s_I = c_{II} + acc_{II} \) governs the exchange between departments in extended reproduction. (The principle of the exchange is the same as in simple reproduction: Department I exchanges means of production for means of consumption, produced in department II, 'ac \( v_1 \)' and 'ac \( c_{II} \)' denote accumulated capital; '(1 - r)s_I ' can be spelt out as: the part of surplus-value in department I remaining, after the accumulated surplus-value (ac \( v_1 + ac c_{II} \) has been subtracted.)

118. Social Reproduction in an Indirect Form CII 499f.

Capitalist production as a whole must result in producing its own elements of production, hence enabling social reproduction. But all the agents of circulation (workers in department I, workers in department II, capitalists in departments I and II) are independent of one another. The circulation process in which labour-power is sold and means of life bought, the circulation process in which commodity-capital is transformed into money-capital, and subsequently expended as variable capital, and the circulation process in 116 which commodity-capital of one natural form is exchanged against commodity-capital of another natural form (particularly that of used up constant capital against means of consumption) are all carried out independently and yet depend on each other. Capitalist reproduction is therefore a social practice without a social subject. 'So complicated as this process is, so many occasions for crisis it offers' (CII 500).

119. Structure of Capital, Volume III.

At the beginning of CIII a transformed form of surplus-value, average-profit, is derived, in the first place only with regard to industrial capital but subsequently the concept of average-profit is extended to cover commercial capital as well. On the basis of this fully-developed concept of average-profit the forms of appearance of surplus-value: profit of enterprise, interest and rent are developed. The systematic capital-analysis ends with an analysis of the revenue forms in which the difference between the constituent parts of new value is obscured. In the revenue forms the antagonism of class struggle is expressed as a fight over distribution of social wealth between equal bourgeois subjects.

120. Cost-price, Selling-price and Profit CIII 26, 36f.
At the most abstract level profit is the difference in value between the selling price of the produced commodities and the cost-price of the consumed elements of production. The cost-price, \( k = c + v \). The next task of the presentation is to give some determinations of the selling-price, whilst relaxing the assumption of presentation that commodities are sold at their values.

121. **Two Types of Competition between Capitals CIII 180f.**

Capitals within each sphere of production compete as producers of the same type of commodity over the determination of the ('social') value (51) of the commodity. The aggregate capitals of the different spheres of production compete for a share in the total social surplus-value.

122. **Price of Production and Average Profit CIII 195.**

Price of production is the selling price which includes a profit proportional to the relative size of the advanced capital with respect to the social aggregate capital. According to the varying organic compositions of capital in the various spheres of production, different amounts of surplus-value are produced (under the assumption of presentation that the rate of surplus-value is equal in all spheres of production) by capitals of the same size. The competition for profit induces capital to flow into the spheres of production with a higher rate of profit: \( s/c+v \). Subsequently the competition of producers of the same type of commodity presses down the selling-price until no more than average-profit is made. By means of this two-fold competition (121), the social surplus-value tends to be evenly distributed over the different spheres of production so that each capital only makes average-profit.

123. **Market-price CIII 180, 198.**

The market-price of a commodity is the uniform selling price brought about by competition within one sphere of production. The competition between spheres of production causes the market-price to oscillate around the price of production (122).

124. **Three Forms of Extra-profit CIII 198f., 775.**

Extra-profit 1: Because of the higher productivity of a particular capital within a sphere of production that makes average profit, a selling price equal to production price allows that capital to make better than average profit. (Its individual cost-price is below the average cost-price in that sphere.) (Production price may be above or below the value.)
Extra-profit 2 and 3: As a result of restricted entry of capital into a particular sphere of production, that sphere maintains the market price for its product above the price of production. Extra-profit 2 is appropriated when this market price is below the value of the product and Extra-profit 3 is appropriated when the market price is above the value of the product. In the latter case social surplus-value is drawn from other spheres to the given sphere (CIII 832f).


The assumption of presentation that all capital is ground-form capital (22) is replaced by the assumption of presentation that capital is either industrial capital, which produces an industrial commodity, or commercial capital, which is exclusively involved in the transformation of commodity-capital into money-capital and money-capital into productive capital. These two types of capital are called functioning capital to distinguish them from interest-bearing capital (128) and ground-rent bearing-capital (130).

126. Commercial Profit CIII 281ff.

The economic grounds for the existence of commercial capital is that it performs the work of circulation of ground-form capital quicker and at less cost. Once it has established itself as a recognised sphere of investment, commercial capital participates in the competition between spheres like industrial capital and draws average profit.

127. The Final Form of Average Profit: General Rate of Profit CIII 338.

All spheres of investment (comprising spheres of production and spheres of commercial activity) compete within and between themselves to establish an average rate of profit. To distinguish between levels of presentation we suggest that the final form of average profit be called general profit, although Marx uses the terms 'rate of average profit' and 'general rate of profit' synonymously.

128. Profit of Enterprise and Interest CIII 373.

Money that is lent to functioning capitals (125) attracts a share of the average-profit earned by those capitals as interest. What is left of average-profit to the functioning capitals is called profit of enterprise.
129. Capital as a Higher-Order Commodity CIII 339.

Once interest as a derived form of surplus-value has been established, capital as capital becomes a higher-order commodity whose price is interest.

130. Ground-rent CIII 634.

In the analysis of ground-rent nature as the general object of labour is given its systematic place in the presentation. Ground-rent is analysed as a transformed form of extra-profit arising from private ownership of a portion of the earth's surface.

131. Differential Ground-rent CIII 646.

Capitals which derive extra-profit 1 (124) due to advantageous characteristics of the land that they use (e.g. extraordinary fertility or favourable location) have to pass it on either wholly or partially to the landowner as differential ground-rent.

132. Absolute Ground-rent CIII 771 f.

Capitals which derive extra-profit 2 (124) due to landed property acting as a restriction to the influx of capital into that sphere of production have to pass it on either wholly or partially to the landowner as absolute ground-rent.

133. Monopoly Ground-rent CIII 762, 775, 832f.

Capitals which derive extra-profit 3 (124) due to landed property acting as a restriction to the influx of capital into that sphere of production have to pass it on either wholly or partially to the landowner as absolute ground-rent.

134. Land as a Higher-order Commodity CIII 466, 808f.

Land systematically becomes a commodity through the capitalisation of ground-rent. Investment in land is treated as just another sphere of investment of interest-bearing capital, ground-rent being that interest. The price of land therefore becomes dependent on the rate of interest and can be given by the formula:

\[
\text{\'interest\'} = \text{ground rent} = \text{price of land} \\
\text{interest rate} = \text{interest rate}
\]
135. Basic Wage-form CI 508, 501.

The basic wage-form is the generic name for all the everyday forms in which the transaction between labour and capital are lived. It is a more abstract way of talking about wages than the two fundamental forms: time-wages and piece-wages. (CI 508).

'On the surface of bourgeois society the wage of the labourer appears as the price of labour; a certain quantity of money that is paid for a certain quantity of labour.' (CI 501).

136. Invisibility of the Source of Surplus-value GI 505.

It is central to the wage-form that all parts of labour appear to be paid. Therefore there appears to be no time left in which unpaid surplus-labour could be done. The division of the working-day into necessary labour-time and surplus labour-time is not signified in the wage-form.

137. Obliteration of the Distinction Productive/Unproductive

As the creation of value is not signified within the wage-form (cf. 135), it is applicable to workers in productive and unproductive spheres of capital alike. The unproductive labourers, being paid a wage comparable to the productive labourer and working a day of similar length, perform more labour than objectified in their means of life which can be bought with their wages (CII 135).

138. Time Wage-form CI 508ff.

The time wage-form is the wage-form in which the labourer is paid an hourly-rate. This wage-form internalises within the labourer the capitalist's interest in a long working-day. The practical resolution of the contradiction is to limit the pace of work - and work long hours.

139. Piece-wage Wage-form CI 516ff.

In the piece-wage wage-form the workers are paid a wage determined by the number of pieces they produce and a piece-rate of so much per piece. The piece-wage form separates the determination of the wage from the determination of the value of the commodity produced. The piece-rate has to be lowered when a new level of productivity has become socially general, and the contradiction of the piece-wage form manifests itself in a 'piece-rate crisis'.
140. Relaxation of Assumption of Presentation that Real Wages are Uniform and Constant: the Fully-developed Wage-form CIII 380ff., 821ff.

In this wage-form labour appears to be a source of revenue which draws a wage to it. Both workers and entrepreneur receive a wage for the labour they perform. The contradictions of this form are that there seems no good reason for the entrepreneur to get a higher wage than the workers and that the entrepreneur can draw an income even after having delegated his labour of supervision to managers. It should be noted that at the level of this revenue-form, the assumption of presentation that labourers are paid a uniform and constant real wage is relaxed (cf. 53) and the determination of wages becomes a matter of competition and all-out class struggle in which up to now the skilled workers have done much better than women, blacks and other oppressed groups.

141. Property, Revenue and the Trinity Formula CIII 814ff.

The three forms of property are the three sources of revenue, land, labour and capital which draw to themselves their respective revenues rent, wages and profit/interest. This trinity formula expresses the equality of bourgeois subjects as each contributing to and sharing in the new value of society. The contradictions in the trinity formula come out in a crisis, where many workers can no longer get a revenue for their labour.

142. Accumulation and Over-accumulation of Capital CI 545ff., CIII 251ff.

The accumulation of capital is the extension of exploitation by increasing the mass of labour-power exploited. Although this is the kernel, accumulation can only happen with an additional outlay on constant capital. Capital is able to accumulate only by using the surplus-value already appropriated from the working class as additional capital. If wages are high then the application of machinery displaces labour-power and brings wages down. In Volume I, under the assumption of presentation of constant real wages, the application of machinery was dealt with under the heading of relative surplus-value production. Over-accumulation occurs when an additional outlay of money fails to create additional surplus-value. Hence capital accumulation is contradictory. On the one hand, there is the drive by capital to exploit as much labour-power as possible, to maximise variable capital. On the other, capital must periodically throw labour-power idle to force its price down.

143. Everyday Forms of Consciousness
Everyday consciousness is the form in which people in bourgeois society signify their everyday life. Everyday knowledge (cf. Introduction) is therefore ideological in that it is a consequence of the practices in bourgeois society and, at the same time, it is the starting point for showing the origins of ideology in deeper social relations. Elements of everyday knowledge can be wrapped up in different ideological forms e.g. beliefs, ideals etc. The capital-analysis only deals with certain of the everyday forms of economic activity.

144. Normal Everyday Life

The systematic analysis attempts to reproduce the categories of normal everyday life in bourgeois society i.e. the ideological forms of the normal functioning of the CMP. However, there is also everyday knowledge of abnormal times provided by experiences of open struggles when, for a time, normal bourgeois life is interrupted. These experiences are not to be systematically accounted for, but point the way forward for possibilities of living in a different way.

145. Analysis of the Bourgeois State

The furthering of the project of a systematic theory of the bourgeois epoch devolves on systematically taking account of ideological forms related to the sphere of competition, which constitutes the complementary side of the analysis of economic activity, on the one hand, and other forms related to the spheres of state and private life, on the other (cf. 143 and Introduction).