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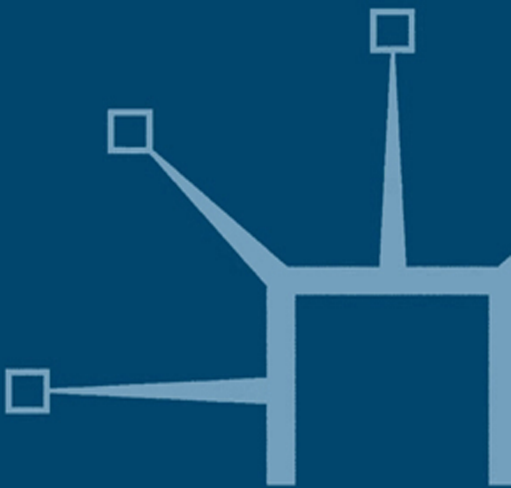

AN OUTLINE OF THE DIALECTIC OF CAPITAL

VOLUME 2

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Volume 2

Thomas T. Sekine
Professor of Economics
School of Commerce
Aichi Gakuin University
Aichiken, Japan

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To the memory of Kozo Uno (1897–1977)

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7 Theory of Profit

7.1 THE RATE OF PROFIT

7.1.1 Cost-Price and the Rate of Profit

Value and surplus value can be realised only by the sale of the commodity which embodies them. It is this fact that underlies the principle of *the distribution of surplus value in the form of profit*. Even industrial capital must purchase all of its productive elements as commodities, and sell its own product again as a commodity. Since all such transactions occur in *the capitalist market*, the operation of the latter must now be studied in explicit terms. The activities of industrial capital must, in other words, be examined as they appear in the capitalist market. For industrial capital, this represents a return to the standpoint and perspective of its infancy when it first evolved from merchant capital.

Even though industrial capital interrupts its circulatory operations of buying and selling commodities in its process of use-value production, that does not alter the fact that it is always engaged in activities which are essentially mercantile in nature. Industrial capital, which advances a certain sum of money in productive elements, and realises surplus value by the sale of its commodity, has no substantive interest in the use-values which it produces. Any use-value that realises the most surplus value, in the form of profit, will be produced as value (and no value, or surplus value, can be deemed produced, unless it is realised). Capital is thus indifferent to the particular form of use-value which it produces. This indifference is reflected in the impartial calculation of profit by capital, as the difference of the selling-price of the commodity over its cost, i.e. the purchase price of the productive elements consumed in its formation.

In the earlier context of the production-process of capital, it was essential that the pre-existing value (c) and the newly formed value ($v + s$) should be clearly distinguished in the product value ($c + v + s$). Such a distinction, however, is of little significance to the merchant soul of the capitalist, which does not regard the value of a commodity as the embodiment of socially necessary labour. The advance of variable

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capital (v) in wages, to be recovered only with the sale of the commodity, requires of the capitalist an initial outlay of money, in just the same way as the advance of constant capital (c) in means of production. He, therefore, regards both advances of money together as the *cost-price* ($c + v$) of the commodity. The cost-price is a concept to be contrasted to surplus value (s) which, in the form of *profit*, appears to be earned free of charge, as a "mark-up", or "margin", of the selling-price over the cost-price. The capitalist's conception of profit, therefore, extinguishes from surplus value any trace of the value-formation-and-augmentation process. Surplus value, thus emptied of its substantive content, now appears as profit in the capitalist market.

The surplus-value component of commodity-value, of course, embodies productive labour, a real cost to society. To the capitalist, however, this portion of the commodity does not "cost" anything at all. Thus, even though the recovery of the cost-price in the value of a commodity is a categorical imperative to the capitalist, it is not so obvious to him how much profit can be earned from his current production. In the absence of an objective measure by which the profitability of business should be judged adequate, the capitalist is obliged to compare his performance with that of other capitalists, believing that he must do at least as well as others, if not better.

The rate of profit, therefore, emerges as a universal index of capitalist performance, or the standard of self-evaluation and mutual comparison. Only with this index can the capitalist subjectively compare his performance with that of others, and determine an appropriate "mark-up" over his cost-price. The rate of profit thus provides the principle that regulates the mutual relationships of capitalists among themselves.

* * *

As soon as surplus value is emptied of its substantive content, and merely understood as profit, the relation $s = v \times e$ is irrevocably expunged. Capital consequently fails to comprehend that surplus value issues from the use-value of productive labour, rendered in excess of the value of labour-power. Profit seems to arise from the mercantile operation of capital as a whole. In order to buy productive elements cheap and to sell the product dear, the capitalist must advance money in a variety of forms. If the total money value of capital advanced is K, this value is, in general, much larger than the cost-price, $c + v$, in terms of money, let alone the labour-cost, v.

Variable capital alone does not produce a commodity. Constant capital, which consists of circulating and fixed components, is also needed.

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Not only is that part of fixed capital which is currently consumed and depreciated (the value of which is included in the cost-price of the commodity) indispensable to the production of a commodity, but so also is the total value of fixed capital which functions physically as a single body. Moreover, capital cannot be advanced solely in productive form. Some must be held in the form of circulation-capital, so as to avoid interruptions of productive activity. In short, the whole money value of capital advanced is, either directly or indirectly, useful to the production of surplus value.

Therefore, from the viewpoint of the capitalist, surplus value or profit earned during any definite period of time (s) must be related to the total money value of capital advanced for the entire capitalist operation (K). The ratio, $r = s/K$, which is now called the *rate of profit*, is not different from what was previously referred to as the *efficiency of value augmentation* (Volume 1, Chapter 5). The former is a translation of the latter into the language of the market. Thus, the money value of a commodity is divided into the cost-price, or the money value of productive elements, $(c + v)$ and profit (rK).

The rate of profit measures the efficiency of a capitalist operation. Therefore, if this rate is low in one sphere of investment and high in another, capital automatically tends to move from the former to the latter. In consequence of the free mobility of capital, the rate of profit tends to be equalised in all spheres of production, thus establishing what is known as the *general* rate of profit. The general rate of profit ruling at any time in capitalist society determines the manner in which the totality of its surplus value will be distributed to each and every capitalist enterprise. Suppose that the capitalist advances \$10 million for his operation (K), and the general rate of profit (r) is 10 per cent per year. Then his firm must earn the profit of \$1 million per year, in order to satisfy the standard of average performance. This profit is called *average* profit.

If the annual production cost $(c + v)$ of this firm is \$5 million, the annual sales $(c + v + rK)$ must amount to \$6 million. Suppose that this firm sells 1 million units of a commodity in a year. Then its cost-price is \$5 and its average profit \$1 per unit of the commodity. Let us assume that the price of \$6 is the normal price of this commodity. Then the average profit of \$1 million per year, or \$1 per unit of the commodity, expresses surplus value with a peculiar capitalist distortion. If the annual cost of variable capital (v) is \$2 million, and if the rate of surplus value (e) is 100 per cent, then the surplus value (s) produced by this firm must be \$2 million per year, or \$2 per unit of the commodity. If, however, this firm sells its product at the normal price of \$6

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apiece, it cannot be said to have either overproduced or underproduced the commodity. Hence, the surplus value of $2 million has actually been produced, no part of surplus labour having been wasted in the production of the commodity in question. Yet the firm earns only the profit of $1 million annually by the sale of its commodity rather than $2 million.

The remaining $1 million must be distributed to other firms, which do not produce as much surplus value as the profit they earn. In society as a whole it can, in certain cases, be assumed that the money value of total surplus value currently produced does not differ from the money value of total profit currently distributed: $\Sigma s_i = r\Sigma K_i$. The general rate of profit (r) distributes the existing total (Σs_i) of surplus value available to society, according to the manner in which total capital advanced of society (ΣK_i) is divided up into parts (K_i's), each part being contributed by an individual capitalist enterprise.

* * *

In Volume 1, Chapter 5, the annual efficiency of value augmentation of an individual firm was defined by the formula

$$\varepsilon T^* = \frac{mT^*}{tM + F}, \tag{1}$$

where ε was the weekly efficiency of value augmentation, T^* the number of weeks in a year, m surplus value realised per week, t the turnover-time of capital in the number of weeks, M ($= W + R$) the weekly investment of capital which is partly variable (as the wage-payment, W) and partly circulating constant capital (as the purchase of raw materials and fuel, R), and F the initial advance in fixed capital. If the rate of surplus value is $e = m/W$, the annual frequency of the turnover of capital $n = T^*/t$, and the value composition of capital $k = (tR + F)/tW$, then the same thing can be written alternatively as

$$\varepsilon T^* = \frac{en}{1 + k} = r. \tag{2}$$

The efficiency of value augmentation can be taken to be the same thing as the rate of profit, which an individual capitalist firm strives to maximise.

In the earlier context in which the efficiency of value augmentation was defined, "values" and "money values" meant the same thing; that is to say, it was implicitly assumed that normal prices were proportional to values. It will soon become apparent that such an assumption cannot be maintained, when the diversity of use-value production is explicitly taken into account. Therefore, when evaluated in normal prices, the rate of surplus value (e') and the composition of capital (k') differ somewhat from their true, i.e. value-evaluated,

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magnitudes (e and k). Such quantitative discrepancies, however, need not obstruct the present analysis. For, let $e' = e + \alpha$ and $k' = k + \beta$. So long as the individual firm cannot by its activity affect the extent of the discrepancies, α and β, it matters little whether it pursues (max e', min k', max n) or (max e, min k, max n). If each firm, in its effort to maximise its rate of profit, r, ends up accomplishing one set of operations, it also accomplishes the other.

As soon as the rate of profit becomes the "subjective notion" (in the Hegelian sense) of capital, every individual firm strives for a maximum rate of profit, by the mercantile practice of buying cheap and selling dear. If, however, all firms compete with one another, both in trying to buy their productive elements as cheaply as possible, and in trying to sell their product as dearly as possible, all commodities will tend to be traded at "normal prices" in the market. These normal prices must be taken as givens by individual capitalists. Therefore, the capitalists' competition for a maximum rate of profit translates itself into their efforts to employ the elements of production, which they have purchased at normal prices, in the most economical manner.

If, furthermore, the money value of total capital advanced (K) bears a certain proportion to the cost-price of the commodity which the individual firm produces ($c + v$), then the economical employment of productive elements amounts to minimising the cost-price of the commodity. There are, in principle, only three ways of reducing the cost-price of a commodity, namely, (1) raising the rate of surplus value to its maximum; (2) accelerating the turnover-time of capital; and (3) maintaining the value composition of capital at its technical minimum. It is, therefore, perfectly justified to take e, n, and k as the three strategic factors in the *individual* maximisation of the rate of profit.

7.1.2 The Three Factors Affecting the Rate of Profit

At the present level of abstraction, the rate of profit (r), or the efficiency of value augmentation, may be viewed as depending solely on the rate of surplus value (e), the value composition of capital (k), and the turnover frequency of capital (n). These three variables themselves, however, tend to achieve a certain degree of social uniformity, when individual firms compete among themselves by pursuing the highest rate of profit. It will be found that the rate of surplus value tends to be equalised throughout the economy, but that the equalisation of the other two factors is limited to a specific industry due to technical and other obstacles. This conclusion enables us to move one step closer to the

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concept of a general rate of profit, as we begin from the maximisation of the profit-rate by individual firms.

An individual capitalist maximises his profit-rate by minimising the cost-price of his commodity. The cost-price, however, includes the labour cost or the purchase price of labour-power, and this cost can be brought down in three ways: (i) by forcing employed labourers to work longer and harder; (ii) by paying them lower wages; and (iii) by introducing a labour-saving method of production.

If a particular firm imposes working conditions which are materially inferior to those of others, workers presently employed by that firm will seek employment elsewhere. There are, of course, various particular circumstances which prevent workers from changing their employment immediately, but, in theory, such circumstances will be ignored as they are eliminated with the development of capitalism. The same consideration applies to the case of particularly low wages. Workers cannot be expected to stay with the firm which continues to pay wages materially lower than the social average. Consequently, the effort of individual capitalists to reduce the labour cost of production by means of (i) and (ii), merely amounts to establishing a socially uniform standard of working conditions and wages throughout the economy, and does not enable a particular capitalist to profit from an above-average rate of surplus value.

Case (iii) is a little different. For as long as the adoption of a labour-saving technique is limited to a small number of firms, an extra surplus value may accrue to such firms, until the technique is more widely adopted. Even in this case, however, the extra surplus value will eventually be eliminated with the propagation of that technique in society, and the remaining gain in the production of relative surplus value must then be equally shared by all capitals.

Thus, capital in its individual pursuit of higher profit-rates reduces the labour cost per unit of the commodity, and thus unknowingly maximises the production of both absolute and relative surplus value. The rate of surplus value will then tend to be both maximised and equalised throughout the economy, apart from extra surplus value, which may be earned in the process of introducing a new technology.

* * *

The cost-price, which must be minimised, also includes the non-labour cost, or the purchase price of constant capital used in production. The capitalist, however, economises not only the part of constant capital reflected in the cost-price, but also the whole of constant capital tied

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up in current production. Consider a capitalist producing a commodity which has the market price of \$6 per unit. If his labour cost is \$3 and cannot be further reduced, it makes a difference to him how much the other component of his cost-price is. Suppose that he has managed to cut down that part of his cost from \$2 to \$1. Then his profit per unit of the commodity is increased from \$1 to \$2. In achieving this result, however, he should not have doubled the money value of his capital advanced per unit of the commodity. For, in that case, his profit-rate would not improve. He should, therefore, minimise not only the money value of constant capital currently transferred to the new product, but also the money value of constant capital tied up in his present operations.

Without knowing what the value composition of capital does to the rate of profit, the capitalist simply aims at maximising profit, (i) by economising the consumption of constant capital and (ii) by purchasing constant capital as cheaply as possible. With a given technology, both of these practices tend to keep the value composition of capital at its minimum.

The economical use of constant capital (the sparing use of raw materials and fuels, careful maintenance, and accelerated depreciation, of existing machines, etc.) is eagerly pursued by the capitalist, sometimes at the expense of his workers' health and safety. He is amply rewarded with an above-normal rate of profit, so long as his competitors are less sparing of their resources. If, however, capitalists compete with one another in the economical use of the means of production, a limit is soon reached beyond which further gains are technically impossible. The same consideration generally applies to the purchasing of constant capital at a cheaper price than one's competitors. For, in the course of competition, the opportunity of buying cheaper and selling dearer than others will tend to be eliminated. Therefore, the competitive striving of individual capitalists to economise the non-labour cost of production leads to the lowest possible value composition of capital compatible with the currently given method of production.

The value composition of capital is in general different from one industry to another because of the different techniques of use-value production employed. Within any one industry, the composition may differ only to the extent that a larger firm can save its non-labour cost more effectively than a smaller firm, because of the advantages of large-scale operation. For the present, however, we shall ignore differences in firm size in any one industry, and allow the organic composition of capital to become uniform within a given industry.

Although the technical composition of capital must generally rise

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with an enlarged plant size, the consequent rise in the organic composition is, to some extent, counteracted by the cheapening of the means of production, due to general progress in productive powers. The rate of profit, therefore, does not fall as much as it would if the cost of the means of production remained constant.

* * *

The turnover-time of capital (t) consists of the production-period and the circulation-period. The duration of the production-period (t_p) differs from one industry to another for technical reasons, much like the organic composition of capital. In each industry, however, the period of production tends to be shortened with technical progress, and, to that extent, the annual frequency of turnover (n) is increased such that the rate of profit is favourably affected. Technical progress, which shortens the production-period, is eagerly sought by individual capitalists. They are all interested in saving "time", which they regard as equivalent to an element of production. Indeed, the annual efficiency of value augmentation, $\varepsilon T^* = mT^* /(tM + F)$, or the rate of profit, is most tangibly raised, if the turnover-time, t, is shortened. Therefore, competition tends to shorten the period of production to its technical minimum in all industries, thus eliminating differences due to reasons other than technical.

The length of the circulation-period (t_c), on the other hand, is only partially dependent on technical factors. It is often more significantly affected by such non-technical reasons as: (i) the cyclical fluctuation of market demand; and (ii) contingent factors which vary from one firm to another. The cyclical alteration of the business climate, however, affects all industries and firms more or less in the same way. Thus, even if the rate of profit did not rise or fall uniformly in all parts of the economy, the ensuing distortion in the distribution of profit would be temporary. The contingent factors that influence the length of the circulation-period cannot be so easily accounted for. Even industrial capital cannot, at the present stage of the theory, be free from limitations which are characteristic of merchant capital. It has to depend on such contingent factors as personal skills and mere luck, which determine the success or failure of the business. It is precisely to overcome this problem that the dialectic calls for the development of commercial capital (as distinct from merchant capital) later. We shall defer the solution to this problem until then.

In the meantime, it can be concluded that the effort of individual capitalists in pursuing the highest attainable rate of profit results, under

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competitive conditions, in raising the rate of surplus value (e) as well as the annual frequency of the turnover of capital (n), to their technical limits, while at the same time depressing the organic composition of capital (k) as low as technically possible. Thus, apart from contingent factors that must be ignored for the moment, the rate of profit may differ in different capitalist operations solely for technical reasons.

7.1.3 Inter-Industry Differences in the Rate of Profit

In an actual capitalist economy, the rate of surplus value may, in fact, not be equal everywhere. Differences in this rate may exist for a while, but they are destined to disappear with the further development of capitalism. It is, therefore, not arbitrary to assume a unique rate of surplus value (e) in a purely capitalist economy. In the case of the other two variables (n and k), however, such an abstraction is unwarranted, since the development of capitalism does not tend to remove technical differences in the methods of producing different use-values. Consequently, it must be accepted that, even in a purely capitalist economy, the organic composition and the turnover frequency of capital will vary from one industry to another. In that case, the rate of profit too must differ from one industry to another, so long as normal prices remain proportional to values.

Suppose that there are two industries with different organic compositions of capital, $k_1 = 2$ and $k_2 = 3$, but the turnover frequency of capital and the rate of surplus value are equal to one ($n = e = 1$) in both. Then the rates of profit in the two industries are:

$$r_1 = \frac{en}{1 + k_1} = 0.33, \qquad r_2 = \frac{en}{1 + k_2} = 0.25$$

Clearly, the capitalist economy cannot operate in this way because, in that case, all capital would be invested in the first industry and none in the second. If the turnover frequency of capital rather than its value composition varies inter-industrially, a similar problem will arise. Thus, although the capitalist, in pursuing a maximum rate of profit, should be indifferent to the production of use-values, the technical variability in the production of different use-values tends to frustrate his goal.

Thus, the formation of a general rate of profit is obstructed by inter-industry differences in the technical method of production, unless normal (or equilibrium) prices diverge from values. That is to say, *a general rate of profit cannot be formed, unless prices of production*

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(or production-prices), which are not proportional to values, are established as normal (or equilibrium) prices in the capitalist market. Capital willingly concedes to this requirement, rather than resisting it. For it is in the nature of capital, as a commodity-economic form of circulation, to adapt flexibly to existing conditions. If the enforcement of the law of value, i.e. the production of all use-values with socially necessary labour, requires the acceptance of production-prices divergent from values (i.e. from value-proportional prices), capital does not demur at accepting this requirement as an unavoidable detour. It is in the nature of capital to make concessions, if they are expedient, to preserve its identity.

* * *

In Volume 1, Chapter 4, it was shown that, if the value composition of capital differs from one industry to another, the enforcement of the law of value will require both that the normal prices of commodities will diverge from their values, and that the rate of profit will differ from the abstract ratio $s/(c + v)$. In that context, however, no question of transformation, whether of values into prices or of surplus value into profit, arose. The formation of value was, at that level of abstraction, still viewed from inside the production-process of capital, as it were. It was taken for granted there that capital produced all commodities as value, without wasting society's productive labour. For otherwise surplus labour would not have become surplus value. Indeed, it was legitimate, in that context, merely to presuppose a set of prices and a rate of profit that were consistent with an optimal allocation of productive labour, while holding implicit the exact mechanism by which the capitalist market achieved such an allocation.

As capital now faces the need to distribute its surplus value as profit, the mechanism by which the capitalist market enables the production of all socially wanted use-values in equilibrium quantities must be disclosed. This disclosure requires the full specification of technological data, which we shall call *the technological complex* and denote it with **T**. The latter exhibits the way in which varying techniques are combined for the production of different use-values. The production of commodities as value by capital cannot occur separately from the production of commodities as use-values. It is the latter aspect of commodity production that impinges on the distribution of surplus value as profit. The transformation of values into production-prices presupposes the transformation of surplus value into profit. This is a change in the self-conceptualisation of capital, in the sense that the activity of

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industrial capital is no longer viewed from inside the production-process, but rather from the outside as it manifests itself on the surface of the capitalist market.

However, the dialectical, or conceptual, transformation of values into prices, and of surplus value into profit, in the above sense, has frequently been confused with the other transformation, which has to do with a mathematical, or quantitative, operation of transforming values into prices, and *the rate of* surplus value into *the rate of* profit. These are two different "transformation" problems. In the former, there is no question of an inverse transformation. In the latter, the inverse transformation is part of the problem.

In the dialectic, the same concept reappears a number of times, each time more fully specified or "concretised", and under different names. What used to be called A at a more abstract (i.e. less synthetic) level of discussion now appears as B because it has been re-defined to fit the new context. When this re-definition occurs, one speaks of the conversion, or transformation, of A into B. For example, "the conversion of the value of labour-power into wages" means that what was referred to as the value of labour-power in earlier contexts is now viewed in the form of money wages. "The transformation of surplus profit into rent" means that surplus profit arising in a particular context, i.e. specifically in relation to the differential fertility of land, is called rent. There are many other instances of such usage in Marx's *Capital*. Such transformations are like the one transforming Cinderella into the Crown Princess. The person has not changed but the context has, requiring her, for example, to comport herself with more poise and dignity.

In the dialectic of capital, the transformation of values into prices occurs as we move from the doctrine of production (in which the production of commodities is strictly viewed as the production of value) to the doctrine of distribution (which takes the distinctness of use-values in the capitalist market into explicit consideration). Values and prices, which could not be "quantitatively determined" in the doctrine of production, can be completely spelled out in the doctrine of distribution. This parallels the fact that capital, which earlier operated in the nether world of value production, now emerges in the limelight of the capitalist market, in which the technological complex, **T**, of use-value production is fully specified.

In Figure 7.1 the lateral arrow indicates the conceptual transformation. Prices that remained in the shadow of values in the doctrine of production come to the forefront in the doctrine of distribution, relegating values to the background. That is why one speaks of $\bar{\mathbf{\Lambda}} \rightarrow \mathbf{P(T)}$ rather than of $\bar{\mathbf{P}} \rightarrow \mathbf{\Lambda(T)}$. The real issue here is the transformation of "quantitatively unspecified" values and prices into "quantitatively specified" values and prices. Once this transformation is achieved, however, there arises the other problem of the mathematical transformation, i.e.

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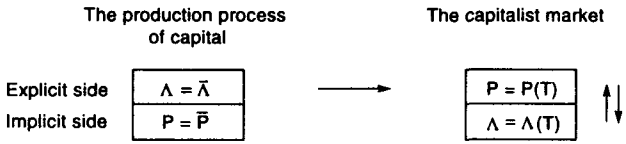

Figure 7.1

the problem of relating value-magnitudes and price-magnitudes. This transformation is shown in the chart by the pair of vertical arrows. Here, if values and the rate of surplus value are first known, one can derive the corresponding prices and rate of profit, provided that certain information concerning the value compositions of capital is available. Under similar conditions, the reverse route can also be taken.

* * *

A full discussion of the mathematical transformation problem will be found in the next section of this chapter. First, however, we must understand why the price system, $\mathbf{P} = \mathbf{P}(\mathbf{T})$, and the value system, $\mathbf{\Lambda} = \mathbf{\Lambda}(\mathbf{T})$, are both necessary, rather than just one of the two. There is a widespread misunderstanding that the labour theory of value directly explains the formation of the relative prices of commodities. That is emphatically not so. The capitalist market determines equilibrium prices (or production-prices) of all commodities and a general rate of profit, *as if such things as values and surplus value never existed.* When that is done, so that no commodity is either overproduced or underproduced, however, it turns out that every commodity embodies nothing but socially necessary labour, which constitutes its value, and that one rate of surplus value, which divides every unit expenditure of productive labour into the necessary and the surplus component, prevails. An equilibrium of capitalist markets would be meaningless, unless it were backed by an optimal allocation of resources. Of all economic resources, however, only productive labour constitutes a real cost to society. Therefore, an equilibrium price necessarily reflects value, or socially necessary labour, which alone is the real cost of production of the commodity.

It does not follow that equilibrium prices ought then to be proportional to values. Suppose that there are two commodities, **A** and **B**, which have the equilibrium prices of \$1 and \$2, respectively. This does not necessarily mean that **A** must embody half of the socially necessary labour that is embodied in **B**. It may well be that one unit of

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A embodies one hour of labour and one unit of **B** three hours of labour. No contradiction whatsoever exists between the two statements: (i) that, only when **B**'s price is twice that of **A**, are these two commodities produced in the right quantities; and (ii) that **B** then requires three times more socially necessary labour to produce than **A**. Nor are these two statements unrelated. They presuppose each other. Indeed, in Volume 1, Chapter 4, it was established that **A** and **B** contained socially necessary labour if, and only if, they were produced in socially necessary quantities, and that that fact, in turn, implies an equilibrium relative price at which the two commodities had to be exchanged for each other. That reasoning, however, depended on the crucial fact that every worker spent all his wages on the basket of wage-goods necessary and sufficient for the reproduction of his labour-power.

It will be shown presently that the capitalist market cannot determine equilibrium prices except on the basis of this crucial fact. That each and every worker engaged in the production of commodities spends the whole of his income on wage-goods (and does not save) can be viewed as a special form of "budget constraint". In the capitalist market for commodities, the budget constraints of all workers are added together into what may be called *the fundamental constraint of the capitalist market*, i.e. the identity that equates wages paid to all workers with the money-value of all wage-goods produced. This fundamental constraint plays, in the Marxian theory of prices, the same role as "Walras' law" plays in the neoclassical theory of prices, except that the former, unlike the latter, does not commit the capitalist market to a stationary state. Walras' law unambiguously applies only to the stationary state, in which no net savings are supposed to occur; for only in that case can the budget constraints of all individual consumers be summed together into Walras' law. A capitalist economy, however, is never stationary. Accumulation always takes place. If the working class does not save, capitalists save as much of their surplus-value incomes as possible for accumulation.

It is, in fact, quite obvious that Walras' law is itself merely a watered-down version, or a false generalisation, of the fundamental constraint. What applies only to the working class is made to apply indiscriminately to all "individual consumers", including capitalists, by the bourgeois economist in order to whitewash the class conflict inherent in capitalist society. Just as Walras' law is thus a spectre of the fundamental constraint, Walras' "general equilibrium" system of price determination is also an empty formalisation of the capitalist market. Only capitalist society, which converts even labour-power into a commodity, can produce all use-values *as value*, and, therefore, satisfies

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the real condition for the development of a general equilibrium market. Other societies, in which goods are not capitalistically produced as value, cannot hope to develop such a market. The exchange of commodities, which are not produced indifferently to their use-values as under capitalism, must remain erratic. For the market then possesses no real tendency to equalise rates of profit. It is the fact that commodities are capitalistically produced *as value*, indifferently to their use-values, that makes a general equilibrium market possible.

In the next section, a general equilibrium theory of price determination will be formulated explicitly. The price system, $\mathbf{P} = \mathbf{P}(\mathbf{T})$, consists of price equations and the fundamental constraint of the capitalist market. For the system to be solved for positive prices and a positive rate of profit, however, it must also satisfy the condition of reproduction. In Volume 1, Chapter 6, the condition of reproduction, $IIc \leqq (v + s)$, was stated as applicable to all reproduction-schemes. This condition is an aggregated form of the conditions of self-replacement with regard to all capital goods, which may be formally stated as:

$$x_j \geqq \sum_{i=1}^{n} x_{ij} \qquad (j = 1, \ldots, m),$$

where x_j is the j-th capital good currently produced, and x_{ij} is that productively consumed in the i-th industry. In other words, this condition states that no capital good can currently be used up in greater quantities than are currently being produced. It is quite obvious that a capitalist economy is reproducible, in the long run, only when this condition is fulfilled. No society can continue to reproduce itself if the productive consumption of one capital good permanently exceeds its current production. Even if we assume a suitable reallocation of labour, if one capital good cannot be currently produced at least as much as it is consumed, then the existing technology must be judged "unproductive". Such a possibility must be excluded from the capitalist market.

7.2 THE FORMATION OF PRICES

7.2.1 Production-Prices and the Rate of Profit

Capital, in its production-process, produces commodities as value quite indifferently to their use-values; yet value must be embodied in a spe-

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cific use-value. Thus, when capital comes forward to the market, in order to distribute surplus value as profit, it finds itself differentiated into a number of equivalence classes, called industries or spheres (branches) of production, each of which supplies a particular use-value. Capital must overcome this diversity of use-values and reassert its indifference to their specificity with its uniform quest for profit maximisation, the consequence of which is the formation of production-prices and a general rate of profit in the capitalist market. Indeed, if commodities tend to be traded at their equilibrium (or production-) prices, and if surplus value is earned only as average profit, capital need not concern itself with any particular use-value substantively. Each individual unit of capital can be left to produce whichever good may promise the maximum profit-rate, and that will ensure that capital as a whole supplies all goods in their socially necessary quantities. What the theory of prices and profit must establish is nothing but the compatibility between (i) capital's indifference to use-values in the production of commodities as value, and (ii) the pricing of capitalistically produced commodities as distinct use-values in the capitalist market.

We shall consider here the simplest case, in which there are only three commodities. Let X, Y, Z be the output levels of the means of production (or capital good), the wage-good, and the consumption-good for capitalists (or luxury good). Let X_x, X_y, X_z be the quantities of the capital good, and L_x, L_y, L_z the number of hours of homogeneous labour, required for the production of X, Y, Z. If p_x, p_y, p_z, w and r denote the money prices, the money wage per hour, and a general rate of profit, respectively, then the following system defines a market equilibrium:

$$\left\{\begin{array}{l} (p_xX_x + wL_x)(1 + r) = p_xX, \\ (p_xX_y + wL_y)(1 + r) = p_yY, \\ (p_xX_z + wL_z)(1 + r) = p_zZ, \\ w(L_x + L_y + L_z) \equiv p_yY. \end{array}\right. \qquad \mathbf{P(T)}$$

Attention must be drawn immediately to some implicit presuppositions of the present formulation.

The above equation system refers to a given market-period, say one year; and the turnover frequencies of capital are, for simplicity, assumed to equal one year uniformly in all three industries. Fixed capital is neglected, also for the sake of simplicity. The reader should bear in mind that both $L_x + L_y + L_z$ and $X_x + X_y + X_z$ must pre-exist the current production-process, but that X, Y and Z emerge only at its end. Specifically this means that variable capital $w(L_x + L_y + L_z)$ is advanced

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only in money terms (not in the physical terms of the wage-good Y), so that the workers may purchase, during this year, the wage-good produced in the preceding year, $Y(t-1)$, and survive until the current supply of $Y(t)$ becomes available at year's end. This may sound like a rather far-fetched supposition.

We should, however, remember that the contractual period of employment (say, a week), at the end of which wages are paid, is normally much shorter than the turnover-time of capital (say, a year). Thus, if wages are paid weekly, it must be understood that $Y(t-1)$, produced last year, is only gradually released (sold) during this year to meet the weekly requirement. It would complicate the model needlessly to suppose instead that the current production of Y consists of many weekly portions, the fresh supply of which emerges at the end of each week, as corresponding money wages are paid. The present system emphasises the fact that variable capital is *advanced*, if only in money form.

The fundamental constraint, the last identity in **P(T)**, however, ensures that the total wage-bill paid out during the year should always be equal to the money value of the wage-good currently produced. With this constraint, the first two equations of **P(T)** can determine the relative equilibrium-prices p_x/w and p_y/w, as well as the rate of profit r, simultaneously. The third price-equation can then be solved for p_z/w.

It is necessary to stress that **P(T)** describes a state of equilibrium, in the sense that no good is either overproduced or underproduced relative to existing social demand. For, otherwise, the prices will vary in such a way as to disturb the uniformity of the rate of profit. (If a uniform rate of profit prevails in all industries, it means that these industries are equally profitable when they produce the stated quantities X, Y, Z of the three goods.) The production technology underlying the price equations of **P(T)** should also be deemed valid only at the equilibrium activity levels,

$$\begin{cases} (X_x, L_x) \to X, \\ (X_y, L_y) \to Y, \\ (X_z, L_z) \to Z, \end{cases} \qquad \textbf{(T)}$$

where all variables are positive. In other words, **T** implies not only technology in the narrow sense, but also an equilibrium allocation of resources (deployment of capital). No suggestion is made here as to whether the entire technology is linear or non-linear, although in the close neighbourhood of the stated equilibrium it can always be approximated linearly.

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Now the price system **P(T)** must be solved to obtain four positive numbers for p_x/w, p_y/w, p_z/w and r. That solution, however, is guaranteed if $p_x/w > 0$ and $r > 0$, which we can show to be the case if, and only if,

$$0 < \frac{L_x}{X - X_x} < \frac{L_x + L_z}{X_y}. \qquad (*)$$

Here, the first inequality, $X - X_x > 0$, is guaranteed by the condition of self-replacement ($X \geqq X_x + X_y + X_z$), discussed in the previous section, i.e. on the assumption that the technology is "productive". What does the second inequality mean? It turns out that it is equivalent to a positive rate of surplus value $e > 0$. To see this, let us write the value-determining system as follows:

$$\left\{\begin{array}{l} \lambda_x X_x + L_x = \lambda_x X, \\ \lambda_x X_y + L_y = \lambda_y Y, \\ \lambda_x X_z + L_z = \lambda_z Z, \\ \dfrac{L_x + L_y + L_z}{1 + e} \equiv \lambda_y Y. \end{array}\right. \qquad \mathbf{\Lambda(T)}$$

Here, λ_x, λ_y, λ_z are the values of the three commodities, provided that X, Y, Z are the socially desired activity levels. Clearly, the second half of (*) follows from **Λ(T)** if, and only if, $e > 0$. Moreover, for **Λ(T)** to be positively solved for λ_x, λ_y, λ_z and e, it is necessary and sufficient that (*) should hold. In other words, we have just proved that a positive solution of **P(T)** implies, and is implied by, a positive solution of **Λ(T)**.

* * *

Values, λ_x, λ_y, λ_z, are defined above in terms of labour embodied, and prices, p_x, p_y, p_z, in terms of money. It is sometimes convenient to express values too in terms of money (as value-proportional prices), so as to enable their direct comparison with equilibrium (or production-) prices. The conversion rate of embodied labour into money, α, can be chosen in many different ways. If, however, v stands for the monetary expression of the value of labour-power (i.e. what the wage-rate would be if all prices were proportional to values), the relation, $v = \alpha/(1 + e)$, always holds, since $1/(1 + e)$, or the proportion of necessary labour to total labour, is the exact measure of "real wages".

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Applying the same α to all λ's, and writing $\alpha\lambda_i = q_i$ $(i = x, y, z)$, we obtain an alternative expression of the value-determining system as follows:

$$\left\{\begin{array}{lll} q_xX_x + vL_x(1+e) = q_xX, \\ q_xX_y + vL_y(1+e) = q_yY, \\ q_xX_z + vL_z(1+e) = q_zZ, \\ v(L_x + L_y + L_z) \equiv q_yY. \end{array}\right. \qquad \mathbf{Q(T)}$$

The particular choice of α has been called, by Francis Seton, the postulate of invariance (F. Seton, "The Transformation Problem", *The Review of Economic Studies*, 20 (1957), pp. 149–60). For example, if we choose

$$\alpha \equiv \frac{p_xX + p_yY + p_zZ}{\lambda_xX + \lambda_yY + \lambda_zZ}$$

total value (in q) is made equal to total price. It is also possible to choose an α such as to make total surplus value (in q) equal total profit. If α is so chosen as to let the value (in q) of the wage-good equal to its price, one should have $\alpha\lambda_y = q_y = p_y$. In view of the fundamental constraint, however, it is always true that $q_y/v \equiv p_y/w$. Therefore, the invariance postulate $q_y = p_y$ is equivalent to the assumption $v = w = 1$. This assumption will be made in what follows for arithmetic convenience.

Here is a simple numerical example:

$$\left\{\begin{array}{llll} (50, & 20) & \rightarrow 150 = X, \\ (40, & 30) & \rightarrow 80 = Y, \\ (30, & 40) & \rightarrow 40 = Z. \\ \hline 120 & 90 \end{array}\right. \qquad \mathbf{(T^*)}$$

It is assumed that 150 units of the capital good (X) are produced with 50 units of itself (X_x) and 20 hours of labour (L_x). It is also assumed that 80 units of the wage-good (Y) are produced with 40 units of the capital good (X_y) and 30 hours of labour (L_y), etc. Since the quantity of the capital good produced (150 units) is not smaller than that used up (120 units), the condition of self-replacement is satisfied. Total labour applied currently is 90 hours. When the operation **P** is applied to this **T***, prices and the rate of profit are calculated as

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$$(p_x, p_y, p_z; r) = (0.556, 1.125, 1.085; 0.723),$$

assuming $w = 1$. When the Λ-operation is applied to the same $\mathbf{T}^*$, we obtain

$$(\lambda_x, \lambda_y, \lambda_z; e) = (0.2, 0.475, 0.511; 1.368).$$

If we adopt the invariance postulate $p_y = q_y$, we have

$$(q_x, q_y, q_z; e) = (0.474, 1.125, 1.210; 1.368),$$

with $\alpha = 2.368$. It turns out that $v = 1$ as expected.

* * *

We can now apply the above theory to solve the mathematical transformation problem. First, define the organic composition of capital in each industry in two ways, i.e. in value and in price:

$$k_i \equiv \frac{q_x X_i}{vL_i}, \quad k_i' \equiv \frac{p_x X_i}{wL_i}, \quad (i = x, y, z). \tag{1}$$

Then clearly it follows that

$$k_i' = \frac{p_x v}{q_x w} k_i, \quad k_i = \frac{q_x w}{p_x v} k_i', \qquad (i = x, y, z). \tag{2}$$

Rewrite $\mathbf{P}(\mathbf{T})$ and $\mathbf{Q}(\mathbf{T})$, by using (1), as follows:

$$\begin{cases} wL_x(1 + k_x')(1 + r) = p_x X, \\ wL_y(1 + k_y')(1 + r) = p_y Y, \\ wL_z(1 + k_z')(1 + r) = p_z Z, \\ w(L_x + L_y + L_z) \equiv p_y Y. \end{cases} \tag{3}$$

$$\begin{cases} vL_x(1 + e + k_x) = q_x X, \\ vL_y(1 + e + k_y) = q_y Y, \\ vL_z(1 + e + k_z) = q_z Z, \\ v(L_x + L_y + L_z) \equiv q_y Y. \end{cases} \tag{4}$$

If $w = v = 1$ is assumed by the adopted invariance postulate, it is easy to derive from (3) and (4) that

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$$\frac{p_x}{q_x} = \frac{(1 + k'_x)(1 + r)}{1 + e + k_x}, \tag{5}$$

and

$$\frac{p_y}{q_y} = \frac{(1 + k'_y)(1 + r)}{1 + e + k_y} = 1. \tag{6}$$

This last ratio is equal to one, in view of the adopted invariance postulate.

Now if (2) is taken into consideration, (5) and (6) can also be written either as

$$\frac{p_x}{q_x} = \frac{1 + r}{1 + e - rk_x}, \tag{5a}$$

$$\frac{p_x}{q_x} = \frac{k_y + e - r}{k_y(1 + r)}; \tag{6a}$$

or as

$$\frac{p_x}{q_x} = \frac{1 + r(1 + k'_x)}{1 + e}, \tag{5b}$$

$$\frac{p_x}{q_x} = \frac{k'_y}{k'_y + r(1 + k'_y) - e}. \tag{6b}$$

It is, therefore, obvious that (5a) and (6a) implicitly determine (p_x, r), if (q_x, e, k_x, k_y) are known; and that (5b) and (6b) implicitly determine (q_x, e), if (p_x, r, k'_x, k'_y) are known. In other words, if $\alpha\mathbf{\Lambda}(\mathbf{T}) = \mathbf{Q}(\mathbf{T})$ has been previously solved, the crucial component (p_x, r) of $\mathbf{P}(\mathbf{T})$ can be computed; and, if $\mathbf{P}(\mathbf{T})$ is already known, the crucial component (q_x, e) of $\mathbf{Q}(\mathbf{T})$ can be computed. Undoubtedly, this solves the mathematical transformation problem in the simple context of three commodities.

For example, suppose that $\mathbf{P}(\mathbf{T}^*)$ has already been solved, and that we know $(p_x, r, k'_x, k'_y) = (0.556, 0.723, 1.390, 0.741)$. If these are substituted in (5b) and (6b), we find that $(q_x, e) = (0.481, 1.359)$. Suppose that $\mathbf{Q}(\mathbf{T}^*)$ is already solved, and the numbers $(q_x, e, k_x, k_y) = (0.474, 1.368, 1.185, 0.632)$ are available to us. Then the substitution of these in (5a) and (6a) gives us $(p, r) = (0.548, 0.734)$. The results are not exact because I have rounded off numbers, but they are tolerably close.

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The above theory can easily be generalised to apply to a capitalist economy with any number of commodities, with fixed capital, and with different turnover-times of capital. Such a general case has been treated elsewhere (*The Dialectic of Capital*, vol. 2, (Toshindo, 1986)). In this context, however, I wish to stress an important matter of methodology which is often overlooked in discussions of the transformation problem. If, as in the present model, only one wage-good, Y, is allowed, the fundamental constraint amounts to defining a real wage-rate, $w/p_y \equiv Y/L$, where L is the total expenditure of direct labour in all industries ($L \equiv L_x + L_y + L_z$). If two or more wage-goods are introduced, however, such a simple definition of the "real" wage-rate is impossible.

Practically all writers on the transformation problem since Bortkiewicz have resorted, in such a case, to defining a so-called "commodity-complex which forms the real wage-rate" (L. von Bortkiewicz, "Value and Price in the Marxian System", *International Economic Papers*, no. 2, 1952, pp. 5–60), which amounts to specifying a physical assortment of wage-goods. They have, in other words, "technologically" interpreted the consumption of wage-goods by workers as the "production of labour" by means of wage-goods. That is to say, they have adopted the view that labour too is an intermediate good which, whether they realise it or not, implicitly treats the human worker in the same way as a "beast of burden". This practice may be called the "labour-feeding technology approach" (M. Morishima, *Marx's Economics: A Dual Theory of Value and Growth*, Cambridge University Press, London, 1973) or the "fodder method" for short. On conceptual grounds I consider this method to be unsatisfactory.

Before stating the reasons, however, here is an example which shows that the present method of the fundamental constraint solves the price system **P(T)** differently from the fodder method. Suppose that there are two wage-goods Y and Y′ and let the technology be

X_i	L_i					
				($i = x, y, y', z$)		
(30,	20)	$\rightarrow$	X	=	100,	
(24,	24)	$\rightarrow$	Y	=	80,	**(T**)**
(24,	12)	$\rightarrow$	Y'	=	120,	
(11,	44)	$\rightarrow$	Z	=	110.	
89	100					

First, I solve **P(T**)** with the method of the fundamental constraint. Let

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$$(p_x30 + w20)(1 + r) = p_x = 100 \tag{7}$$

$$[p_x(24 + 24) + w(24 + 12)](1 + r) = w100 \tag{8}$$

If $w = 1$, these two equations determine $r = 0.5594$ and $p_x = 0.58604$. Other prices are then determined by

$$(p_x24 + w24)\,(1 + r) = p_y80, \tag{9}$$

$$(p_x24 + w12)\,(1 + r) = p_{y'}120, \tag{10}$$

$$(p_x11 + w14)\,(1 + r) = p_z110. \tag{11}$$

Assuming $w = 1$ again, they are $p_y = 0.74198$, $p_{y'} = 0.33871$ and $p_z = 0.71514$.

With the fodder method, we must solve **P(T**)** otherwise. First, eliminate w from (7), (9) and (10) above by means of

$$w = p_y(Y/L) + p_{y'}(Y'/L) = p_y0.8 + p_{y'}1.2. \tag{12}$$

Then the result is the following system of homogeneous linear equations

$$\begin{bmatrix} 100\rho & -30 & & -16 & & -24 \\ & -24 & 80\rho & -19.2 & & -28.8 \\ & -24 & & -9.6 & 120\rho & -14.4 \end{bmatrix} \begin{bmatrix} p_x \\ p_y \\ p_{y'} \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix}, \tag{13}$$

where $\rho = 1 / (1 + r)$. If $w = 1 = 0.8p_y + 1.2p_{y'}$, the solutions are $r = 0.60623$, $p_x = 0.61996$, $p_y = 0.78058$, $p_{y'} = 0.31295$. Using the first two numbers in (11), we also get $p_z = 0.74207$. This is the second set of solutions. The question naturally arises: which set of solutions is the true representation of equilibrium in the capitalist market?

It is obvious that the capitalist market never solves the price system with the "fodder method". For the substitution of (12) into (7), (9), (10) and (11) means that every hour of labour, regardless of where and by whom it is performed, is paid the physical wage per hour, consisting of 0.8 unit of Y and 1.2 units of Y′. That amounts to claiming that the capitalist market is endowed with an authoritarian power that prescribes medically, physiologically and politically a wage-basket of fixed composition to all workers, and allows no re-trading of wage-goods among them. Such an assumption flies in the face of capitalism. The "fodder method" determines prices and a rate of profit which are clearly incorrect because they are arrived at by denying the workers their exercise of civil freedom.

Since labour-power is a commodity inseparable from its natural owner, it cannot be reproduced in the production-process of capital, i.e. within the factory. Labour-power must be reproduced in the individual consumption-process of the workers themselves, i.e. in their day-to-day family life. However, when the workers appear in the capitalist market

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to buy wage-goods, they act no differently from any other purchaser of capitalistically produced commodities. The only constraint to which they are subject is that they spend only the money wages which they earn in exchange for their labour-power (wL), to purchase only as many wage-goods as are necessary and sufficient for the reproduction of their labour-power ($p_yY + p_{y'}Y'$). That, however, is precisely what the fundamental constraint of capitalism stipulates. The capitalist market competitively determines a general rate of profit and production-prices, subject to the fundamental constraint, and not subject to an arbitrarily prescribed wage-basket.

7.2.2 The Law of Average Profit

In the previous section it was shown that values and prices, when quantitatively determined, are not, in general, proportional to each other. The deviation from proportionality, however, is by no means arbitrary and without limits. The law of average profit shows that the extent to which equilibrium prices (or production-prices) depart from proportionality with values, i.e. from value-proportional prices, is strictly predetermined by the variability of techniques in the production of individual commodities as use-values. Equilibrium prices are, as it were, tethered to values. In other words, the law of average profit defines the concrete mode of enforcement of the law of value through the motion of prices in the capitalist market.

Perhaps it is helpful to account for this relation between values and prices by an analogy with the law of perspective in graphic arts. The observable data (such as prices) in the capitalist market are like photographic pictures of the real things which they represent (such as values). It is plain that the different objects in the photographic image cannot all be proportional in size to the corresponding real objects. That would be the case only if all real objects were placed at a position equidistant from the camera, an obvious impossibility. It, therefore, happens that the smiling child in the foreground occupies a much larger space than the distant mountain behind him in the photographic picture, and no one is bewildered or alarmed by this familiar fact. Similarly, no one should be upset or annoyed by the fact that production-prices represent values with certain predictable "distortions". Just as the distance from the point of vision makes some of the objects in a photographic image appear relatively smaller than the real thing, the greater proportion of constant capital to variable capital in the production of a commodity raises its equilibrium price above its value-proportional price. Indeed, the capitalist market may be likened to the television screen which supplies the practically-minded capitalist with all the information he needs, and which he consequently believes to be the real world itself.

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The *first law of average profit* is often stated as follows: *If it is assumed that the price of the aggregate-social product is equal to its value, then the price of the commodity produced with a higher-than-the-social-average value composition of capital exceeds its value, and vice versa.* This standard statement applies strictly to the case in which (i) fixed capital does not exist, and in which (ii) no more than one capital good exists in the system. First, from (2), (3) and (4) above, we obtain the following relations:

$$\frac{p_x/w}{q_x/v} = \frac{1 + r}{1 + e - rk_x} \tag{14}$$

$$\frac{p_y/w}{q_y/v} = \frac{p_x/w}{q_x/v}\left[1 + \frac{r(k_y - k_x)}{1 + e + k_y}\right], \tag{15}$$

$$\frac{p_z/w}{q_z/v} = \frac{p_x/w}{q_x/v}\left[1 + \frac{r(k_z - k_x)}{1 + e + k_z}\right]. \tag{16}$$

Hence, it is already clear that

$$\frac{p_y/w}{q_y/v},\ \frac{p_z/w}{q_z/v} \gtreqless \frac{p_x/w}{q_x/v} \text{ iff } k_y,\ k_z \gtreqless k_x.$$

Now let us define the socially average composition of capital k (in value) as

$$k = \frac{k_xL_x + k_yL_y + k_zL_z}{L_x + L_y + L_z}, \tag{17}$$

and assume that

$$\frac{p_xX + p_yY + p_zZ}{w} = \frac{q_xX + q_yY + q_zZ}{v}. \tag{18}$$

Then, from (3) and (4) we have

$$(1 + r)\left(1 + k\,\frac{p_x}{q_x}\,\frac{v}{w}\right) = 1 + e + k,$$

which in view of (14) may be re-stated as

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$$\frac{p_x/w}{q_x/v}\left[1 + \frac{r(k - k_x)}{1 + e + k}\right] = 1. \tag{19}$$

Thus, we already have

$$\frac{p_x}{w} \gtreqless \frac{q_x}{v}, \text{ according as } k_x \gtreqless k,$$

so that the standard statement of the law of average profit applies to the capital good, X. For the other goods, apply (19) to (15) and (16) to get

$$\frac{p_y/w}{q_y/v} = \left[1 + \frac{r(k_y - k_x)}{1 + e + k_y}\right] / \left[1 + \frac{r(k - k_x)}{1 + e + k}\right], \tag{15'}$$

$$\frac{p_z/w}{q_z/v} = \left[1 + \frac{r(k_z - k_x)}{1 + e + k_z}\right] / \left[1 + \frac{r(k - k_x)}{1 + e + k}\right]. \tag{16'}$$

Whence follows

$$\frac{p_i}{w} \gtreqless \frac{q_i}{v} \text{ iff } k_i \gtreqless k, \quad (i = y, z),$$

for both the wage-good and the luxury good. Thus, in the simplified context in which only one capital good exists, fixed capital does not exist, and all turnover frequencies of capital are equal to one, the first law of average profit has been demonstrated. More complicated cases have been treated elsewhere (see *The Dialectic of Capital*, vol. 2).

Let us revert to the numerical example (**T***) above, and assume that (18) holds. Then

$$\frac{1}{v}(q_xX + q_yY + q_zZ) = \alpha(\lambda_xX + \lambda_yY + \lambda_zZ)$$

$$271.05 = \alpha(113.99)$$

$$\Rightarrow \alpha = 2.3778, \quad v = 1.00416.$$

Hence, we have

$$(q_x, q_y, q_z) = (0.476, 1.129, 1.215),$$

$$(k_x, k_y, k_z, k) = (1.184, 0.631, 0.355, 0.631),$$

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and it turns out, by chance, that $k = k_y$. One can readily confirm that

$$\underset{(0.556)\ (0.474)}{\frac{p_x}{w} > \frac{q_x}{v}}, \qquad \underset{(1.125)\ (1.125)}{\frac{p_y}{w} = \frac{q_y}{v}}, \qquad \underset{(1.055)\ (1.210)}{\frac{p_z}{w} < \frac{q_z}{v}},$$

since

$$\underset{(1.184)\ (0.631)}{k_x > k}, \qquad \underset{(0.631)\ (0.631)}{k_y = k}, \qquad \underset{(0.355)\ (0.631)}{k_z < k}.$$

* * *

In Chapter 11 of *Capital*, vol. 3, Marx also advances the closely related proposition that *when wages are raised, the equilibrium price of a commodity produced with a higher-(lower-) than-the-social-average value composition of capital falls (rises); and when wages are lowered, the exact reverse occurs.* I refer to this proposition as the *second law of average profit.*

It can be easily established that, if the rate of surplus value is zero ($e = 0$) and, therefore, no surplus labour is rendered, then prices will be proportional to values. Such a case is, of course, capitalistically meaningless, since a zero rate of surplus value would mean a zero rate of profit. For a zero profit no capitalist would be induced to produce a commodity. Real wages, however, approach their technical maximum when the rate of profit falls towards zero, and prices can be made as proportional to values as is desired in the process. Therefore, the situation with no profit may be taken to be the notional limiting case in which values and prices become proportional. Now, starting from that point, let wages fall and the rate of profit rise. Prices will then diverge from values, and the more so the greater the rate of surplus value becomes. This is the significance of the second law of average profit. In fact, it combines the first law of average profit with the old Ricardian theorem that, given a prevailing technology, a gain in the rate of profit will entail a loss in real wages. The same idea is also embodied in the neoclassical concept of a "factor-price frontier".

In order to illustrate the second law, let us begin with (**T***) which has already been fully studied. What we now have to do is to let the production of the wage-good increase from $Y = 80$ to, say, $Y = 85$. For simplicity, however, I assume (i) that this is entirely at the expense of the luxury good, and does not affect the output level of the capital good; (ii) that the total number of hours of current labour is

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unchanged at 90; and (iii) that the change in the pattern of social demand does not affect the methods of production. We then have the new technology complex:

$$\begin{array}{llll} (50, & 20) & \rightarrow 150 & = X, \\ (42.500, & 31.875) & \rightarrow 85 & = Y, \\ (28.594, & 38.125) & \rightarrow 85.781 & = Z, \\ \hline 121.094 & 90 & & \end{array} \qquad (\mathbf{T}^{*\prime})$$

which satisfies the condition of self-replacement. In this case, we have

$$(\lambda_x, \lambda_y, \lambda_z; e) = (0.2, 0.475, 0.511; 1.229),$$

so that the values are unchanged, though the rate of surplus value has fallen. The corresponding rise in real wages we shall measure by the rise of v from 1.00416 to 1.06668, with $\alpha = 2.3778$ unchanged. The value compositions also are unchanged in relative terms. That is to say, they are all about 94.2 per cent of the former levels. Thus, we have

$$(k_x, k_y, k_z, k) = (1.1145, 0.5944, 0.3344, 0.5998).$$

The social average composition, k, does change slightly and is about 95.1 per cent of the former level due to greater weight on Y. It is slightly higher than k_y. We shall, however, ignore these changes and focus on the situation prior to the change as our reference point. As for prices, we obtain

$$(p_x, p_y, p_z; r) = (0.5098, 1.0588, 1.0327; 0.681),$$

assuming that $w = 1$.

Now, according to the second law of average profit, the fall in the rate of surplus value from 1.368 to 1.229, to which corresponds the rise of v (i.e. what the money wage rate would be, if prices were proportional to values) from 1.00416 to 1.06668, must make production-prices "more proportional" to values. Since, under the assumption of unchanged methods of production, $q_x/q_y = 0.421$ and $q_z/q_y = 1.076$ are the same before and after the fall in the rate of surplus value, we shall examine how the ratios p_x/p_y and p_z/p_y are affected. The result of the examination is tabulated below.

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	(Before)	(After)	
$(k_x > k)$:	$p_x/p_y = 0.494$	$= 0.481$	$0.421 = q_x/q_y$
$(k_z < k)$:	$p_z/p_y = 0.964$	$= 0.975$	$1.076 = q_z/q_y$.

As expected, the price ratio, p_x/p_y, falls towards the value ratio, q_x/q_y, since $k_x > k$ at the reference point, and the price ratio, p_z/p_y, rises towards the value ratio, given that $k_z < k$ also at the reference point. This illustrates the second law of average profit.

* * *

So far it has been assumed that the methods of production (which define the technology in the narrower sense) are unchanged. Let a_x (a_y, a_z) = X_x/X (X_y/Y, X_z/Z) be the amount of the capital good required for the production per unit of the capital good (wage-good, luxury good). Similarly, let l_x (l_y, l_z) = L_x/X (L_y/Y, L_z/Z) be the number of hours of current labour required for the production per unit of the capital good (wage-good, luxury good). If none of these six technical parameters changes, we say that the methods of production remain unchanged. In what follows, we shall examine how values, prices, the rate of surplus value and the rate of profit are affected, when one of the six technical parameters changes while the others remain constant.

Table 7.1 summarises the result of this rather taxonomic analysis. Here, the + sign means "change in the same direction", the − sign means "change in the opposite direction", the 0 sign means "no change in either direction", and the question mark indicates indeterminacy.

In order to arrive at such results, it is necessary to make some assumptions about the structure of the social demand. Here it is assumed that the proportion of the outputs (X: Y: Z) and the total number of

Table 7.1

	l_x	a_x	l_y	a_y	l_z	a_z
e	?	−	−	−	+	0
q_x / v	+	+	−	−	+	0
q_y / v	+	0	+	0	+	0
q_z / v	?	?	−	−	+	+
r	?	−	−	−	+	0
p_x / w	+	+	−	−	+	0
p_y / w	+	0	+	0	+	0
p_z / w	?	?	−	−	+	+

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hours of current labour ($L = L_x + L_y + L_z$) remain the same, before and after the shift of a technological parameter. The quantity of the means of production used up by the system ($X_x + X_y + X_z$) must then change so as to reflect variations in the technical composition of capital. If $f_x = X/Y$, $f_y = 1$ and $f_z = Z/Y$ define the fixed output proportions, the fundamental constraint implies that

$$q_y/v \equiv l_x f_x + l_y + l_z f_z \equiv p_y/w. \tag{20}$$

Consequently, the value and the price of the wage-good must be positively affected by changes in l_x, l_y and l_z, and are not affected at all by any change in a_x, a_y and a_z, as the above table confirms.

Suppose we reverse the order of the above table, and comment first on the effects of productivity changes in the luxury-good sector, then on those in the wage-good sector, and, finally, on those in the capital-good sector.

(1) The effects of a change in l_z and a_z.

If a Cadillac can be manufactured with less current labour, not only does its value (or price) fall, but, to the extent that the economy can now reallocate more labour to the wage-good sector, real wages also rise, entailing, in consequence, a lower rate of surplus value (or profit). In industries where no productivity change has occurred, the falling rate of surplus value (or of profit) is reflected in a lower value (or price) of their product. Hence, a rise in labour productivity, which reduces the coefficient l_z, leads to a fall in the values of all variables.

If, on the other hand, a Cadillac is produced with less steel, the fall in the value (or price) is limited to the Cadillac itself, since the rate of surplus value (or of profit) remains unaffected, and the allocation of current labour is unchanged. Thus, any productivity rise which reduces a_z implies only a fall in the value and the price of the luxury good, no other variables being affected.

(2) The effects of a change in l_y and a_y.

If a wage-good such as a hamburger can be produced with less current labour, not only is the value of the good reduced, but the rate of surplus value is also raised because of the increased production of surplus value. Consequently, in other industries where no productivity change has occurred, a higher rate of surplus value raises the value of the product. Similarly, lower labour costs in the production of a hamburger

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reduces not only its price, but also the labour cost of all industries which, in turn, raises the general rate of profit. Hence, in other industries where no productivity change has occurred, the price of the product rises because of a higher profit-rate. Thus, any gain in productivity which reduces l_y depresses the value, and the price, of the wage-good by exactly the same extent. All other values and prices will rise, together with the rate of surplus value and the rate of profit.

Now consider the case in which a hamburger can be produced with less beef. That does not change the value (or the price) of hamburger, q_y/v (or p_y/w), but it does raise the rate of surplus value for the following reason. Let L_y' be the part of L_x that is engaged in the production of X_y. Then, clearly, a lower consumption of beef (X_y) means less labour is required to produce beef (L_y'). The rate of surplus value can be written as

$$e = \frac{(L_x - L_y') + L_z}{L_y + L_y'}, \tag{21}$$

where the denominator shows the direct and indirect expenditure of labour for the production of the wage-good, and the numerator shows the expenditure of labour for other purposes. Hence, if L_y' diminishes, e rises. In other industries, where no productivity change has occurred, a higher rate of surplus value means a higher value of the product. On the other hand, it is obvious that the rate of profit of the capitalists who produce hamburgers will rise. Since the output proportions are fixed, this means that the rate of profit rises in all industries. In those industries where no productivity change has occurred, a higher rate of profit reflects itself in a higher price of the product.

Thus, any rise in productivity which reduces the technical coefficient a_y leads to a rise in the rate of surplus value, the rate of profit, and all product values and prices, with the exception of the value and the price of the wage-good which do not change.

(3) The effect of a change in l_x and a_x

If steel can be produced with less current labour, not only does the value (or price) of steel itself fall, but also the value (or price) of the wage-good which requires steel as an input. But the effect on the rate of surplus value (or profit) cannot be *a priori* predicted, nor indeed the direction of change in the value (or price) of the luxury good.

The reason why the rate of surplus value (or profit) may rise or fall is explained as follows. Any advance in labour productivity, if not restricted to the production of luxury goods, directly or indirectly con-

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tributes towards the cheapening of wage-goods, and, hence, raises the rate of surplus value (or profit) through the production of relative surplus value. This principle applies to the present case in which less current labour is needed for the production of steel. When, however a rise in labour productivity occurs outside the wage-good sector, there is an offsetting factor to consider. If sufficient labour-power is released from the production of steel, and is reallocated to an increased production of the wage-good, the real wage rises, and, to the extent that this occurs, the rate of surplus value (of profit) falls. Which effect is greater cannot be determined in general. Nor is there any necessity that the rate of surplus value and the rate of profit should move in the same direction. One rate may rise, while the other may fall. This indeterminacy affects the change in the value (or price) of the luxury good. The effect of cheaper steel may be counterbalanced by a higher rate of surplus value (or profit). Thus, the value and the price of the luxury good can conceivably change in different directions.

If steel can be produced with less steel its value (or price) will definitely fall, even though, as indicated in (20) above, the value (or price) of the wage-good is not affected. Even then, the rate of surplus value (or profit) will rise, since, in that case, no labour-power will be released from the production of steel and reallocated to the wage-good sector. The value (or price) of the luxury good may, however, rise or fall, since the value (or price) of the capital good and the rate of surplus value (or profit) change in opposite directions.

Thus, it turns out that only when a productivity change occurs in the capital-good sector is there any uncertainty. The direction of change in the value (or price) of the luxury good is, in any case, not a matter of great importance. The only noteworthy uncertainty then is the effect of a change in l_x on the two crucial rates. In this case alone is it possible for the rate of surplus value and the rate of profit to move in opposite directions. In all other cases, regardless of the source of productivity changes, values and prices move in the same direction, and so do the rate of surplus value and the rate of profit. We may, therefore, conclude that, as a general rule, all changes in production-prices and the general rate of profit are, in the final analysis, tethered to corresponding changes in values and the rate of surplus value.

7.2.3 The Law of Market Value

The theory of prices and profit has so far been stated as if every use-value were produced with a single technique (or method of production).

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This, however, is never the case in reality, even in the context of a purely capitalist society. Although, in the process of competition, all capitalists do endeavour to adopt the most profitable of all available techniques, they do not all necessarily end up employing a single technique in any industry. Thus, the same use-value will, in general, be produced with several alternative methods. The production of a use-value is always exposed to contingencies, i.e. to circumstances not explainable by the logic of capital. Firms operating in any given industry are normally different in size, location, managerial organisation and the technical method of production they have adopted. Although some of these factors tend to become standardised, or uniform, as a consequence of competition, the development of capitalism does not ensure a complete elimination of the individual circumstances of different productive units, even within the same industry. A theory of value which becomes inoperative because of such contingencies cannot be said to have overcome the contradiction between value and use-value.

Moreover, when the market demand for a particular commodity varies, the way in which different firms respond to it, by adjusting their outputs, depends on such contingent factors as the geographical location of the new demand, the system of communication by which the information is spread and the degree of dependence on skilled labour in particular firms. These are real parameters which underlie and constrain the operation of the capitalist market, and theory cannot ignore them by simply pronouncing them to be absent. Instead, a true dialectical theory must prove itself workable, whatever may be the combination of such external factors. The law of market value is the law of value which takes such contingent elements of use-value production explicitly into consideration.

Suppose that there are two industries, **A** and **B**. If demand shifts from **A** to **B**, but resources (i.e. direct and indirect productive labour) do not move in corresponding fashion from **A** to **B**, the outputs of these two industries will fail to conform to the new pattern of social demand, and it will be impossible to determine unambiguously the values of their products. For the outputs of these two industries are not then in the socially necessary quantities, nor is the labour directly or indirectly spent on them "socially necessary". The socially necessary labour for the production of a commodity, which defines its value, is the flow of labour directly or indirectly required for its production in the socially necessary (i.e. equilibrium) quantity. Only when it is assumed that all commodities are produced in socially necessary (i.e. equilibrium) quantities, is it warranted to say that the value of a com-

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modity is commensurate with the amount of technically necessary labour for its production. The same considerations apply to production-prices. In other words, values and production-prices are meaningful concepts only when they tend to settle to definite levels in view of an *adequate* mobility of resources.

An adequate mobility of resources does not mean that *all* currently employed productive resources should be reshuffled at the slightest variation of demand conditions. It means only that the supply of all commodities can be adjusted to their demand in such a way as to maintain the given levels of their values and production-prices. (In the language of neoclassical price theory, this is equivalent to saying that all industries are "constant-cost industries", given that a sufficient number of marginal firms can move from one industry to another.) In reality, the presence of fixed capital, together with other circumstances, makes it impossible for well-established firms to switch industries at short notice. That, however, usually does not detract from the required adjustment at the margin of an industry. Theoretically, an unambiguous definition of values and production-prices presupposes only a marginal reallocation of resources, because this is sufficient to ensure the adaptation of supplies to small changes in the pattern of social demand. In other words, the concepts of values and production-prices are meaningful if, and only if, resources readily flow *at the margins* of all capitalist industries.

The above also means that the value (and equilibrium price) of a commodity is determined only at the margin of its productive adjustment. For example, if hand-looms and power-looms are simultaneously employed for the production of cloth, but the burden of marginal adjustment falls entirely on the power-loom technique, it is the quantity of labour required by that technique that determines the value of cloth, regardless of the proportion in which the two techniques are actually employed to produce the total output of cloth. Suppose that a unit of cloth embodies two hours of socially homogeneous labour when hand-loomed, and only one hour when power-loomed. Then, in this case, the value of cloth is one hour of labour per unit, even though only a very small proportion of cloth is actually power-loomed.

Suppose, for example, that 100 units of cloth are socially demanded, and that hand-weavers, who produce 80 units, cannot flexibly adjust their output. The total labour-time actually spent for the production of 100 units of cloth is $80 \times 2 + 20 \times 1 = 180$ hours. These 180 hours, however, cannot be immediately regarded as the hours of "socially necessary" labour. Since one additional unit of cloth is produced by the power-loom technique with one hour of labour, 100 units of cloth are produced with 100 hours, not 180 hours, of socially necessary labour.

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To say that a unit of cloth is produced with one hour of socially necessary labour implies that the same amount of labour is withdrawn from alternative uses for the production of cloth. The difference between the quantities of socially necessary and actually spent labour, $100 - 180 = -80$, may be called rent, or "false social value".

A false social value, or rent, is negative, if, as in the present case, the burden of marginal productive adjustment falls on a superior technique. It will be positive if the adjustment occurs where an inferior technique is at work. When, however, several techniques are employed simultaneously to produce an identical use-value, it is, in general, not possible *a priori* to specify the value-determining technique or combination of techniques. It is not warranted to assume, as in neoclassical analysis, that the marginal technique is always the least productive one, unless multiple techniques merely reflect the differential fertility of land. We shall, therefore, need a theory of market-regulating value (or production-price) which is general enough to allow for all the possible ways in which a false social value may arise.

* * *

Let us suppose that there are two processes which produce a commodity X, say steel, with steel itself and labour as follows:

	Steel	*Labour*		*Steel*		
	(12,	3)	→	65	=	$X^{(1)}$,
	(3,	12)	→	100	=	$X^{(2)}$,
+)						
	(15,	15)	→	165	=	X

Here X represents the total output of steel, and $X^{(1)}$ and $X^{(2)}$ are the outputs of steel produced by technique-(1) and technique-(2), respectively. It is clearly impossible to calculate the value of X as $\lambda_x = 0.1$ from the equation $\lambda_x 15 + 15 = \lambda_x 165$, for such a procedure would make no economic sense. In order to calculate the market value (i.e. market-regulating value) correctly, we must know how these two techniques respond to the variation in the social demand for X. If the demand for this commodity changes by dX, and the responding changes in the output of the two techniques are $dX^{(1)}$ and $dX^{(2)}$, respectively, then the value of X is meaningful if and only if $dX^{(1)} + dX^{(2)} = dX$, i.e. if and only if X is a capitalistically reproducible commodity. Let us call $dX^{(i)}/dX$, $(i = 1, 2)$, the marginal response ratio of technique-(i). We shall also define what may be called the supply elasticity of technique-(i) as $\delta^{(i)} = (dX^{(i)}/dX)(X/X^{(i)})$, $i = 1, 2$.

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Suppose that the marginal response ratios of the two techniques are both 0.5. Then, clearly, $\delta^{(1)} = 1.269$ and $\delta^{(2)} = 0.825$. In that case, the market value can be calculated as follows. Multiply each technique by its supply elasticity and add them together to obtain the "value-determining social technique":

(15.2,	3.8)	→	82.5	$\delta^{(1)}$ × technique−(1)
(2.5,	9.9)	→	82.5	$\delta^{(2)}$ × technique−(2)
+)				
(17.7,	13.7)	→	165	social technique

Then $\lambda_x 17.7 + 13.7 = \lambda_x 165$ determines $\lambda_x = 0.093$ as the market value of X. What Marx calls the "individual values" of the two techniques are then calculated as follows:

$$0.093(12) + 3 = \lambda_x^{(1)}\, 65 \quad \Rightarrow \quad \lambda_x^{(1)} = 0.0633$$

$$0.093(3) + 12 = \lambda_x^{(2)} 100 \quad \Rightarrow \quad \lambda_x^{(2)} = 0.1228.$$

These individual values each contribute 50 per cent to the magnitude of the market (or social) value of X. If, however, the marginal response ratios are $dX^{(1)}/dX = 0.25$ and $dX^{(2)}/dX = 0.75$, so that $\delta^{(1)} = 0.6346$ and $\delta^{(2)} = 1.2375$, then the value-determining social technique is $(11.33, 16.75) \rightarrow 165$. Hence, we have $\lambda_x = 0.1090$, $\lambda_x^{(1)} = 0.0663$, $\lambda_x^{(2)} = 0.1233$. In this case $\lambda_x^{(1)}$ contributes 25 per cent, and $\lambda_x^{(2)}$ 75 per cent, to the magnitude of λ_x.

These exercises show that the existence of multiple techniques in an industry causes no problem in the determination of a unique market value for its product, provided that the marginal response ratios are known. These ratios reflect the real parameters of the market, as already mentioned. They are, however, not in the nature of fixed aggregators that can be specified *a priori*. For example, a 10 per cent increase in the demand for steel does not always occur in the same way. Sometimes it may be an expansion of the automobile industry that induces it; sometimes it may be a large construction project undertaken in a given geographical region; sometimes it may be the opening-up of a new export market; sometimes it may be the need to build up military hardware, and so on. Surely we cannot expect that the marginal response ratios of the existing techniques will be the same in all these cases. They are subject to contingencies and cannot be predicted due to varying combinations of technical and commodity-economic factors.

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What is required of the theory here is to explain the method of synthesising the "value-determining social technique" from the concurrently employed multiple techniques, once given any arbitrary set of marginal response ratios.

The same social technique can be used to determine the market-regulating production-price. Thus, if the general rate of profit is 40 per cent, and if the marginal response ratios of the two techniques are both equal to 0.5, the market production-price (p_x) in terms of the wage (w) is calculated as follows:

$$(p_x 17.7 + w13.7)\,(1 + 0.4) = p_x 165 \quad \Rightarrow \quad p_x/w = 0.1368.$$

As for the "individual" production-prices, they are also calculated as follows:

$$(p_x 12 + w\ 3)\,(1.4) = p_x^{(1)}\ 65 \quad \Rightarrow \quad p_x^{(1)}/w = 0.1000,$$
$$(p_x\ 3 + w12)\,(1.4) = p_x^{(2)} 100 \quad \Rightarrow \quad p_x^{(2)}/w = 0.1737.$$

The difference between the market and the individual production-price measures the surplus profit (positive or negative) earned by the technique, per unit of the commodity. The "individual" rates of profit as opposed to the general rate of profit can be calculated as follows:

$$(p_x 12 + w\ 3)\,(1 + r^{(1)}) = p_x\ 65 \quad \Rightarrow \quad r^{(1)} = 0.9156,$$
$$(p_x\ 3 + w12)\,(1 + r^{(2)}) = p_x 100 \quad \Rightarrow \quad r^{(2)} = 0.1022.$$

If, however, the general rate of profit is 25 per cent, and if the marginal response ratios are 0.25 for technique-(1) and 0.75 for technique-(2), the market-regulating production-price is found to be $p_x/w = 0.1388$ from

$$(p_x 11.33 + w16.75)\,(1 + 0.25) = p_x 165.$$

The individual production-prices are then calculated to be $p_x^{(1)}/w = 0.0897$ and $p_x^{(2)}/w = 0.1552$. The individual rates of profit are likewise calculated to be $r^{(1)} = 0.9337$ and $r^{(2)} = 0.1179$.

The same method of synthesising the social technique applies to any kind of commodity. All the component techniques of **T** can, therefore, be viewed as synthesised techniques.

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This theory of market value has a wide range of applications, one of which is the problem of heterogeneous labour. So far the theory has neglected the presence of skilled labour, on the ground that capitalism in itself possesses a tendency to simplify and standardise the labour-process. Although this fact is undisputed, it does not mean that skilled labour must be completely eliminated from a purely capitalist economy. For the presence of skilled labour does not, in any way, affect the validity of the labour theory of value, as long as the mechanisation of industry increasingly substitutes unskilled for skilled labour. In that event the marginal output of any industry will tend to be produced with only unskilled labour, which is much more mobile inter-industrially than labour with specific skills.

If this were not the case in all industries, it would not be possible to say that capital produces commodities as value indifferently to their use-values, or that productive labour can be applied indifferently, through capital, to the production of any commodity. The existence of capitalist society presupposes that the marginal supply of all commodities is a product of simple (and indifferent) labour. That presupposition, however, does not imply that no part of the current output of any use-value should be produced with skilled labour.

For example, suppose that knives are either machine produced with unskilled labour or hand-made with skilled labour. If machine-made knives and hand-made knives are qualitatively identical, the individual value of the machine-made knives is most likely to regulate the market value. For when the demand for knives increases, the output of hand-made knives cannot as flexibly respond to the increased demand as that of machine-made knives. If hand-made knives are qualitatively superior to machine-made knives, the skilled knife-makers will earn, over and above their regular wages, a rent proportional to the supply inelasticity of their skill.

Another, and perhaps more controversial, application of the principle of market value is to the problem of joint production. In order to illustrate the determination of values and prices under joint production, let two commodities, X_1 and X_2, be jointly produced with themselves and labour as inputs in the following two processes:

X_1	X_2	L		$\bar{X}_1$	$\bar{X}_2$	$\bar{L}$	
(20,	3,	5)	→	(30,	6,	0)	technique−(1)
(2,	5,	1)	→	(3,	12,	0)	technique−(2)
+)							
(22,	8,	6)	→	(33,	18,	0)	

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Here, the vectors on the left-hand side represent inputs and those on the right-hand side outputs. Furthermore, assume that the "reproduction of labour" is achieved by the consumption process

$$(2, \quad 1, \quad 0) \rightarrow (0, \quad 0, \quad 6),$$

i.e. assume that the depletion of labour-power by six hours is made good by two units of X_1 and one unit of X_2. This "fodder" assumption is tolerated here for the sake of convenience.

To determine values and prices, it is necessary to assume as well four marginal response ratios to which correspond the following four elasticities. Let

$$\begin{bmatrix} \frac{dX_1^{(1)}}{dX_1} & \frac{dX_1^{(2)}}{dX_1} \\ \frac{dX_2^{(1)}}{dX_2} & \frac{dX_2^{(2)}}{dX_2} \end{bmatrix} = \begin{bmatrix} 0.909 & 0.091 \\ 0.067 & 0.933 \end{bmatrix}$$

which implies

$$\begin{bmatrix} \delta_1^{(1)} & \delta_1^{(2)} \\ \delta_2^{(1)} & \delta_2^{(2)} \end{bmatrix} = \begin{bmatrix} 1 & 1 \\ 0.2 & 1.4 \end{bmatrix}$$

Now suppose $dX_1 \neq 0$ and $dX_2 = 0$, i.e. that the demand for X_1 varies marginally but that for X_2 does not change. Then in order to supply dX_1, the two techniques must be combined with the supply elasticities $\delta_1^{(1)} = 1$ and $\delta_1^{(2)} = 1$, so that the synthesised technique for the production of X_1 is

$$(22, \quad 8, \quad 6) \rightarrow (33, \quad 18^*, \quad 0).$$

Here, $\bar{X}_2 = 18^*$ is evidently irrelevant since, by assumption, no change has occurred in the demand for X_2. This synthesised technique, in other words, is valid in the neighbourhood of $\bar{X}_1 = 33$ but not of $\bar{X}_2 = 18^*$. Next suppose $dX_1 = 0$ and $dX_2 \neq 0$, i.e. that the demand for X_1 remains stationary but the demand for X_2 varies marginally. In that case, the two techniques must be combined with the supply elasticities $\delta_2^{(1)} = 0.2$ and $\delta_2^{(2)} = 1.4$, so that the synthesised technique for the production of X_2 will be

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$$(6.8, \quad 7.6, \quad 2.4) \rightarrow (10.2^*, \quad 18, \quad 0).$$

Here, $\bar{X}_1 = 10.2$ is irrelevant for the reason already explained.

Using the two synthesised techniques, we may then calculate values and prices as follows:

$$\begin{cases} \lambda_1 22 + \lambda_2 8 + 6 = \lambda_1 33, \\ \lambda_1 6.8 + \lambda_2 7.6 + 2.4 = \lambda_2 18, \\ (\lambda_1 2 + \lambda_2 1)(1 + e) = 6. \end{cases}$$

$$\Rightarrow \quad \lambda_1 = 1.36, \quad \lambda_2 = 1.12, \quad e = 0.4706.$$

and

$$\begin{cases} (p_1 22 + p_2 8 + w 6)(1 + r) = p_1 33, \\ (p_1 6.8 + p_2 7.6 + w 2.4)(1 + r) = p_2 18, \\ p_1 2 + p_2 1 = w 6, \qquad w = 1. \end{cases}$$

$$\Rightarrow \quad p_1 = 2.1206, \quad p_2 = 1.7589, \quad r = 0.0488.$$

In the present case, the two commodities, X_1 and X_2, function both as capital goods and as wage-goods. If we remove that portion of the outputs needed for workers' consumption, we are left with 31 units of X_1 and 17 units of X_2. Call them net outputs. For values and prices to be positive, it is necessary and sufficient that (i) the synthesised techniques satisfy the conditions of self-replacement with regard to net outputs, and (ii) the rate of surplus value is positive.

These provisos imply that the original techniques may not be capitalistically operable, if combined with an inappropriate set of marginal response ratios. To see what this means, normalise the two techniques for a unit production of X_1, and it will become obvious that technique-(1) is the more productive one in X_1, which is another way of saying that X_1 is the main product and X_2 only a by-product of technique-(1). Similarly, normalise the two techniques for a unit production of X_2, and it will become obvious that technique-(2) is the more productive one in X_2, since the latter is its main product. We may then claim that a capitalistically operable economy responds to an autonomous change in the demand for a use-value by a preponderant adjustment of the more productive technique for its production.

In terms of the matrix of the marginal response ratios, this means that the diagonal term (which refers to the main product) must always dominate other terms belonging to the same row and column. A heuristic

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explanation of this condition may be as follows. Consider a nation consisting of two regions. Although both regions produce X_1 and X_2, let us suppose that region-I equipped with technique-(1) is more productive in X_1, and region-II which is equipped with technique-(2) is more productive in X_2. If the demand for X_1 varies, it is region-I that must bear most of the burden of adjustment; and, if the demand for X_2 varies, it is region-II that must do so. That seems to be the natural thing to expect.

7.3 THE RATE OF PROFIT AND TECHNICAL PROGRESS

7.3.1 The Cost of Innovation

Even in equilibrium, the market value of a commodity does not necessarily represent the quantity of labour which society actually spends for the production per unit of that commodity, but only that which is required for its production at the margin. Therefore, a positive or negative surplus profit can accrue to its non-marginal producers as "false social value". All capitalists pursue such a surplus profit (or "pure economic profit" as it is called in the neoclassical literature), whenever and wherever there is a chance. In a competitive market, however, the chance of realising it, or of sustaining its reverse (i.e. incurring pure economic loss), tends to be eliminated in the long run. For the forces of competition generally standardise, or make uniform, the technical efficiency of capitalist firms in each industry. In this way, the pursuit of surplus profit can be viewed as the capitalist method of enforcing the law of value through competition, so that the market value of a commodity tends, in any case, to approach the quantity of labour actually spent for its production on average.

In some cases, however, technical variations in the method of producing a use-value persist, even in the long run, because of a permanent inelasticity in the supply of a factor of production. For example, differences in the fertility of land cannot be eliminated by the competition of wheat growers among themselves, even in the long run; thus, those operating on fertile land might be expected to enjoy its benefit permanently. Later, it will be shown that the surplus profits accruing to such privileged capitalists are converted into rents, payable to the owner of the more-than-normally productive factor of production. In between these two extremes, i.e. between purely temporary and constantly disappearing surplus profits on the one hand, and surplus profits

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permanently fixed as rents on the other, there is another type of surplus profit that demands special attention. It consists of *surplus profits representing extra surplus value*, rather than false social value, and which are commonly referred to as "quasi-rents".

A quasi-rent cannot be viewed as lacking in value substance. Though it, too, will be eliminated by competition in the long run, a quasi-rent is quite unlike a pure economic profit in that, when it is eliminated, the level of average profit has changed. The reason is that the very process of elimination of a quasi-rent involves progress in society's overall technology which affects the level of the general rate of profit. The introduction of technical progress necessarily entails a real cost to society. No society can shift from one technique to another without some delay and cost which may be regarded as "socially necessary". Inasmuch as extra surplus value measures the social cost of diffusing a technical improvement, a quasi-rent, or surplus profit which represents that cost, cannot be empty of value substance. Indeed the more difficult and costly the innovation, and hence the longer the time required for its diffusion, the greater the amount of quasi-rent that must be paid to the innovators. The question is how society may minimise this kind of cost.

In order to answer this question, let us suppose that an innovative technique has been invented for the production of, say, cotton yarn, and that this technique is embodied in newly designed spinning machines. Society would, of course, benefit from the permanent reduction in the cost of producing cotton yarn which would result from the adoption of these newly designed, more efficient machines. But the mere discovery of this technique does not warrant the conclusion that society should immediately scrap all existing old machines, so as to switch to the new type of machines. For, in that case, a large part of the productive labour spent on the existing machines would be totally wasted. Let $\hat{q}$ be the unit value of cotton yarn produced with the old technique, and $\bar{q}$ ($< \hat{q}$) be that of cotton yarn produced with the new technique, as measured in terms of labour (or value-proportional prices). Depending on the nature of the technical innovation, the unit value of cotton yarn $q(t)$ should fall from $\hat{q}$ to $\bar{q}$, as more and more innovative machines are introduced at a given speed over time, until, in the end, the conventional machines are wholly eliminated.

To say that $q(t) - \bar{q}$ represents extra surplus value rather than false social value is to recognise $q(t)$ as representing socially necessary labour in the process of adoption of the new technique, $0 \leqq t < T$, given that not all cotton yarn can, in the meantime, be produced as

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cheaply as $\bar{q}$ per unit. Society viewed as consumer, therefore, pays $\int_0^T [q(t) - \bar{q}]dt$ on every unit of cotton yarn, until all the existing conventional machines are scrapped at time $t = T$. Once the form of $q(t)$, $0 \leqq t < T$, is specified, however, the minimisation of this cost, which society pays, is also the minimisation of the time-delay, $T = \int_0^T dt$, involved in the switching of technique from the old to the new. I will presently show how the minimal time-delay, T^*, can be determined. The fact that such T^* can be theoretically identified is another indication that a quasi-rent contains value substance.

If an agricultural commodity is produced on fertile land in $\bar{q}$ hours of labour per unit, and on the least fertile land in $\hat{q}$ hours of labour, the differential rent $\hat{q} - \bar{q}$ contains no value substance. It simply represents a false social value that society transfers from the consumers to the owners of fertile land. Consumers are obliged to pay the value $\hat{q}$ even on the product of fertile land, where that much labour is not socially necessary for any economic reason. This benefits only the owners of fertile land, given that less fertile land must also be brought into cultivation. Unlike the differential rent, $\hat{q} - \bar{q}$, however, society pays the quasi-rent, $q(t) - \bar{q}$, only during the time interval, $0 \leqq t < T$, the length of which can be technically determined as the necessary cost of spreading the newly available technique. This important difference is frequently overlooked because of the appearance that the consumers pay an extra $q(t) - \bar{q}$ to the innovators, in the same way as they pay an extra $\hat{q} - \bar{q}$ to the owners of fertile land, albeit temporarily.

* * *

The extra surplus value, $q(t) - \bar{q}$, can also be viewed as representing the saving of society's productive labour by the new technique. Though society regards $q(t)$ hours of labour to have been spent on the production per unit of the commodity, the innovator has in fact spent only $\bar{q}$ hours, releasing in consequence $q(t) - \bar{q}$ hours of labour for an alternative use. It is this saving that finances the further propagation of the new technique. Thus, the accumulated saving of productive labour $E(T)$, by a growing number of innovators by time T, may be regarded as defraying the social cost of innovation. The greatest part of the cost is specifically in the form of the stock of conventional machines $K(T)$ that must be scrapped by time T. If a proportion α $(0 < \alpha < 1)$ of $E(T)$ defrays that part of the cost, then the remainder should be paid by $(1 - \alpha)\, E(T)$. Since an innovation tends to raise the organic composition of capital, it is likely that the innovative machine is of higher value than the conventional machine. Although the new spinning ma-

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chine may consume less raw cotton than the old machine to produce the same quantity of cotton yarn, the machine itself may require, say, 15 per cent more labour to build when it embodies the new technique. This kind of additional cost, entailed by the innovation, must be defrayed by $(1 - \alpha)\ E(T)$.

Thus, the present theory requires that the switching of the old for a new technique should be accomplished with the shortest delay, subject to the condition $\alpha E(T) = K(T)$ at the terminal point. Let $X(t)$ be the output of cotton yarn produced with the innovative technique, and $Y(t)$ that produced with the conventional technique. Then the extra surplus value at time t in society can be written as

$$\dot{E}(t) = [q(t) - \bar{q}]\ X(t). \tag{1}$$

Let $Z(t)$ be the social demand for cotton yarn, which, for simplicity, may be assumed to grow exponentially at rate g, so that

$$Z(t) = Z_0 e^{gt}. \tag{2}$$

If $\lambda(t)$ is the proportion of $X(t)$ in the total output of cotton yarn, we have

$$\begin{cases} \lambda(t)Z(t) = X(t), \\ [1 - \lambda(t)]Z(t) = Y(t), \end{cases} \tag{3}$$

$$\text{where } 0 \leqq \lambda(t) \leqq 1, \quad \lambda(0) = 0. \tag{4}$$

In other words, at $t = 0$, no output is produced with the innovative technique, but $\lambda = 1$ at some $t = T$ when the conventional technique is wholly eliminated.

It will be assumed that $q(t)$ falls from $\hat{q}$, as $\lambda(t)$ rises over time, according to the formula

$$q(t) \begin{cases} = \hat{q} - \dfrac{\lambda}{2}(\hat{q} - \bar{q}), & \text{if } \ 0 \leqq \lambda < 1, \\ = \bar{q}, & \text{if } \ \lambda = 1. \end{cases} \tag{5}$$

If $\lambda = 1$, then $q(t)$ must clearly be equal to $\bar{q}$. If, however, λ is even fractionally smaller than 1, some old machines must be supposed to

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be operating with a positive profit, which will be lost somewhere between $\hat{q}$ and $\bar{q}$. Since it is not possible to specify *a priori* the market value q^* at which the limit of profitability is reached, it will be assumed arbitrarily that $q^* = \frac{1}{2}(\hat{q} + \bar{q})$ for mathematical simplicity. As λ approaches 1 from below, $q(t)$ falls towards q^*. One can easily confirm that the first line of (5) can be written equivalently as $q(t) = \hat{q} - \lambda(\hat{q} - q^*)$, if $0 \leqq \lambda < 1$. Let us, therefore, adopt the simplifying notation $\beta \equiv \hat{q} - \bar{q}$, and write

$$q(t) - \bar{q} = \beta(1 - \frac{\lambda}{2})$$

for $0 \leqq \lambda < 1$. Since $X = \lambda Z = \lambda Z_0 e^{gt}$, we may now transform (1) above into

$$\dot{E}(t) = \beta Z_0 \lambda (1 - \frac{\lambda}{2}) e^{gt} \tag{6}$$

This equation determines the magnitude of extra surplus value earned by innovating capitalists at time t, so long as $0 \leqq \lambda < 1$.

Let us now denote by $K(t)$ the existing stock of conventional spinning machines, at time t, expressed in labour (or labour-proportional money) value. If δ is the rate of depreciation of these machines, it may be claimed that the differential equation

$$\dot{K} = -\delta K(t), \quad 0 \leqq t, \tag{7}$$

expresses the time rate of change of the existing stock of the conventional machines. If further it is maintained that the rate of change of K must equal the rate of change of its output Y, i.e. if

$$\frac{\dot{Y}}{Y} = \frac{\dot{K}}{K}, \tag{8}$$

then $\lambda(t)$ should be determined entirely by the two known parameters δ and g. For (8) is equivalent to

$$g = \frac{\lambda}{1 - \lambda} = -\delta. \tag{8'}$$

Indeed, the integration of (8') yields

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$$1 - \lambda(t) = Ce^{-(g+\delta)t}.$$

From $\lambda(0) = 0$ in (4), however, it follows that $C = 1$, so that

$$\lambda(t) = 1 - e^{-(g+\delta)t}. \tag{9}$$

If the demand for cotton yarn is stationary ($g = 0$), $\lambda(t)$ depends exclusively on δ, the depreciation-rate of the existing conventional machines.

The determination of time T^*, at which the definitive switch from the old to the new technique occurs, is now straightforward. Substitute (9) into (6) to find

$$\dot{E}(t) = \frac{1}{2}\beta Z_0 \left[e^{gt} - e^{-(g+2\delta)t}\right], \tag{10}$$

the integration of which is

$$E(T) = \int_0^T \dot{E}(t)\, dt$$

$$= \frac{\beta Z_0}{2}\left[\frac{e^{gt} - 1}{g} + \frac{e^{-(g+2\delta)T} - 1}{g + 2\delta}\right]. \tag{11}$$

On the other hand, it follows from (7) that

$$K(T) = K_0 e^{-\delta T}. \tag{12}$$

From (11) and (12), it is possible to determine T^* such that

$$\alpha E(T^*) = K(T^*), \quad 0 < \alpha < 1. \tag{13}$$

The accompanying diagram (Figure 7.2) illustrates the determination of T^* by (13).

In Figure 7.3 it is shown that $\lambda(t)$ follows (9) for $0 \leqq t < T$, but becomes $\lambda(t) = 1$ for $t \geqq T$. The falling tendency of the market value is described by the following formula obtained by the substitution of (9) into (5):

$$q(t) \begin{cases} = \hat{q} - \dfrac{1 - e^{-(g+\delta)t}}{2}(\hat{q} - \bar{q}), & \text{if} \quad 0 \leqq t < T, \\ = \bar{q}, & \text{if} \quad t \geqq T. \end{cases} \tag{5'}$$

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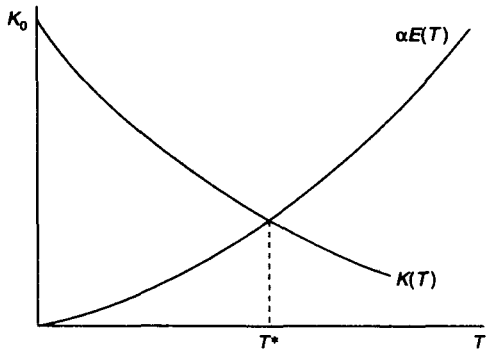

Figure 7.2

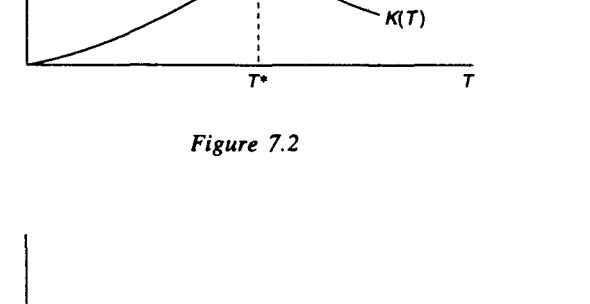

Figure 7.3

As shown in Figure 7.4, the market value of cotton yarn falls steadily towards $q^* = \frac{1}{2}(\hat{q} + \bar{q})$, until, at T, the remaining profit per unit of the commodity becomes too small to allow producers with the conventional technique to remain in business. They are now compelled to adopt the new technique, or go under. The critical value $q(T)$, which is slightly over q^*, will be reached when $T = T^*$ is determined by (13).

* * *

By the time the new method of production completely displaces the older method from the industry, the value of the commodity is permanently lowered; and society can produce a unit of the commodity, say, cotton yarn, with substantially less socially necessary labour. In gen-

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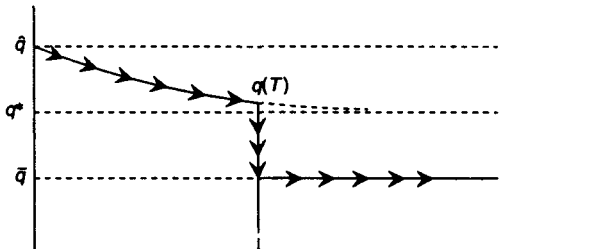

Figure 7.4

eral, however, such a gain in the average productivity of labour is accompanied by a rise in the organic composition of capital. The latter, it will be recalled, is that value composition of capital which reflects the underlying technology of production. This technology is sometimes referred to as the "technical composition of capital". The technical composition (just as the capital–labour ratio) is not a directly measurable concept unless constant capital consists of some homogeneous and malleable physical mass, which it never does. The technical composition of capital may, however, be understood more or less in the same way as Böhm-Bawerk's equally vague notion of "roundaboutness" or "indirectness" in the process of production.

In order to make such conceptions as technical composition, or roundaboutness, more amenable to theoretical use, it is necessary to evaluate constant capital in terms of value, or "stored-up labour". Then the value ratio of constant to variable capital, so far as it expresses the degree of roundaboutness, can be defined as the "organic composition of capital". The Austrian school talked of the "average period of production" in substantially the same sense as the organic composition of capital, although, in the dialectic, a "period of production" refers to something quite different (see Volume 1, Chapter 5). The fundamental thesis of Austrian capital theory is, of course, that the average product of labour will be the higher, the more indirect the method of production becomes (though at a decreasing rate). This means that the same amount of social labour (say, 10 hours) produces more output (cotton yarn), if the proportion of indirect to direct labour increases (if, e.g. 3

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rather than 4 of the 10 hours required for the production of cotton yarn consist of spinning labour). This perfectly valid technological fact must not be obscured by such an extraneous problem as the application of a rate of interest, with which to compound so-called "dated labour".

Imagine a primitive tribe with 50 active hunters, each of whom can kill 2 wild rabbits a day, unassisted by any man-made tools, i.e. by picking up stones at sight and hurling them at running rabbits. It is assumed that all other needs of the community are adequately looked after by other members of the tribe. Suppose that the use of bows and arrows raises the average productivity of a hunter per day from 2 to 5 rabbits, but that the making of bows and arrows necessary for the day's hunting consumes just as much time as hunting itself. In this case, it is only rational for the community to rearrange its productive organisation, so that 25 hunters spend the whole day making bows and arrows, and the rest chase rabbits all day. In this way, the community can consume 125 rabbits a day instead of 100. It makes little difference if all the 50 hunters spend half a day making bows and arrows, and the other half of the day hunting. But if it is supposed, instead, that each of the 50 hunters alternates between the two occupations every other day (or every other week), the story begins to appear different. For, in that case, enough rabbits must be "advanced" for each non-hunting day (or week), and thus must presumably claim an "interest".

Should this tribe not "borrow" 100 rabbits from a neighbouring tribe on a non-hunting day, and return 125 rabbits on the following hunting day? The capitalist calculus seems to warrant such a "rational" practice. In that case, however, this community would lose an average of 12.5 rabbits per day, a cost which could be avoided if rabbits were "advanced", and "interest paid", within the same community. In the present example, each hunter would most likely advance capital to himself and pay interest to himself, provided that he managed to survive without rabbits for the first day of making bows and arrows. The accumulation of capital always presupposes a surplus or a prior saving. An isolated tribe can make the process of killing rabbits more "roundabout" and productive only on this ground. Thus, it is clear that the payment of interest is a form of transferring income, within society, from those who did not originally possess a surplus convertible into capital (non-savers) to those who did (savers).

So far as the productivity of the roundabout process is concerned, it must be measured independently of the form of income distribution which may differ from one society to another. The correct measure of "roundaboutness", therefore, is the ratio of the quantities of stored-up

to current labour. Here, the quantity of stored-up labour should be viewed as equivalent to the quantity of current labour which would be required to produce the same capital goods as exist at present. This involves no artificial capitalisation of dated labour. In other words, the organic composition of capital is, by itself, an adequate measure of the roundaboutness of the method of production.

The question is, then, why economic theory should always expect an innovation to entail a rise in the organic composition of capital, since, clearly, not all forms of technical progress need be "labour-saving". The answer is that, if technical progress does not involve a greater degree of roundaboutness, it is, for all practical purposes, costless to society. For example, the hunting tribe may, through experience, discover a few good places to lie in ambush for rabbits and may successfully raise the daily output per man from 2 to 2.5 rabbits. The 50 hunters can now catch 125 rabbits a day instead of 100, without depending on a prior saving of resources. Such a boon will automatically and costlessly benefit society, in just the same manner as a spell of good weather.

The technical progress that involves a greater degree of roundaboutness cannot be treated in the same way. In addition to the cost of simply switching from one technique to another, there is the cost of increasing roundaboutness. The innovative machine with greater productivity frequently requires more labour to build than the conventional machine. Similarly, the rabbit-hunters will have to spend more time in workshops if they want bows and arrows of higher quality. Part of extra surplus value $(1 - \alpha)\ E(T)$ may, therefore, be viewed as covering the cost of prior savings (hunting holidays).

The cost of roundaboutness, however, is not felt only in the process of introducing a superior technology. The increased organic composition of capital permanently depresses the general rate of profit, reflecting the fact that surplus value must be shared by an increased mass of constant capital. This leads us to the problem of the falling tendency of the rate of profit, which will be taken up next.

7.3.2 The Law of the Falling Rate of Profit

A new industrial technology almost always requires a heavier fixed capital outlay, which also transfers the value of the circulating means of production (such as raw materials) more efficiently to the commodity product. It thus raises the organic composition of capital. If, however, such technical progress occurs in only one industry in an isolated

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fashion, its effect on the general rate of profit will not be of such a significant magnitude as to warrant a special enquiry. Exactly how much the fall in, say, the value of cotton yarn raises the rate of surplus value, depends on the extent to which this particular commodity, directly or indirectly, forms a major component in the worker's wage-basket. How much the increased value composition of capital in the cotton spinning industry contributes to the raising of society's value composition of capital likewise depends on the importance of this industry in the overall activity of the aggregate-social capital. Since the rate of profit, in general, rises with the rate of surplus value, and falls with the socially average value composition of capital, it is difficult to say whether the rate of profit actually rises or falls because of a particular innovation in the method of producing cotton yarn. Whichever be the case, the change in the rate of profit is unlikely to be substantial.

It has already been shown, however, that innovations tend to occur in a cluster in a particular phase of capital accumulation: namely, in the phase of the "deepening" of capital. Hence, the following question poses itself: what will happen to the rate of profit, if many innovations occur simultaneously in the actual process of capital accumulation, raising the organic composition of the aggregate-social capital on the one hand, and entailing an increased production of relative surplus value on the other? The law of the falling rate of profit demonstrates that the general rate of profit tends to fall, as capital accumulation proceeds with an increasingly higher organic composition, *even if part of this effect is offset by a simultaneous rise in the rate of surplus value*. The law of the falling rate of profit, in other words, must be deduced from the activity of the aggregate-social capital in its actual process of accumulation, rather than from the activity of its particular components.

In the present context, the contradiction between value and use-value presents itself in a somewhat altered manner. The contradiction between a social uniformity in the production of commodities as value, and a technical diversity in the production of commodities as distinct use-values, has been solved by the formation of a general rate of profit and production prices. In the very process of seeking this solution, however, the capitalist pursuit of surplus profit has been shown to involve the possibility of technical progress. Thus, as soon as the existing diversity of techniques in the production of different use-values is overcome, capital once again faces the new problem of technological change *over time*, in the production of (even the same) use-values. The capitalist market must, therefore, contain not only static variations among industrial techniques but also dynamic technical changes.

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Earlier (in Volume 1, Chapter 6) it was shown that the law of value had to be supplemented by the law of population, in order to fully regulate the working of a capitalist society. If capital accumulates with a given technology, the exhaustion of relative surplus population sooner or later restricts the production of value and surplus value. A decline in the rate of surplus value invariably entails a state of the "excess of capital". Once this state is reached, capital cannot continue to accumulate under the existing value relations. The law of relative surplus population must intervene to permit, at this point, the introduction of a new set of value relations based on society's overall technological base. Labour-power can remain a commodity only if capitalism is capable of periodically renewing its value relations by means of technical progress. In the capitalist market, the concrete modes of enforcement of these two laws appear as the law of average profit and the law of the falling rate of profit. The former mediates the production of all commodities with socially necessary labour. The latter is a manifestation of the effect of technical progress which preserves labour-power forever in the form of a commodity.

The general rate of profit falls when the technological base of the aggregate-social capital advances. Within the aggregate-social capital, however, the existing diversity of industrial techniques is already overcome; therefore, the divergence of prices from values may now be left out of consideration. If values and prices may thus be considered proportional, the general rate of profit can be expressed by the formula

$$r = \frac{en}{1 + k}, \tag{14}$$

with the familiar notations. Clearly, the law of the falling rate of profit does not mean the trivial proposition that $\partial r/\partial k < 0$. For, if so, the positive effect of $\partial r/\partial e > 0$ can always cancel the negative effect of $\partial r/\partial k$; and the demonstration of the law remains necessarily inconclusive.

In order to establish the law beyond any doubt, we must penetrate the above formula, equation (14), to find what lies behind it. We must realise, first, that the law does not refer to a fall in the rate of profit when the organic composition of the aggregate-social capital rises *for some fortuitous reason*. The aggregate-social capital does not adopt a new technology by chance. It does so when it is compelled to do so by the necessity of the *actual process of capital accumulation*. Therefore, if K stands for the stock of capital advanced (in value terms), this variable must be introduced explicitly into (14) and the overall effect of K on r must be established as $dr/dK < 0$. Only with this mediation can the law be conclusively demonstrated. This point will be expanded on in what follows.

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* * *

Begin by defining a continuous function

$$e = e(K, k) \tag{15}$$

for all $K \geqq 0$, $k > 0$ with the following properties:

$$e(0, k) > 0, \tag{15a}$$

$$e_K < 0, \tag{15b}$$

$$e_k > 0, \tag{15c}$$

$$e_{kK} > 0. \tag{15d}$$

On the (K, e)-plane this function can be graphed as a k-parameter family of downward-sloping curves, each of which has a positive intercept on the e-axis. In Figure7.5, two adjoining curves are drawn. The vertical distance e_k between them is always positive and is increasing with K.

When (15) is introduced into (14), we have the profit-rate function:

$$r(K, k) = \frac{ne(K, k)}{1 + k}, \tag{16}$$

which is also a k-parameter family of downward-sloped curves on the (K, r)-plane, but with one intersection between any two adjoining curves as shown in Figure 7.6. This function has the following properties:

$$r(0, k) > 0, \tag{16a}$$

$$r_K < 0, \tag{16b}$$

$$r_k \lessgtr 0 \text{ according as } K \lessgtr K_0, \tag{16c}$$

$$r_{kK} > 0. \tag{16d}$$

At $K = K_0$, in Figure 7.6, where the intersection occurs, the vertical distance r_k between the two adjoining curves becomes zero, while it is negative before and positive after. The relationship between the r-curves and the e-curves is shown by Figure 7.7.

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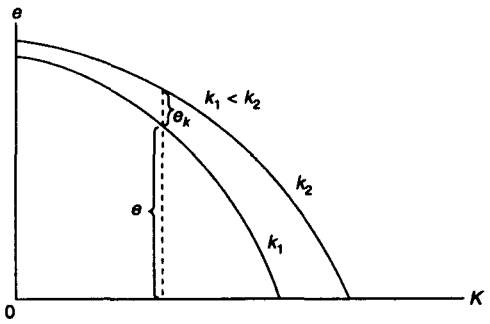

Figure 7.5

Figure 7.6

Now define K^* as that level of capital accumulation at which, given k, the absolute magnitude of profit rK reaches a maximum. That is to say,

$$r_K\,(K^*,\,k)\,K^* + r(K^*,\,k) = 0$$

$$\text{i.e.} \quad K^* = \frac{-r}{r_K}.$$

In Figure 7.6, it is shown that, given k, the largest rectangle can be inserted under the r-curve, when $K = K^*$. If (16) satisfies the additional condition that

$$0 < K_0 < K^*, \tag{16e}$$

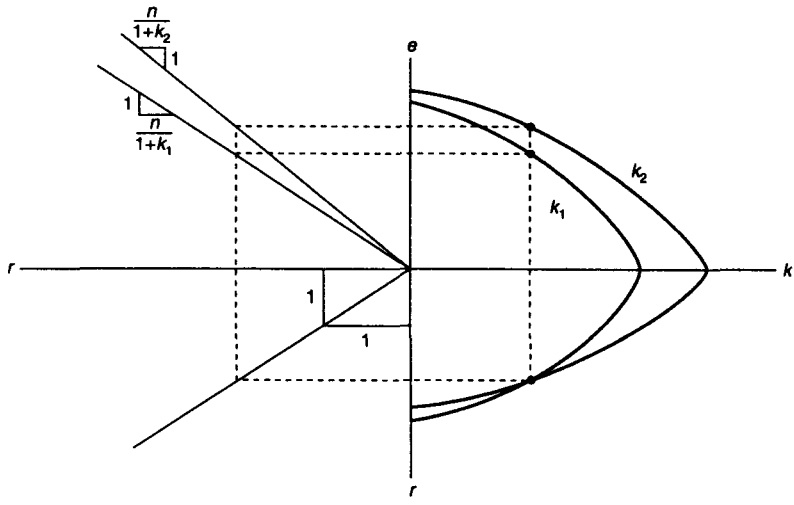

Figure 7.7

then we can say that the rate of profit falls, as accumulation proceeds, while raising the organic composition of capital.

Since the *r*-curves in Figure 7.6 already satisfy such conditions, we may visualise the falling path of the rate of profit as follows. Assume that the organic composition of capital k is fixed. Then, on the corresponding *r*-curve, we may begin the process of accumulation at point **a**. Since $K_a < K_0$, we have $r_k < 0$. This means that the rate of profit would fall, instead of rise, if the organic composition of capital k were raised prematurely. Hence accumulation will proceed along the given *r*-curve from **a** to **b** without a change in the composition. At **b**, however, a state of the excess of capital is reached. For further accumulation along the same curve would reduce the absolute magnitude of profit that capital can earn. Thus, after some destruction of capital, the process of accumulation may resume at **c** on a new *r*-curve, corresponding to a higher organic composition of capital, and continue along the same curve until it reaches **d** where, again, an excess of capital occurs. As capital accumulation proceeds in this fashion, jumping from one *r*-curve to another, the rate of profit tends to fall secularly.

It is quite clear that the non-fulfilment of condition (16e) would bring a halt to capital accumulation. If, indeed, the point of intersection K_0 occurred after K^*, there would be no economically feasible way to move from point **b** to point **c**. In order to foreclose that im-

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passe and to ensure the satisfaction of (16e), we must impose further conditions on the e-function. Define

$$\hat{e}(K) \equiv \frac{e_k}{e} > 0 \tag{17}$$

for any K in $[0, K^*]$. This is the ratio of the variation in the height of the e-curve, when the value composition of capital rises, to the height of the original e-curve (or the measure of a percentage rate of change in e, at a given K, when the value composition of capital rises). Since that ratio is always positive, in its domain of definition, and steadily increasing, its graph in Figure 7.8 is an upward-sloping curve with a positive intercept on the $\hat{e}$-axis. Further impose the condition that

$$\hat{e}(0) < \frac{1}{1+k} < \hat{e}(K^*), \tag{17a}$$

which, I will show, is equivalent to (16e).

Recall that at $K = K_0$ the adjoining r-curves intersect, so that

$$\frac{\partial r}{\partial k}\Big|_{K=K_0} = \frac{ne_k(1+k) - ne}{(1+k)^2}\Big|_{K=K_0} = 0.$$

From this it follows that

$$\hat{e}(K_0) = \frac{e_k}{e}\Big|_{K=K_0} = \frac{1}{1+k}. \tag{18}$$

Hence, if (17a) holds, (16e) follows, and vice versa.

Furthermore, define a function

$$\hat{r}(K) \equiv \frac{r_k}{r} \tag{19}$$

for any K belonging to $[0, K^*]$ parallel to (17). Then it follows that:

$$\hat{r} = \hat{e} - \frac{1}{1+k}, \tag{20}$$

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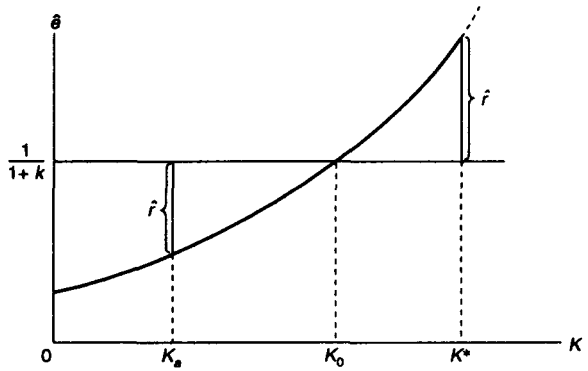

Figure 7.8

as shown in Figure 7.8. But since $\hat{r}(0) < 0$ and $\hat{r}(K^*) > 0$ by (16c), and $r > 0$ always, it follows from (20) that

$$\hat{e}(0) < \frac{1}{1+k}, \qquad \hat{e}(K^*) > \frac{1}{1+k}$$

which are (17a). Hence, (16e) and (17a) are in effect equivalent.

At this point, introduce two definitional statements:

I. If and only if there exists a continuous function $e(K, k)$ on $K \geqq 0$, $k > 0$, satisfying conditions (15a) to (15d), as well as $\hat{e} > 0$, which satisfies (17a), then we say that the process of capital accumulation is "actual."

II. If and only if there exists a continuous function $r(K, k) \equiv ne/(1 + k)$ on $K \geqq 0$, $k > 0$, satisfying properties (16a) to (16e), then we say that the rate of profit declines as capital accumulates.

From the previous arguments, it is obvious that (I) and (II) mutually imply each other, and are indeed equivalent. Thus, the theorem that "the rate of profit falls, if and only if the process of capital accumulation is *actual*" has been established conclusively.

* * *

The secular tendency for the rate of profit to fall is sometimes interpreted as symptomatic of a disintegration of capitalist society itself. Such an interpretation is quite incorrect. The law of the falling rate of profit mirrors, in the capitalist market, the more abstract law of rela-

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tive surplus population which, as explained in the previous chapter (Volume 1, Chapter 6), characterises the actual process of capital accumulation. Capitalist society preserves, rather than destroys, itself by adopting, from time to time, an increasingly more roundabout process of use-value production. Moreover, capitalist society remains quite resilient because it can absorb the impact of technical progress by letting the rate of profit fall. But the rate of profit never falls to zero, bringing capital accumulation to a halt. It is, therefore, quite unwarranted to conclude that either the formation of a relative surplus population or the declining tendency of the rate of profit implies a breakdown of capitalist society. The fall in the rate of profit must rather be interpreted as a sure sign that capitalist society has successfully achieved technical progress, and has thus secured its further development.

We must, however, not overlook the fact that the technical progress relevant to the present discussion has a limited scope. What is claimed here is only that, so long as the main impact of technical progress is limited to the raising of the organic composition of capital, *with no significant side effects*, a purely capitalist society can absorb it by means of its own commodity-economic mechanism. There are cases, however, in which technical progress involves more than a mere rise in the organic composition of the aggregate-social capital. For example, the advent of the new steel-making technology in the late nineteenth century produced effects far beyond a mere increase in the organic composition of capital. It entailed revolutionary changes in the industrial organisation of capitalist society. The effects of such a historically unique event cannot be fully accounted for by a theoretical "law" of capitalism. Thus, in Figure 7.9, two distinct accumulation paths "$\mathbf{a} \rightarrow \mathbf{b}$, $\mathbf{c} \rightarrow \mathbf{d}$" and "$\mathbf{a}' \rightarrow \mathbf{b}'$, $\mathbf{c}' \rightarrow \mathbf{d}'$" are drawn, representing qualitatively different levels of technological development. A historically unique leap from, say, $\mathbf{x}$ to $\mathbf{x}'$ involves no mere quantitative change in k. It is usually accompanied by a long depression and a far-reaching transformation of the industrial structure. The proper context in which such an event is to be explained is economic history or stages-theory, and not pure economic theory.

This is a methodologically important issue, which has been unduly neglected, in the conventional treatment of the law of the falling rate of profit. Rather than establishing the law in the context of a purely capitalist society, the conventional approach endeavours to describe it by appealing to an empirically observable historical tendency of the rate of profit to fall. Since history does not always accurately illustrate theory, the conventional approach is forced to take recourse to the

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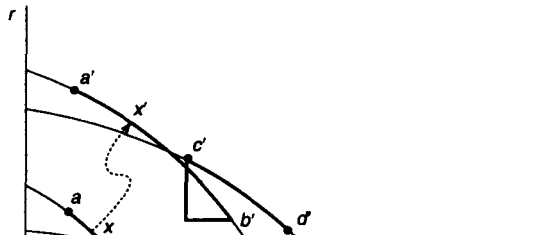

Figure 7.9

"counteracting influences which cross and annul the effects of the general law, and which give it merely the characteristic of a tendency" (Marx, *Capital*, III, p. 232). Marx himself thus lists six such counteracting influences. The present treatment does not deny their importance in concrete-historical studies, but claims that they are irrelevant to the theoretical demonstration of the law. The traditional defence of Marx's failure to establish conclusively "the law as such", on the ground that the "counter-tendencies" are just as important as the law itself, alluding to some arcane significance of "the law of a tendency", is not defensible.

Theory must, in any case, establish "the law as such" in its own context, quite independently of the counter-tendencies. For the latter are bound to be specific to given historical circumstances. They cannot be the same, say, in the England of the 1850s as in the Germany of the 1890s, given that they are dependent on a variety of contingent factors. No theory can take all such contingencies into consideration and claim that a particular factor reduces the effects of the law by such and such an amount. It is for empirical studies of economic history to show why, in a given time and place, the effect of the general law is either magnified or tempered by specific factors. Theory is not meant to explain all contingent empirical facts, but observed facts only insofar as they are the products of an underlying economic logic. The facts rarely exhibit this logic without distortions. Since controlled experiments of social phenomena are impossible, no law of capitalism can be directly observed as it is. It always manifests itself in history, if at all, as a tendency.

The true achievement of Marx, in his restatement of this classical law, is that he repudiated its connection with the law of diminishing returns, which was thought by the classical school to lead capitalism to a stationary state.

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According to Marx, it is not because land becomes less productive, and labour more costly, that the rate of profit falls with accumulation. It is because technology becomes more roundabout, in the course of capital accumulation, that the rate of profit must fall. The falling rate of profit does not imply that capitalism approaches a stationary state; it indicates that capitalism has adopted a more productive technology. This discovery was a magnificent achievement indeed. It is, however, also true that Marx did not conclusively establish the law, having overlooked the $e(K, k)$ function, which has proven to be vital to our demonstration of the law.

7.3.3 The Periodic Recurrence of Economic Crisis

In the first subdivision of this section (7.3) we examined the process by which capital, in pursuit of surplus profit, may inadvertently introduce an innovative method of production, and, in consequence, raise both the rate of surplus value and the organic composition of capital. In the second we established that, if innovations occur in a cluster in the course of capital accumulation, and so raise the organic composition of the aggregate-social capital, then the rate of profit must fall, even though the rate of surplus value simultaneously rises. What remains to be shown is that capital cannot avoid innovations, when it reaches a state of "absolute excess" or "superabundance".

It has already been shown (in Volume 1, Chapter 6) that the accumulation of capital, under a given set of techniques, cannot forever assume the availability of labour-power as a commodity. As the pace of capital accumulation exceeds the natural growth rate of the working population, real wages must rise, reflecting a fall in the rate of surplus value. Thus, the augmentation of value, the sole purpose of capital, sooner or later reaches a stalemate in which a further investment of capital produces no additional surplus value. This is the absolute excess, or superabundance, of capital.

Marx does not depict this phase of capital accumulation with sufficient clarity, mainly because he underestimates the rôle of fixed capital. He fails to emphasise the cyclical alternation of the "widening" phase of accumulation, in which relative surplus population is absorbed, and the "deepening" phase, in which it is generated.

In the capitalist market, the widening phase of accumulation manifests itself as the prosperity phase of business cycles. It must be shown that, in this phase, a society-wide adoption of new techniques is most unlikely to occur. Though it may not be hard to find empirical evidence of technical progress during the prosperity phase, the problem

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must be addressed in a purely theoretical fashion. A new technology which does not involve a greater degree of roundaboutness will be left out of consideration here, since the adoption of such a technology would not raise the organic composition of capital, nor would it reward the innovators with significant extra surplus value. The problem then becomes the following: When the existing plant operates at least as efficiently and profitably as most other plants in the same industry, what compels the capitalist to bear the cost of replacing it with a new plant which embodies a superior technique?

Consider the business climate characteristic of the phase of prosperity. Since the market is generally active and growing, the inventory of produced commodities is being quickly sold. In order not to fall behind others, every capitalist will accelerate his commodity production, even when the profit-rate is falling as wages tend to rise. The greater the volume of production, the faster the value of his plant can be depreciated. The faster-than-usual formation of the depreciation funds will not be disadvantageous, since the rate of interest is also rising. In the meantime, the falling rate of profit is compensated by the greater quantity of profit which can be earned with the expanding output. If the capitalist were to introduce a major innovation at this point, he would have to face the following problems.

First, he would have to allow for the cost of scrapping his existing plant, which works quite as efficiently as anyone else's. *Second*, the depreciation funds so far accumulated would not suffice to undertake a major reconstruction of his plant. Outside funds would, in any case, be expensive in view of the rising rates of interest. *Third*, if a significant part of his accumulation funds had to be earmarked for investment in plants and equipment, the purchase of labour-power and raw materials would be held back by a corresponding amount. That would slow down the current expansion of his output, while allowing competitors to encroach freely upon his established share of the market. It is obvious that no right-minded capitalist would, under these circumstances, risk a major innovation of his plant, unless he had by this time already formed sufficient depreciation and accumulation funds, and was left with a completely obsolete plant. If that reservation applied to a large number of capitalists, however, it would indicate only that the phase of prosperity had not yet begun.

The theory that a rise in wages quickly and automatically leads to the substitution by capitalists of machinery for labour is irrelevant in the present context. Such a "neoclassical" theory entirely overlooks the problem of fixed

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capital. Capitalists who have invested their valuable fortune in fixed capital do not, and cannot, scrap it before it is sufficiently depreciated, just because wages have turned upward. They cannot collectively agree to punish workers, and to "hold their pretensions in check", by introducing more machinery at the first sign that labour markets are becoming tight. Most capitalists, with much at stake and substantial value committed to their fixed capital, do not have the flexibility to quickly substitute machinery for labour-power, when the business cycle enters its prosperity phase.

Innovations may, of course, occur unexpectedly for contingent reasons, or marginally as new firms open for business, even during the period of prosperity. That, however, does not alter the overall picture that the aggregate-social capital tends to abide by the existing technology. Thus, the prosperity phase of business cycles sooner or later ends with an excess of capital.

* * *

A capitalist firm faces an excess of capital when further investment earns no additional profit. That, however, does not mean that its profit-rate has become zero. Suppose, for example, that a capitalist has so far advanced $10,000, on which he earns the annual profit of $1,000. Then he faces an excess of capital when he increases his capital to $11,000 with no increase in profit. In this case, his profit-rate falls from 10 per cent to about 9 per cent, which is still positive. This fact alone hardly explains why he should at this point necessarily cease to accumulate capital. Later, in the theory of rent and interest, however, it will be explained that the capitalist generally cannot retain all of the $1,000 that he earns, in the first instance, as industrial profit. For example, he may be contractually obligated to pay $100 to his landlord every year. He may also have borrowed $5,000 to finance his present operation at the interest rate of 10 per cent. In that case, he is left with only $400, after paying the interest of $500 and the rent of $100.

Suppose that these $400 are divided into a consumption-fund of $300 and an accumulation-fund of $100. Then, in order to make another new investment of $1,000, the capitalist would have to borrow $900, assuming that he has no more accumulation-funds to draw on. If the rate of interest of 12 per cent now applies to this loan, interest charges would rise to $608, and, by the time he pays rent and interest, he would be left with only $292, which sum is not even enough to cover his consumption expenses. Under the circumstances, it would be better for him to maintain a simple reproduction with the capital of $11,000, and perhaps to earn interest on his accumulation-fund of $100.

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However, an individual firm may, for a time, be able to accumulate even beyond the excess of capital, or alternatively it may have to stop accumulation before the onset of an excess of capital. This depends on the movement of the rate of interest. For example, if the rate of interest of 11 per cent is applied to the additional loan of $900, the capitalist's net profit, after the deductions, will be $301, which is adequate for his consumption, in addition to leaving him the accumulation-fund of $1. On the other hand, even if a profit of $50 is earned on the last investment of $1,000, he may be unable to continue accumulation. That will be the case if the interest rate, applied to the new loan of $900, is as high as 16.7 per cent. For, in that case, his interest cost will be $650, which will make his total deductions $750. This amount, deducted from $1,050, will leave just enough to cover the capitalist's consumption expenses.

At this point, it is not possible to say what sort of interest rate the capitalist might be expected to pay for the additional loan of $900, other than that it is likely to be rather close to the rate of profit, and quickly rising. If the rate of interest were materially higher than the rate of profit, no capitalist would bother to convert his funds into productive capital, since he would do much better by lending them for interest. If, however, the rate of interest is only slightly higher than the rate of profit, he may still continue to form real capital, rather than to face the unfamiliar vagaries of the money market. Moreover, during the phase of high prosperity, it is well known that the rate of interest rises very sharply, although the theoretical reason for this fact can only be explained later. With these considerations in mind, we can readily see that no firm can continue to accumulate much beyond the excess of capital.

Even if the additional loan of $900 can be obtained for the interest rate of 11 per cent today, it may not be so easily obtained tomorrow. Moreover, the capitalist of the above example, who realises no profit on his last investment of $1,000, would have done better by lending his accumulation-fund of $100 rather than by using it, together with the new loan, for real capital formation. The other case, in which the capitalist firm abandons accumulation, before the excess of capital has been reached, because the rate of interest is as high as 16.7 per cent for the additional loan, while the rate of profit is merely 9 per cent, must also be considered exceptional. The rate of interest cannot be so high, unless there are other capitalists whose rate of profit is as high or even higher. That simply means that the capitalist in question is operating in an inappropriate field of production, and must seek a more profitable opportunity elsewhere. A firm faces an excess of capital when it cannot solve its problem by moving to another sphere of investment. If, however, the *general* rate of profit is lower than the rate of interest, the two rates cannot diverge too much.

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Let the profit earned by an industrial capitalist in period t be

$$\Pi_t = F_t + iJ_t + H_t, \tag{21}$$

where F_t = fixed deductions, including the consumption expenses of the capitalist, rents, amortisation of past loans, etc; J_t = outstanding loans; i = the rate of interest on the loans; and H_t = the current formation of accumulation-funds. Suppose that the new investment in the following period $t + 1$ must be of a magnitude $\alpha > 1$ times H_t. Then,

$$J_{t+1} - J_t + H_t = \alpha H_t. \tag{22}$$

It follows that

$$\begin{aligned} \Delta\Pi_t &= \Pi_{t+1} - \Pi_t \\ &= [i(\alpha - 1) - 1]\, H_t + H_{t+1}, \end{aligned} \tag{23}$$

where $\Delta\Pi_t = 0$ means that the firm faces an excess of capital, and $H_{t+1} \leqq 0$ that further accumulation is impossible. One can readily deduce from this formula that

(i) if $\Delta\Pi_t = 0$, there exists an i that makes $H_{t+1} \leqq 0$, and
(ii) if $H_{t+1} \leqq 0$, there exists an i that makes $\Delta\Pi_t = 0$.

Indeed, let $H_t = 100$, $\alpha = 10$, as in the above examples. Then, it can be confirmed that $i = 0.1111$ will satisfy both (i) and (ii). Thus, when the rate of profit falls from 10 per cent to 9 per cent, and the average rate of interest (which applies to all loans, old and new) rises from 10 per cent to slightly over 11 per cent, the firm faces an excess of capital, and is obliged to halt further accumulation abruptly.

It is not necessary that all firms face an excess of capital simultaneously in order to set off a crisis. If a few firms in some strategic industries suddenly cease to accumulate, that is enough to wreak great havoc. The unexpected brakes applied to capital accumulation in the main arteries of society's reproductive system inevitably cause serious disruptions in the capitalist market. Many commodities, produced with the expectation of a ready sale, or even, in some cases, held speculatively for a better market, suddenly find few buyers. In the multiplier process of contraction not only do the prices of seemingly "overproduced" commodities fall, but also the scale of social reproduction dramatically

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shrinks, depriving a large number of workers of their employment. Labour-power, too, therefore becomes redundant.

With a crisis, the internal contradictions of the capitalist mode of production break, all at once, into the open. This crisis does not, however, imply an absolute breakdown of capitalism itself. The contradiction between value and use-value, which is always inherent in capitalism, is here made apparent in its most violent and uncompromising form. The capitalist goal of value augmentation comes into open conflict with the provision of the use-values which society needs and wants, given the present set of social and economic parameters. Something must give if capitalism is to survive. This is precisely where technical progress comes to the system's rescue.

* * *

A crisis ruins many capitalists, but not all. The reproduction-process of capital, though it recoils dramatically, is not altogether suspended. Some capitalists always survive at the expense of others, and continue to operate what is left of the reproduction-process. The painful amputations of the reproductive-process, due to the "plethora" of capital, develop the general climate of business depression in which the market prices of many important commodities sink well below their market production-prices and remain rigid there. The protracted stagnation of prices, however, means that the real economy cannot operate under the existing value relations.

Consider a commodity produced with an organic composition of capital which agrees with the social average. Suppose that its market value or market production-price was 5 hours of labour per unit when the reproduction-process was in equilibrium, but that the current money price effectively acknowledges only 4.2 hours of labour. If the cost-price is 4 hours per unit, the capitalists, who produce their commodity at the margin, make the profit of 5 per cent, assuming for simplicity the absence of fixed capital. If, in other industries, the profit-rate is not higher, these capitalists may keep producing the commodity, which requires 5 hours of labour per unit, and may continue to sell it only for a price which covers 4.2 hours of labour. This is a manifest contradiction of the law of value. For 0.8 hours of surplus labour actually performed in the production of every unit of this commodity systematically fails to become surplus value. This, however, more or less represents the state of the economy in a phase of depression.

The only possible solution to the problem is the introduction of a technical change, which will actually reduce the market value (or production-price) of this commodity from 5 to 4.2 hours of labour per unit. If the new technique cuts down the cost-price from 4 to 3.5 hours of labour, the general rate of profit may fall from the previous 25 per cent to 20 per cent, but the entire 0.7

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hours of surplus labour performed on every unit of this commodity is realised as surplus value. If other industries are also technically renovated, and can now properly operate under the general profit-rate of 20 per cent, the working of the law of value will be restored. In other words, capitalism has overcome its internal contradiction, since the real economy is again capable of operating under the new value-relation. The law of capitalism that brings about this renewal of the value-relation, by forcing capital to innovate its technology in the event of an excess of capital, is called the law of the falling rate of profit (or of relative surplus population at a more abstract level). The above example describes the concrete mode of operation by which this law enforces itself.

It is not enough merely to claim, as many do, that the depression itself (characterised by falling prices and wages, the shrinkage of the scale of reproduction and unemployed labour) automatically solves the problem. The fall in the price of labour-power and of means of production indeed reduces the cost-price of many commodities, and may, therefore, appear to have already removed the cause of depression. This, however, is not the case. If the cost-price falls, the price of the product too will fall. Moreover, the cost-price, which in most cases includes the depreciation of fixed capital, cannot be expected to fall in proportion to the product price.

Suppose that the cost-price, exclusive of the depreciation of fixed capital, falls from \$4 to \$2, while the product-price falls from \$6 to \$3 per unit of the commodity. Suppose that the annual output shrinks from 1,000 units to 500 units. Then the profit declines from \$2,000 to \$500, and the cost-price, exclusive of depreciation, from \$4,000 to \$1,000. If fixed capital of a value of \$10,000 is always advanced, of which 10 per cent is counted as annual depreciation, the rate of profit, which was about 13.3 per cent previously, is now drastically reduced to about 4.17 per cent. That is not all. The capitalist, who operates a plant at half its usual capacity, incurs a significant cost in trying to maintain the use-value of that part of productive capital which is now standing idle. If, in addition, the selling period is prolonged, additional circulation and storage costs may have to be borne, even though the volume of commodities to be circulated has decreased. That is hardly the condition in which a new spurt of accumulation can begin. The cause of depression has obviously not been removed by the mere fall of prices.

The depression cannot by itself remove the excess of capital. In order to extricate itself from that condition, capital has no other option than to replace the existing value relation with a new value relation, by means of a *general* restructuring of industry, which involves an improvement in productive technology. Capital, however, cannot introduce a society-wide technical progress with a conscious policy for the promotion of industrial technology. A series of technical changes

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must be automatically introduced, in the course of the intense capitalist competition that characterises the depression phase of business cycles. It is necessary, therefore, to explain why, during this particular phase of business cycles rather than in the prosperity phase, innovations tend to occur in a "cluster".

The business climate in the depression phase is beset by an inactive market, prices that are rigid at a low level and the general contraction of productive activities. Warehouses are filled with unsold commodities, and plants are operating with considerable excess capacity, if they have not altogether ceased to function. Capital, however, maintains its value only when it is in motion. If it stands idle, not only does its value fail to be augmented, but it also tends to be destroyed together with the use-value in which it is temporarily housed. Unsold commodities may go stale, idle machines may rust, and raw materials, kept for too long, may rot or otherwise be spoiled. If commodity-capital and productive capital lose their value in this way, money, lying idle, does not even become money-capital properly speaking.

The destruction of the value of capital, however, is particularly pronounced in the case of fixed capital. The use-value of a shut-down plant cannot be preserved without a prohibitive cost, although the use-value of a plant in operation can be maintained with a negligible cost for repair and inspection. However, if, in the preceding phase of prosperity, the plant was not renovated but depreciated rapidly as output rose, the remaining value of the plant left in the depression period must already be small. In the meantime, if the existing plant, because of its low output level, fails to quickly transfer its remaining value to the product, or, if part of it has been ruined by non-use, its scrap value must have become negligible. In such cases, the behaviour of the capitalist is no longer constrained by his desire to maintain the value of fixed capital.

As the level of output declines and less profit is earned, the current formation of accumulation-funds will be small. However, since not as much labour-power and circulating constant capital need be purchased as before, because of the reduced scale of operation, a considerable amount of money-capital will now be released. It will be recalled that, during the depression period, the demand for loanable funds dramatically fell, and moreover such funds failed to collect reasonable interest in the money market. Thus, together with the depreciation- and accumulation-funds formed in the past, newly spawned idle money-capital will, therefore, be awaiting an investment opportunity.

However, anyone who makes an investment (real capital formation) at this point must do so in such a way as to establish a clear advantage over others. The phase of depression is characterised by intense

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competition among capitals. A mere increase of output in the already over-stocked market might induce some desperate competitors to dump their commodity, which would only aggravate the havoc already present. This, indeed, is the period of the most severe trials for capitalists. At this point, the superior ones may experiment with a new commodity, or alternatively they may try to buy up insolvent firms. But above all they decisively introduce a new technology which will lower the cost-price of the commodity they currently produce. For, by doing so, they entrench themselves securely in an impregnable competitive position, and come back to life like the phoenix from the ashes.

Thus, during the depression phase of business cycles, there gradually emerge a certain number of capitalists who are ready to undertake a major renovation of their plants in a variety of industries. It is not necessary that all of them should at once sally forth in a quest for new adventures. It is only necessary that a few of the capitalists should take the initiative, in reasserting their so-called "animal spirit" in strategic industries. Even a small success revives confidence, as the multiplier effect of expansion begins to work its way through the economy. If the first innovators resume accumulation, usurping a greater share of the market, others cannot remain passive. Those who are ready will promptly follow by innovating their plants, and that makes the position of those left behind with obsolescent techniques even more untenable.

It should not be assumed, however, that the switching of old for new techniques will occur immediately, even at this stage. So long as the fixed capital, which embodies the old technique, remains insufficiently depreciated, and still preserves significant value, it cannot be easily discarded. A certain length of time, proportional to the remaining value of the existing plant, must elapse before the irrevocable displacement of the old technique is effected, as was argued earlier in a more abstract context.

The adoption of a more roundabout method of production by capitalist society may, therefore, stretch over several years. Yet only through this process of fundamental adjustment, does capitalist society re-establish a new value-relation, thereby preserving itself as a self-dependent historical society. For the ensuing rise in the organic composition of capital generates a relative surplus population, and enables capital to accumulate more than was previously possible under the old value-relation. This phenomenon is reflected in the capitalist market as nothing other than the falling tendency of the general rate of profit. The secular fall in the rate of profit, in a purely capitalist society, is thus mediated by the technical progress that preserves capitalism.

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8 Theory of Rent

8.1 DIFFERENTIAL RENT OF FORM I

8.1.1 Land and Landed Property

Capitalism comes into existence when capital meets the direct producers who have already been excluded from land, and establishes a commodity-economic relationship with them by purchasing their labour-power. Land plays no part in this relation, and so remains external to the capitalist production of commodities as value. It is for this reason that the dialectic of capital has thus far neglected reference to land and its ownership (as property) in explicit terms. While irrelevant to the production of commodities *as value*, land is nevertheless indispensable to the production of commodities *as use-values*. Capital must, therefore, forge an appropriate relation with landed property as well. A clear separation of the direct producers from their natural means of production, generically known as land, is a fundamental premise of capitalism. For that alone ensures the conversion of labour-power into a commodity. We must now study how capital relates itself with land and its ownership, in such a way as to preserve that premise.

Landed property in its modern form emerged when the feudal administration of land was eroded in the process of primitive accumulation, which severed the tie between land and the direct producers. In pre-capitalist societies, the direct producers were inseparably wedded to the land such that there was no room for capital to intervene between them. In capitalist society, by contrast, capital does stand between them, and will not permit them to cooperate except through its mediation. Neither land emptied of the direct producers, nor labour-power deprived of access to the natural means of production, can realise the potential productivity of land on its own. Each must rely on capital's "good offices" to come into contact with the other, if they are to cooperate in the production of use-values (see Figure 8.1). Capital's relation with the direct producers, i.e. the relation wherein it buys their labour-power, has already been studied in full detail. Here we need to look at the other side, the relation of capital with landed property.

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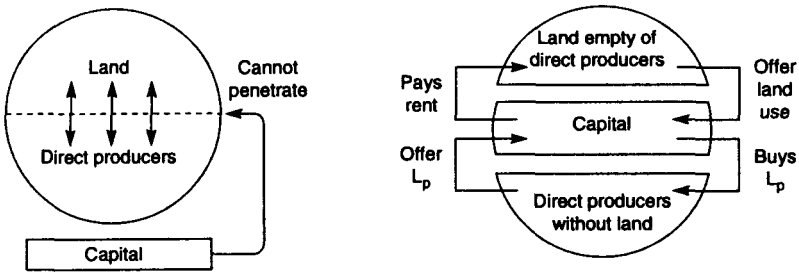

Figure 8.1

In this case, however, the relation does not take the form of trade in land or real estate. The conversion of land into a commodity will be explained later. But even when that occurs, land is not a reproducible commodity in possession of value. Indeed, if capital freely purchased such a pseudo-commodity, part of capital would blend with landed property, and the capitalist market would be fraught with externalities that competition among capitals would not be able to eliminate. The working of the commodity-economy would then be seriously impeded, and the distribution principle of capital compromised. Capitalist society has no alternative but to recognise the existence of landed property as an independent class which is distinct from both labour and capital.

Unable to purchase land as if it were a value-object, capital rents it from landed property for a definite period of time, in order to secure the right to use it as an indispensable factor of production. The reproduction-process of capital must, therefore, tolerate various external constraints which landed property imposes on capital. The theory of rent examines the relation between capital and landed property over the control of land, and, through that relation, the economic functions of landed property in capitalist society.

It must be stressed here, however, that landed property does not have an active principle of its own, and hence that its rationale in capitalist society does not become apparent except from the point of view of capital. The various forms of rent, therefore, cannot be deduced directly from the nature of landed property. It is capital, in its commodity-economic effort to absorb landed property's interference with its production-process, that develops the various forms of ground-rent, and adapts the existing landed property to "the economic form corresponding to the requirements of the capitalist mode of production" (Marx, *Capital*, III, p. 617).

Capital did not create landlordship as such (the legal authority over the administration of land) but only its modern form. The latter shaped

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itself as private landed property after the direct producers had been evicted from land. Given that land had been emptied of the direct producers, and that the landlord could not himself exploit its productive potential, capital had the opportunity to develop the concrete manner by which to integrate land into its process of production of commodities.

It was in the course of primitive accumulation that private landed property was created. The privatisation of land was, in other words, part and parcel of the divorce of land from the direct producers. In pre-capitalist societies, there existed no clear concept of privately owned land. A feudal lord, for example, did not consider his manor to be his private property in the modern sense of the word. A manor consisted not only of land but also of peasants who had certain traditional rights to the use of the land. A modern concept of private property would have been incompatible with the life of a medieval manor. It was only to complete the process of primitive accumulation and to bar the return of the direct producers to the land that it had to be transformed into the exclusive property of a private person (legal owner). For if a sizable portion of the land remained in a condition of uncertain ownership, the direct producers could always return to it, and refrain from selling their labour-power as a commodity. Thus, the conversion of labour-power into a commodity, and the private (commodity-economic) ownership of land, presuppose each other. Just as primitive accumulation itself, they are pre-conditions of capitalism rather than its creations.

Marx's explanation of this issue is not entirely clear to me. He writes, for example, as follows:

> "The monopoly of landed property is a historical premise, and continues to remain the basis of the capitalist mode of production, just as in all previous modes of production which are based on the exploitation of the masses in one form or another. The form of landed property with which the incipient capitalist mode of production is confronted does not, however, suit it. It first creates for itself the form required by subordinating agriculture to capital. It thus transforms feudal landed property, clan property, small peasant property in mark communes – no matter how divergent their juristic forms may be – into the economic form corresponding to the requirements of this mode of production" (*Capital*, III, p. 617).

Evidently he here means by "landed property" something much broader than "the monopoly by certain persons over definite portions of the globe, as exclusive spheres of their private will to the exclusion of all others" (p. 615), or "the legal power of these persons to use or misuse certain portions of the globe"(p. 616), or "the legal view that the landowner can do with the land what every owner of commodities can do with his commodities" (ibid). He should have specified the distinction between the broader and the narrower sense of the word "property", landed or otherwise. I personally prefer to use the word "property" only in the narrower sense of "commodity-economic, private property". For the substantive meaning of non-private "property" is not always clear.

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The economic function of landed property can be clearly exposed only in the context of a purely capitalist society. Marx recognises this point unambiguously at the outset of his treatment of ground-rent (*Capital*, III, pp. 614, 618). However, agriculture which depends directly on the forces of nature (rather than indirectly through already produced value-objects, such as raw materials in manufacturing industries) is not easily amenable to commodity-economic exploitation. Not only is agricultural production bound by seasonal cycles, but its products also lack the uniformity of factory-produced use-values, and are therefore not congenial to the commodity-form. Nature is rich in variety, while the commodity-economy seeks uniformity. Thus, in reality, capitalist agriculture never easily develops. Even in mid-nineteenth century England, agricultural production did not become fully capitalistic. There remained a considerable number of small peasants in that society, and they maintained a variety of traditional customs and practices. Purely capitalist agriculture, therefore, has few empirical approximations if any. Yet, without its presupposition, theory cannot expose the full nature of landed property in capitalist society.

Purely capitalist agriculture must not differ from purely capitalist manufacturing except for the fact that capital rents land, for a specified period of time, from landed property. Agricultural capital must employ wage-workers to produce commodities, in just the same way as manufacturing capital does. It must be assumed then (1) that no landowner invests his own money to engage in farming himself, (2) that capitalist farmers produce agricultural commodities by free choice, responding to commodity-economic parameters, rather than by family tradition or other contingent factors, and (3) that agricultural workers, too, perform essentially simplified labour, expending their productive labour with indifference to use-value considerations. Although contrary cases are in reality quite common, such cases must be viewed as transient phenomena destined to disappear with the development of capitalism, and, hence, as inessential to the formulation of theory.

Marx specifically draws attention to "illustrations of rent representing deductions, on the one hand, from average profit and, on the other, from average wages" (*Capital*, III, p. 620). Thus, even in England in the middle of the nineteenth century, agricultural production was fraught with persistent contingencies. Such contingencies must be seriously studied in their proper context (i.e. in economic history), although these studies will be more fruitful if guided by insights derived from the dialectic of capital, and mediated by the stage-theory of liberal capitalism. They must, however, not be allowed to interfere with the formulation of economic theory itself.

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Purely capitalist agriculture also implies the establishment of normal prices (production-prices) for agricultural goods, i.e. their regulation by value. It must not be thought that the monopoly of the natural means of production by landed property automatically leads to the formation of monopoly prices for agricultural commodities. Although, in reality, some agricultural (as well as manufactured) commodities fail to achieve a normal price (the price at which transactions in the commodity normally occur) for any number of contingent reasons, the definition of capitalism requires that all reproducible commodities be subject to the law of value. That is to say, if the social demand for a commodity varies, its supply must respond to it in such a way as to maintain a capitalistically rational price, i.e. a normal price that reflects the value of that commodity.

If this condition failed to apply to many agricultural commodities, not only capitalist agriculture but also capitalism itself would be impossible. It has already been admitted that conditions which are favourable to capitalist agriculture are rarely present in reality. That should remind us of the fact that capitalism requires very special historical circumstances indeed to come into being. However, if capitalism forms a historical society at all, it must be understood that the prices of many key agricultural goods will be close enough to those which would be achieved in a purely capitalist society, i.e. to their normal or production-prices.

* * *

Natural means of production, generically represented by land, have so far been neglected in the exposition of the dialectic of capital, even though they constitute indispensable elements in the production-process of capital. The reason, as already stated, is that they do not participate in the production of commodities *as value*. That is to say, from the point of view of the value formation and augmentation of capital, land could be safely ignored. Even in the distribution of surplus value as profit among various units of industrial capital (i.e. in the process of the conversion of values into production-prices), land has taken no part. The fact that capital has to pay rent to make use of privately owned and monopolised land does not, in any sense, prevent it from forming and augmenting value in its production-process. Nor does the intervention of landed property in the production-process make any change to value and surplus value, which are already formed. In the distribution of already produced surplus value into profits, in other words, landed property intervenes only in quantitative terms. It does not repudiate capital's distribution principle itself.

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The formation of rent in capitalist society stems not only from the technical peculiarity of land as a productive element, but also from the fact that it is privately monopolised by landed property, and is not free for use by capital. If, as Ricardo supposed, nothing restricted the advance of capital on the least fertile land, absolute rent would not arise, and the amount of differential rent too would be held in check, as will be demonstrated shortly.

In a purely capitalist society, capital must rent land from landowners rather than buying it as a commodity. However, rental contracts are always entered into for a definite period of time. Since capital may freely dispose of any surplus profit in excess of the contractual rent, it always seeks to maximise such a surplus profit. When the contract is renewed, however, landed property can dispossess capital not only of such a surplus profit by converting it into rent, but also of the undepreciated part of land-capital, i.e. fixed capital incorporated into the soil or otherwise inseparably tied to land and immovable. It is, therefore, generally in the interest of landed property to lease land for a shorter period, and in the interest of capital to lease it for a longer period. (On the other hand, if the lease period were too long, the free mobility of capital from agriculture to non-agriculture would be seriously obstructed. If the lease ran for too short a period, little investment in land-capital would be made, and the productive potential of the land would remain unexploited.) Yet, there is no such thing as an economically rational, or optimum, duration of the rental contract.

Although land is restricted in supply, and is therefore privately monopolisable, it is not a product of labour. Therefore, it is, in the first instance, a property which has no commodity-economic rationality. The accumulation of capital in agriculture, in which land is the primary means of production, can, therefore, not be expected to proceed smoothly. Capital must tolerate many things which appear, from its point of view, irrational. This is already apparent in the first form of differential rent, but becomes increasingly so with the appearance of the second form of differential rent and absolute rent.

8.1.2 The Nature of Differential Rent I

Since land is not a product of labour, capital cannot freely and rationally make use of land's natural productivity. This restriction, however, is easily circumvented if capital can produce a value-object in possession of equal or greater productivity. Marx's example of natural waterfalls illustrates this point.

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Let us suppose that, in the production of a particular use-value, both steam-engines and natural waterfalls are employed as sources of energy. Assume that, in other respects, the methods of production are identical, and also, for simplicity, that the value of capital advanced is wholly represented by the cost-price of the commodity. Let many factories equipped with steam-engines produce the commodity at a cost-price of \$100. If the general rate of profit is 15 per cent, their production-price is, of course, \$115, which we suppose to be not only "individual" but also market-regulating. If, on the other hand, there is a small number of capitalists who have privileged access to natural waterfalls, and if they can produce the same commodity with the cost-price of \$90, then their individual production-price is \$103.5 (90×1.15). They earn the surplus profit of \$11.5 by selling the commodity for the market production-price of \$115. In this case, those privileged capitalists can compete with the others, even if they surrender the surplus profit of \$11.5 as rent to the owner of the waterfalls, since they still earn the average profit of \$13.5, which is 15 per cent of their advance of capital of \$90.

However, if some steam-engines are technically improved, and bring down the cost-price of the commodity produced with them to \$90, and if the market-regulating production-price is still \$115, then those capitalists who operate improved steam-engines will also earn the surplus profit of \$11.5. Since this surplus profit does not arise from the exclusive use of natural waterfalls, but merely from the higher quality of the productive elements purchased in the market, those capitalists need not renounce it as rent. Actually all capitalists are free to use improved steam-engines by purchasing them as commodities in the market. The use of the new steam-engine technique will, in consequence, rapidly spread, and depress the market-regulating production-price of the commodity to \$103.5. By this time, however, surplus profits will have disappeared.

In this example, both natural waterfalls and technically improved steam-engines give rise to the same surplus profit of \$11.5, in the first instance. However, the surplus profit convertible into rent and the one inconvertible into rent are fundamentally different. The advantage arising from the use of natural waterfalls is not freely available to capital, since it is not embodied in a commodity that capital can purchase in the open market. It is an external advantage to which capital must secure access by some means other than that of a commodity exchange. Moreover, since that advantage is in limited supply and is capable of being monopolised, only privileged capitalists can arrange to rent it,

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and establish an exclusive right thereto. The advantage derived from an improved steam-engine is quite another matter. Although steam-power by itself is a natural force, it is already embodied in coal and engines, which are value-objects available for purchase in the market to all capitalists. Therefore, no capitalist can establish an exclusive right to exploit the advantage of an improved steam-engine. This technical advantage must eventually belong to all capitalists.

Thus, the indirect utilisation of natural forces through the products of labour must be clearly distinguished from their direct utilisation, which does not permit mediation by value-objects. Industries in which the former is predominant may be generically classified as "manufacturing", and those in which the latter is prevalent may simply be called "agriculture", though the latter should, in the present case, include mining and even some aspects of construction. If surplus profits arise in manufacturing production, they are either strictly transitory or reflective of extra surplus value (quasi-rents). In these cases, they are either immediately or eventually eliminated by the force of capitalist competition. If, on the other hand, surplus profits arise in agricultural production, they often reflect an exclusive advantage in the direct application of natural forces, which are in limited supply and not available to all. These surplus profits, which accrue to some producers but not to others, cannot be internally digested by capital. That is to say, they do not disappear in the course of capitalist competition.

There is no rational commodity-economic principle to determine which capitalists should benefit from such an exclusive advantage, and which ones should not. The only possible solution to this problem of inequality is for capital to divest itself of these surplus profits altogether, by transferring them as rent to landed property, an entity external to capital. To do so, however, implies that labour which has not actually been spent for the production of the commodity, due to the privileged application of natural forces, is reckoned by capital as having been spent, as it would have been in the absence of such advantage. The false social value which capital cannot by itself eliminate through competition is, in other words, removed from it in the form of rent by landed property.

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The above example of energy or power generation, by means either of natural waterfalls or of a man-made steam-engine which burns coal, falls between the indirect utilisation of natural forces typical in manufacturing, and their direct utilisation typical in agriculture. The industries

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which depend on the direct utilisation of natural forces have been generically called "agriculture". Here no technical invention can substitute for the fertility of the soil, the abundance of mine reserves, or the location of a construction site. If surplus profits arise in agriculture in the generic sense, they reflect *permanent* false social value, which must be converted into rent.

"A false social value arises from the law of market-value, to which the products of the soil are subject" (*Capital*, III, p. 661), says Marx. The market value of a commodity is determined, as has already been demonstrated, by the quantity of labour that "society in its capacity of consumer" (ibid.) regards as necessary for the marginal production of that commodity, even if it is not actually expended. Positive or negative surplus profits accrue to those who produce with an individual production-price different from the market production-price. They reflect positive or negative false social value. False social value, however, will be transitory, so long as the technical differences that give rise to it are also transitory, i.e. capable of being either immediately or eventually eliminated by capitalist competition. Only when false social value is permanent will it be frozen into the form of ground-rent.

Let us, in what follows, call all natural conditions that directly affect the production of agricultural commodities "the fertility of land". If surplus profits arise from the differential fertility of land, they are converted into *differential rent of form I* for the following reason. Suppose that landed property were absent, so that all lands were open to cultivation on a first-come-first-served basis. Then capital would, in principle, begin with the cultivation of the most fertile land, and would gradually shift to less fertile lands, as the supply limit of each grade of land is reached. It would, in other words, follow the so-called "descending order". Consequently, the marginal supply of agricultural produce would always occur on the least fertile land. In this case, however, capital would be unable to abide by the law of average profit, since surplus profits arising permanently on better lands would not be transferable to landed property.

If, by contrast, landed property exists, the "descending order" will not, in general, be followed. Yet lands which vary in fertility will still be simultaneously cultivated if the social demand for the agricultural product is not fully satisfied by its output on any one grade of presently cultivated land. "Society in its capacity of consumer" must, in that case, be prepared to pay the production-price of the commodity produced on the least fertile land. For, otherwise, capitalists operating on the least fertile land would earn a negative surplus profit perma-

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nently. It would be in stark contradiction to the law of average profit to suppose that some capitalists would be willing to permanently forgo average profit in agriculture.

Therefore, the market production-price of an agricultural commodity is always determined by the least efficient method of production (i.e. the method which involves the least fertile land). That is the case even when the marginal supply response to variations in the social demand occurs on land of superior quality. In the presence of landed property, the marginal supply of an agricultural commodity in response to changes in social demand cannot be regulated by capital alone. It is the landlord who decides, at the renewal of the rental contract, to either extend or contract the supply of his land for cultivation. Whether he increases the supply of superior land, or offers land of inferior quality, depends on purely contingent circumstances and cannot be rationally predicted. The market production-price of an agricultural good cannot, therefore, be determined by the most responsive technique, as would be the case if capital were free to choose any technique (fertility, in this case).

The fact that the market-regulating production-price of an agricultural good is determined at the least efficient margin means that capital cannot improve on the nature-imposed efficiency of the method of production, or the fertility of land. If the method of production were not constrained by nature, and hence were capable of being improved upon by capital, the law of market value would work quite differently. In that case, competition would apply a harsh discipline on the technically inferior capital, depriving them of average profits. The law of market value does not allow capital to slacken off in its pursuit of technical excellence, so long as no outside restriction makes it impossible. The same law, however, recognises the inability of capital to change nature, and enables all capitals to earn an average profit, if they must operate on lands of differing fertilities to produce the socially necessary output of an agricultural good. This important point is overlooked in the fallacious generalisation of the descending order.

The fact that the market-regulating production-price of an agricultural good must be determined on the least fertile land does not warrant the false conclusion that the market-regulating production-price of a manufactured good should also be determined by the least efficient technique, or that the marginal technique is always the least efficient one. The descending order in the sense of chronological sequence, in which an inferior technique is adopted only after a superior one has been exhausted, is false even in agriculture. As has already been shown, the reason why agricultural prices are determined on the least

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fertile land has nothing to do with the descending order in that sense. Even if an ascending order is followed, that is to say, even if an increasingly better land is brought into cultivation, as the demand for an agricultural product expands, its price is still regulated on the least fertile land simply because capital cannot, by competition, eliminate the differences in the fertility of lands. Of course, lands (or techniques) can always be re-arranged in the descending, or decreasing, order of fertility (efficiency), so that a less fertile land (efficient technique) follows, or is placed next to, a more fertile (efficient) one. An abstract ordering of this sort, however, has no chronological implication. That kind of non-chronological ordering or arrangement will be used in what follows.

* * *

Suppose that, in a capitalist society, there are four types of land, A, B, C, D, which are arranged in order of increasing fertility, one acre of each being cultivated to produce wheat. This theoretical "acre" may be considered equal to a suitable multiple of the ordinary acre. Suppose also that capital of $K = K_i$ (i = A, B, C, D) = 50 (in appropriate monetary units such as thousand dollars) is always advanced per acre of each land. Define the land-fertility index $t \in [0, 1]$ to be any number between 0 (no fertility) and 1 (the maximum conceivable fertility), so that t_i (i = A, B, C, D) is a pre-selected number between these two extremes. The particular way in which the selection is made of four numbers, t_i, will be called the *fertility distribution* and will be represented by s. For example:

$$
\begin{array}{lll}
s_0\text{:} & s_1\text{:} & s_2\text{:} \\
t_A = 0.2, & t_A = 0.2, & t_A = 0.2, \\
t_B = 0.4, & t_B = 0.3, & t_B = 0.5, \\
t_C = 0.6, & t_C = 0.5, & t_C = 0.7, \\
t_D = 0.8; & t_D = 0.7; & t_D = 0.9;
\end{array}
\qquad (1)
$$

represent three different fertility distributions. As a matter of convenience, I have assigned the fertility index of $t_A = 0.2$ for the least fertile land-A in all of these three cases. Here s_0 represents the case in which the fertility distribution of the four types of land is quite even, s_1 the case in which it is skewed somewhat towards the lower end, and s_2 the case in which it is somewhat skewed towards the higher end.

If the cultivated area, X_i (i = A, B, C, D), of each land type is the same, the economy with the s_2-distribution is clearly the most productive, and that with the s_1-distribution is the least productive of the three cases. Of course, we can think of infinitely many variations other than the three cases quite arbitrarily selected above for illustration.

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We need, however, only a few typical examples to explain our theory.

Next, define a continuous function, $a(t)$ on $t \in [0, 1]$, such that $a'(t) > 0$ which is to represent the productivity per acre of land, say, in bushels of wheat, given the standard dose of investment, for all possible fertility measures. Again, out of infinitely many possibilities, let us choose the following three as typical cases:

$$\begin{aligned} a_0(t) &= 25t + 5, \\ a_1(t) &= 10t + 8, \\ a_2(t) &= 40t + 2. \end{aligned} \tag{2}$$

If we take a_0 as standard, a_1 represents the case in which productivity rises more slowly, and a_2 the case in which it rises more rapidly, with an increase in the fertility index. For simplicity, these examples are all linear and are so chosen as to equal 10 when $t = 0.2$.

Combining s and $a(t)$, we find cases such as the following:

s_0 & $a_0(t)$	s_0 & $a_1(t)$	s_1 & $a_2(t)$
$a_0(t_A) = 10,$	$a_1(t_A) = 10,$	$a_2(t_A) = 10,$
$a_0(t_B) = 15,$	$a_1(t_B) = 12,$	$a_2(t_B) = 14,$
$a_0(t_C) = 20,$	$a_1(t_C) = 14,$	$a_2(t_c) = 22,$
$a_0(t_D) = 25,$	$a_1(t_D) = 16,$	$a_2(t_D) = 30.$

(3)

I shall not list the six other cases, which can be derived similarly from (1) and (2).

The output of wheat from each type of land is then equal to:

$$Y_i = a(t_i)X_i, \quad i = A, B, C, D, \tag{4}$$

although, in the first instance, we shall assume that

$$X_A = X_B = X_C = X_D = 1.$$

Finally, let us suppose that the general rate of profit is 20 per cent ($r = 0.2$). Then the cost of production (i.e. the money value of capital advanced *plus* average profit on it) of the farmers who invest $K = 50$ per acre must equal $(1 + r)K = 60$. Thus, if p is the production-price of wheat, it must be consistent with the relation

$$pa(t_A) - (1 + r)K = 0, \tag{5}$$

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since no differential rent of form I should arise on the least fertile land-A. If we suppose the combination, s_0 & $a_0(t)$, we find that $p = 6$, since $a_j(t_A) = 10$, $j = 0, 1, 2$.

The differential rent of form I on land-i (i = A, B, C, D) is defined by

$$R_i = [pa(t_i) - (1 + r) K] X_i, \tag{6}$$

where $X_i = 1$ for all i; and total rental revenue is

$$R = R_A + R_B + R_C + R_D, \tag{7}$$

where $R_A = 0$ always. For example, if the fertility-distribution-and-productivity combination s_0 & $a_0(t)$ is chosen, and if $p = 6$, then we have

$$R_B = 30, R_C = 60, R_D = 90, \text{ so that } R = 180.$$

If the combination s_1 & $a_1(t)$ is selected, and if $p = 6$, then we have

$$R_B = 6, R_C = 18, R_D = 30, \text{ so that } R = 54.$$

If the combination s_1 & $a_2(t)$ is selected, and if $p = 6$, then we have

$$R_B = 24, R_C = 72, R_D = 120, \text{ so that } R = 216.$$

The magnitude of total rent clearly depends on the fertility distribution and the productivity curve. By experimenting with various cases, we can conclude as follows. Given the fertility distribution s, total rent (in money, R, in kind, R/p, per acre, R/X, and per capital invested, R/K) will be the higher, the more steeply the productivity curve, $a(t)$, rises. Also, given the productivity curve, $a(t)$, total rent (in money, in kind, per acre, and per capital invested) will be higher the more skewed the fertility distribution is to the higher end.

It is, however, the effect of the market-regulating production-price, p, of wheat on rent that is the most interesting. Let us assume the same fertility-distribution-and-productivity combination, s_0 & $a_0(t)$, prevail without change from this point on. If $p = 6$, all the four types of land (one acre each) are cultivated:

$$X = X_A + X_B + X_C + X_D = 4, \tag{8}$$

total output is

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Table 8.1

p	Y_A	Y_B	Y_C	Y_D	Y	pY	K	$(1+r)K$	X	R	R/p	ϕ	ρ
2.4				25	25	60	50	60	1	0	0	0	0
3			20	25	45	135	100	120	2	15	5	7.5	0.15
4		15	20	25	60	240	150	180	3	60	15	20	0.4
6	10	15	20	25	70	420	200	240	4	180	30	45	0.9

$$Y = Y_A + Y_B + X_C + X_D = 70, \tag{9}$$

which is sold for $pY = 420$. The cost of production is $K(1 + r) = 240$, and total rent is $R = 180$. If the market-regulating production-price of wheat falls to $p = 4$, land-A goes out of cultivation, since (5) becomes impossible. At that point land-B must instead become the least fertile land in cultivation, since

$$pa(t_B) - (1 + r)\,K = 0 \tag{5'}$$

is satisfied with $a_0(t_B) = 15$ of (3). If the price falls further to $p = 3$, land-B also goes out of cultivation, and land-C becomes the least fertile land in cultivation. Table 8.1 shows how different variables are affected by changes in the production-price of wheat. In this table, total rental revenue per acre of cultivated land, R/X, is denoted by ϕ, and that per money value of capital invested, R/K, or the rent-rate, is written ρ. The table shows that, as p rises, not only R and R/p, but also ϕ and ρ increase unambiguously.

8.1.3 The Regulation of Arable Land and Rent

So far it has been assumed that only one acre of each type of land can be cultivated. That, however, is an overly restrictive assumption. Let us suppose that the market price of wheat rises to $p = 7$ because of a greater social demand for wheat, but that it will be brought down to $p = 6$ if the cultivated area of some lands is extended to enable a sufficient increase in the production of wheat. How this required extension of cultivated acreage occurs is, however, not under capital's control, nor is it in any way predictable from the point of view of capital.

Suppose that the market is initially in equilibrium with $p = 6$, $X = 4$ and $Y = 70$, when the market price of wheat rises to $p = 7$. Clearly, the present output of wheat $Y = 70$ does not satisfy the social demand for it. Let us, therefore, suppose that, if the production increases to

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$Y = 80$, the market price reverts to $p = 6$, which is the individual production-price of wheat on land-A. Since the latter is the least fertile land, $p = 6$ is also the market-regulating production-price. Recall that the combination of fertility distribution and productivity is always assumed to be s_0 & $a_0(t)$. If ΔX_i is the change in the cultivated acreage of land-i (i = A, B, C, D), then the required increment, $\Delta Y = 10$, of wheat production must satisfy the relation

$$10\Delta X_A + 15\Delta X_B + 20\Delta X_C + 25\Delta X_D = \Delta Y = 10.$$

Under the assumed *s* & *a* combination, land-A produces 10 bushels per acre, land-B produces 15 bushels per acre, etc. Hence, any set of numbers $(\Delta X_A, \Delta X_B, \Delta X_C, \Delta X_D) \geqq (-1, -1, -1, -1)$ that satisfies the above equality can make the adjustment.

It is obvious that the supply of land must increase somewhere (ΔX_i cannot all be non-positive). It is, however, not possible to determine *a priori* which land-types expand and to what extent. That will depend on how landed property responds to the capitalist demand for an extended use of land. In the theory of differential rent (as distinct from absolute rent), we assume that landed property meets this demand in one way or another. Even then, the exact manner in which it does so can never be rationally predicted. In the present case, there are infinitely many possibilities in the adjustment of the acreage of wheat production, over the four land-types, which are consistent with the provision of $\Delta Y = 10$, all depending on the particular way in which landed property reacts to the capitalist demand.

For example, if capital is not allowed to till any more of the better lands, B, C, D (i.e. $\Delta X_B = \Delta X_C, = \Delta X_D = 0$), the entire increment of wheat $\Delta Y = 10$ must be produced on the least fertile land-A, the cultivation of which must expand by one acre: $\Delta X_A = 1$. If, on the other hand, the owners of land-types A, B, D will not permit any further cultivation of their land ($\Delta X_A = \Delta X_B = \Delta X_D = 0$), but the owners of land-type C alone do allow the expansion by half an acre of their land: $\Delta X_C = 0.5$, then the required increment of wheat production $\Delta Y = 10$ is made possible. In some cases it is conceivable that the cultivation of some land types is contracted, and others expanded, so as to secure the required increment of production, $\Delta Y = 10$, on the whole. (The only case that is excluded here is the total elimination of land-A to be compensated by extensions of other land-types. For that would conflict with the assumed restoration of $p = 6$ as the market production-price.)

Under the circumstances theory can only compare the effects of several broadly classified "typical cases". Let us consider the following three:

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Table 8.2

	Y_A	Y_B	Y_C	Y_D	Y	pY	K	$(1+r)K$	X	R	R/p	ϕ	ρ
(0)	10	15	20	25	70	420	200	240	4	180	30	45	0.9
(1)	20	15	20	25	80	480	250	300	5	180	30	36	0.72
(2)	11.4	17.1	22.9	28.6	80	480	228.6	274.3	4.57	205.7	34.3	45	0.9
(3)	10	15	20	35	80	480	220	264	4.4	216	36	49	0.98

(1) only the least fertile land expands, i.e. $\Delta X_A = 1$, $\Delta X_B = \Delta X_C = \Delta X_D = 0$; (2) all land-types expand uniformly, i.e. $\Delta X_i = 1/7$, i = A, B, C, D; and (3) only the most fertile land expands, i.e. $\Delta X_D = 0.4$, $\Delta X_A = \Delta X_B = \Delta X_C = 0$. In all these cases, the production of wheat is greater by $\Delta Y = 10$, than in the original situation, to which we shall refer to as (0). Table 8.2 compares the three cases and the original situation. The market production-price of wheat is $p = 6$, before and after the increase of output.

In order to produce more wheat, it is, of course, necessary that both the cultivated area, X, and the advance of capital, K, should increase. Total rental revenue, R, also increases with the exception of case (1). In this case, the increase in K and X with constant R reduces both the rent per acre, ϕ, and the rent-rate, ρ. In the case of a uniform expansion (2), these two ratios remain constant. If cultivation expands on the best land as in case (3), total rent, R, rises by 20 per cent, but both the acreage, X, and the advance of capital, K, increase by only 10 per cent, so that the two ratios rise. Total rental revenue, in both physical and money terms, remains constant in case (1), and rises most conspicuously in case (3). From this, it can be inferred that, if the market production-price of wheat is held constant when its output increases, the extent to which total rental revenue rises is the greater, the better the quality of land on which extended cultivation occurs.

In the usual demand-and-supply curve analysis of the kind illustrated in Figure 8.3 (the left-hand panel), none of these concrete circumstances becomes apparent. They are hidden behind the shift of equilibrium point from α through β to α', i.e. from $(p, Y) = (6, 70)$ through (7, 70) to (6, 80).

* * *

When the arable land contracts rather than expands, a new complication arises. Let us suppose that the demand for wheat declines, so that $Y = 70$ can be sold only for the market price of $p = 5$, but that the

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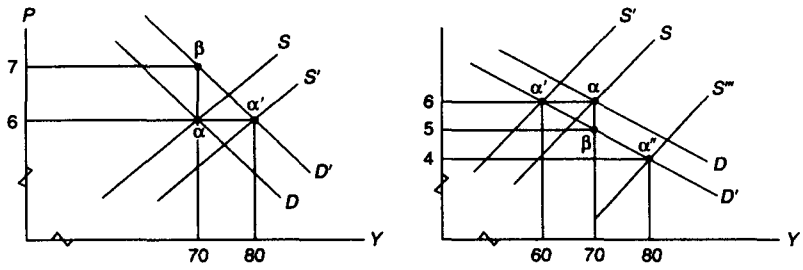

Figure 8.2

reduction of output to $Y = 60$ makes the restoration of $p = 6$ possible. In this case, acreage-variations must satisfy the relation

$$10\Delta_A + 15\Delta X_B + 20\Delta X_C + 25\Delta X_D = -10 = \Delta Y,$$

for the maintenance of $p = 6$. The combination s_0 & $a_0(t)$ continues to be assumed.

In this case, it will be noticed, the required adjustment cannot be wholly accomplished on land-A alone, without excluding that land altogether from cultivation. Indeed, if the above requirement is satisfied with $\Delta X_A = -1$, $\Delta X_B = \Delta X_C = \Delta X_D = 0$, land-A will entirely drop out, since originally only one acre of it was in cultivation ($X_A = 1$). If, however, land-B then becomes the least fertile land in cultivation, the price of wheat must drop to $p = 4$. Such a low price could possibly create a demand for wheat of, say, $Y = 80$. Thus, in what follows, I shall illustrate two distinct adjustment processes. The first is the process of adjustment such that the output declines to $Y = 60$ and the price of $p = 6$ is restored. In terms of Figure 8.2 (the right-hand panel), it is the shift of equilibrium from α through β to α', i.e. from $(p, Y) = (6, 70)$ through $(5, 70)$ to $(6, 60)$. The second is the process in which the output expands to $Y = 80$, and the price falls to $p = 4$. In terms of the diagram, it is the shift of equilibrium from α through β to α'', i.e. from $(p, Y) = (6, 70)$ through $(5, 70)$ to $(4, 80)$. Both processes are possible, depending on the relation between capital and landed property.

For the first adjustment process, consider the following three typical cases: (1) the adjustment occurs mainly on less fertile lands, i.e. $\Delta X_A = \Delta X_B = -0.7$, $\Delta X_C = \Delta X_D = 0$; (2) it involves a uniform contraction of all land-types, i.e. $\Delta X_i = -1/7$ (i = A, B, C, D); (3) it occurs only on the best land, i.e. $\Delta X_D = -0.4$, $\Delta X_A = \Delta X_B = \Delta X_C = 0$. Table

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Table 8.3

	Y_A	Y_B	Y_C	Y_D	Y	pY	K	$K(1+r)$	X	R	R/p	ϕ	ρ
(0)	10	15	20	25	70	420	200	240	4	180	30	45	0.9
(1)	3	12	20	25	60	360	155	186	3.1	174	29	56.1	1.12
(2)	8.6	12.9	17.1	21.4	60	360	171.4	205.7	3.43	154.3	25.7	45	0.9
(3)	10	15	20	15	60	360	180	216	3.6	144	24	40	0.8

Table 8.4

	Y_A	Y_B	Y_C	Y_D	Y	pY	K	$(1+r)K$	X	R	R/p	ϕ	ρ
(0)	10	15	20	25	70	420	200	240	4	180	30	45	0.9
(1)	0	27	28	25	80	320	210	252	4.2	68	17	16.2	0.32
(2)	0	20	26.7	33.3	80	320	200	240	4	80	20	20	0.4
(3)	0	15	25	40	80	320	192.5	231	3.85	89	22.3	23.1	0.46
(0′)	0	15	20	25	60	240	150	180	3	60	15	20	0.4

8.3 compares the results of these three cases with the original situation, which is again labelled (0). This table shows results which are more or less the opposite of those in Table 8.2. That is to say, with the decrease in the production of wheat, both the advance of capital, K, and the cultivated acreage, X, diminish, and total rent, R, decreases least in case (1), and most in case (3). The two ratios, ϕ and ρ, are unchanged in the case of uniform contractions (2), but they rise in case (1), and fall in case (3).

Now consider the second adjustment process. Since, in this case, land-A drops out of cultivation entirely ($\Delta X_A = -1$), the output, $Y_A = 10$, disappears ($Y_A - 10\Delta X_A = 0$). In order to maintain the production-price of $p = 4$, the output of wheat must expand from $Y = 60$ to $Y = 80$. Therefore, the adjustment must take place on lands of type B, C, D, in such a way as to satisfy the relation

$$15\Delta X_B + 20\Delta X_C + 25\Delta X_D = 20 = \Delta Y.$$

Let us again consider the three typical cases: (1) the burden of adjustment falls on lands of inferior type, i.e. $\Delta X_B = 0.8$, $\Delta X_C = 0.4$, $\Delta X_D = 0$; (2) the burden falls uniformly on lands of types B, C, D, i.e. $\Delta X_i = 1/3$ (i = B, C, D); (3) the burden falls on lands of superior types, i.e. $\Delta X_B = 0$, $\Delta X_C = 0.25$, $\Delta X_D = 0.6$. Table 8.4 summarises the results of these cases and compares them with the original situation (0).

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It should be remembered that $p = 6$ in (0) and $p = 4$ in (1), (2) and (3). The fall in the market production-price reduces total rental revenue (in money, R, in physical terms, R/P, per acre, ϕ, and per capital invested, ρ), most conspicuously in case (1) and least so in (3). In comparison to the third row of Table 8.1, reproduced here as case (0′), however, rental revenue (in terms of both R and R/p) increases with an increase in the production of wheat, and more conspicuously so as a greater burden of adjustment falls on better lands. As for ϕ and ρ, they remain unchanged in case (2), fall in case (1) and rise in case (3).

* * *

Thus, if a market price such as $p = 5$ arises between the two individual production-prices $p = 6$ and $p = 4$, because of an autonomous shift in the demand for wheat, the new equilibrium may be either $(p, Y) = (6, 60)$ or $= (4, 80)$. It is not possible to say which is capitalistically more rational, since the choice depends entirely on the unpredictable reaction of landed property. Whatever is the case, the relationship between capital and landed property can vary in many different ways, and cannot be determined by capital alone. In other words, capital must operate under uncertain constraints that landed property imposes on it. It may be thought that a more deterministic argument is desirable, and should indeed be possible if we assume competition among revenue-maximising landlords. With that assumption, however, the whole significance of landed property in capitalist society, as an external entity confronting capital, would be lost.

Landed property is *not* a chrematistic form of value augmentation, nor does it operate with the commodity-economic rationality characteristic of capital. The reactions of landed property, in the regulation of arable land, are for capital essentially irrational contingencies which it must adapt to, while pursuing its own principle of maximal value augmentation. Therefore, the accumulation of capital in agriculture is not an easy course, nor is it free from external interventions and disturbances.

In discussing differential rent of form I, economists frequently assume the descending order, i.e. the thesis that the best land should first be exhaustively cultivated before the second fertile land is brought into use. This thesis, as already stressed, is a fallacy. Yet we should also notice that it is, in some sense, capitalistically rational. For, in the absence of landed property (as in colonial agriculture, for example), capitalist farmers may wish to proceed in that order. It must be stressed, however, that landed property does not share that kind of

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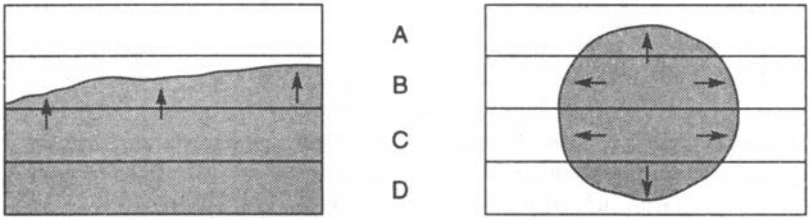

Figure 8.3

capitalist rationality. Unlike profits, ground-rents are revenues which are not meant to be converted into capital. Rental revenues, in principle, only provide for the consumption of landowners. Therefore, if a certain living standard of the landowning class is already attained with the present rental revenue, there is no reason why landlords should seek its unlimited maximisation. Even capitalists do not maximise their consumption-funds. Revenues inconvertible into capital should be "adequate", but need not be "maximal". They are the object of what H. A. Simon called "satisficing" (satisfice = satisfy + suffice), and not of "maximising".

Thus, a rich landlord in possession of fertile land may have no intention of renting it all out for capitalist cultivation, while a poor one whose land is lean may be under great pressure to rent as much of it as possible to tenant farmers. Therefore, if an agricultural region has equal-sized expanses of the four types of land A, B, C, D, the area under cultivation (shaded) will not be distributed as in the left-hand panel, but rather as in the right-hand panel, of Figure 8.3.

In the theory of rent, it is important not to confuse the natural limitation in the supply of land and the existence of landed property. For example, the supply of the best-quality land (land-D) is naturally limited. Whence it may be inferred that, if the social demand for wheat is greater than can be provided on land-D alone, the next best land (land-C) must be brought into cultivation. That, however, is capitalist inference. We must not forget the fact that both types of land are privately owned, and that the owners' convenience may be quite at variance with capital's wish. Yet, it is impossible for capital to abolish private landed property since the latter ensures the commodification of labour-power, the very foundation of capitalism. Therefore, capital must tolerate willy-nilly the presence of landed property, no matter how difficult it may be to come to terms with its non-capitalist behaviour.

With differential rent of form I, capital has established its first contact with landed property. In this form, only the least objectionable

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function of landed property, as viewed by capital, is exposed. That is the function of converting surplus profits, arising from inequalities in the natural conditions of production, into rent. In this way, landed property merely assists capital in achieving the equality in competition, which it cannot itself ensure. The activity of landed property is, therefore, quite passive, in that it collects, in this form of rent, the surplus profits which capital voluntarily surrenders. Even when the demand for wheat increases, landed property does not as yet actively exploit the inflation of the price. Instead, it always concedes to capital, and makes as much acreage of land as necessary available to it, so as to uphold the production-prices of agricultural commodities already determined in the capitalist market. Only the manner in which it allows the extension of arable lands is contingent, and thus exposes capital to uncertainties. The situation changes, as we move to the next form of rent.

8.2 DIFFERENTIAL RENT OF FORM II

8.2.1 The Nature of Differential Rent II

So far it has been assumed that a fixed dose of capital (such as $K = 50$) is advanced per acre of land, regardless of its fertility, for the production of wheat. The optimum advance of capital on a given area, however, varies with the fertility of the land. Often more capital can be advanced lucratively on more fertile land than on less fertile one. Although the actual advance of capital may not always be equal to its optimal advance, there is nevertheless a tendency for the former to converge to the latter in the long run. The consideration of this fact introduces the second form of differential rent.

In order to develop the following argument, it is convenient to formalise the relationship between the output of wheat and the money value of capital advanced per acre of land of given fertility as

$$Y_i = f_i(K_i), \qquad i = A, B, C, D. \tag{10}$$

The graph of these relations, f_i, may be assumed to exhibit the tendency towards diminishing marginal productivity. Even though the marginal productivity of capital may rise for a small value of K_i, it will eventually fall after a certain level of K_i is passed. This is only to be expected, as more and more capital is supposed to have been advanced on a given space of land.

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The relations f_i stipulated above may be thought to have the same property as what orthodox economics calls the total product curve of capital, except that, in the present case, capital is measured in money terms. In reality, they are not free from local irregularities. That is one of the reasons why Marx persistently opposed Ricardo's "law of diminishing returns". It is not, however, reasonable to reject even a global and eventual tendency for the marginal productivity of capital to decline. For, if that tendency were absent, one acre of land would be able to produce any desired quantity of wheat, so long as enough capital was advanced on it. That would contradict the proposition that land is a natural means of production limited in supply and susceptible of monopolisation by landed property. Indeed, in the absence of even a global tendency for the marginal productivity of capital to fall, the capitalist can produce any desired amount of wheat in his own backyard, so that the monopolisation of land by landed property would not restrict agricultural production. In such a case, landed property and rent would become theoretically irrelevant. Consequently, it makes sense to accept that the mathematical properties $f_i' > 0, f_i'' < 0$ apply to the relations f_i (i = A, B, C, D).

For an empirical study of agricultural production, it is important to allow for local irregularities of the relations, f_i, but theory must not be overburdened with inessential complications. I, therefore, assume the following "smooth" curves for the capital productivity functions per acre of land-types A, B, C and D, respectively. Let

$$Y_i = f_i(K_i) = h_i(\sqrt[3]{K_i - 44.44} + 3.542), \quad i = A, B, C, D, \tag{11}$$

whose numerical constants (h_i) shall be specified as

$$h_A = 1.8830,\ h_B = 2.8245,\ h_C = 3.7660,\ h_D = 4.7075. \tag{12}$$

These curves are graphed in Figure 8.4:

The left-hand panel of Figure 8.4 shows that $Y_A = 10$, $Y_B = 15$, $Y_C = 20$, $Y_D = 25$, when $K_i = 50$ (i = A, B, C, D), and that $Y_A = 13.855$, $Y_B = 20.782$, $Y_C = 27.710$, $Y_D = 34.637$ when $K_i = 100$ (i = A, B, C, D). The theory of differential rent of form I compared the differential productivity of the existing lands, at an arbitrarily given level of advance of capital such as $K_i = 50$ or $K_i = 100$. In contrast, the theory of differential rent of form II compares the differential productivity of the existing land-types, at the optimal levels of the advance of capital on them.

* * *

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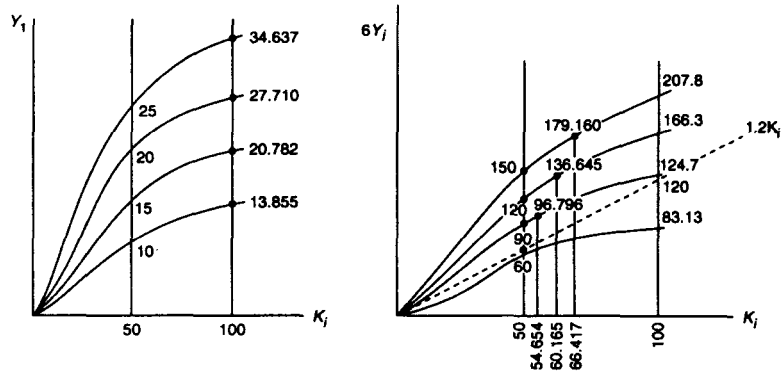

Figure 8.4

The optimal advance of capital for each land-type is obtained by maximising the expression

$$pY_i - (1 + r)K_i = pf_i(K_i) - (1 + r)K_i,$$
$$i = A, B, C, D, \tag{13}$$

which represents surplus profits, given the production-price, p. Here again, it is, in the first instance, assumed that the individual production-price on the least fertile land-A constitutes the market-regulating production-price, and that the general rate of profit is $r = 20$ per cent. Since no differential rent arises on the least fertile land, it follows that

$$pY_A = pf_A(K_A) = (1 + r)K_A. \tag{14}$$

For example, if $K_A = 50$, then $p = 6$ satisfies this relation. Indeed we readily see that $Y_A = 10 = f_A(50)$, and so $6Y_A = (1 + r)K_A = 60$.

Let us now assume that $K_A = 50$ is the optimal advance of capital on the least fertile land, so that the market-regulating production-price is $p = 6$. Then the revenue functions can be written as

$$pY_i = m_i(\sqrt[3]{K_i - 44.44} + 3.542),$$
$$m_i \equiv ph_i, \quad i = A, B, C, D, \tag{15}$$

where

$$m_A = 11.298,\ m_B = 16.947,\ m_C = 22.596,\ m_D = 28.245. \tag{16}$$

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These curves are illustrated in the right-hand panel of Figure 8.4, together with a straight line from the origin with the slope equal to $1 + r = 1.2$.

Then the maximisation of

$$m_i(\sqrt[3]{K_i - 44.44} + 3.542) - 1.2K_i, \quad i = A, B, C, D, \tag{13'}$$

determines

$$K_i = 44.44 + \sqrt{\left[\frac{m_i}{3.6}\right]^3}.$$

Whence we derive

$$K_A = 50,\ K_B = 54.654,\ K_C = 60.165,\ K_D = 66.417$$

as the optimal advance of capital on each land-type, when the market-regulating production-price is $p = 6$. The right-hand panel of Figure 8.4 shows that the distance between the curves $6Y_i$ and the straight line $1.2K$ from the origin is the greatest at the above values of K_i ($i = A, B, C, D$).

On the least fertile land-A, the average profit of 20 per cent cannot be earned by any advance of capital other than $K_A = 50$. Therefore, $K_A = 50$ is, without question, the optimal advance of capital on it. On more fertile land-types, B, C, D, there are K_i's for which $pY_i > (1 + r)K_i$, and the differences are potentially convertible into rent. For example, for $K_i = 50$ ($i = B, C, D$), the surplus profits of 30, 60, 90 arise on these lands. They are convertible into differential rent of form I. If, however, the rental contracts are already in force with these rents payable, capitalist farmers who realise more surplus profits can pocket the difference. For example, on land-type B the advance of capital, $K_B = 54.654$, produces $Y_B = 16.133$ which, if sold for $p = 6$, will realise the revenue of $pY_B = 96.796$. On the other hand, the cost of production $(1 + r)K$, at $r = 20$ per cent, is equal only to 65.585. Hence the surplus profit of 31.211 leaves 1.211 in the hands of the capitalist, even after the payment of the contractual rent of 30. There is clearly no reason why the capitalist should hesitate in the face of such a lucrative opportunity. Therefore, on all land-types, the advance of capital tends to approach its optimal level, as calculated above.

In reality, of course, the capital productivity functions, f_i, are not so

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Table 8.5 ($p = 6$)

	K_i	Y_i	pY_i	$(1+r)K_i$	R_i
A	50	10	60	60	0
B	50.654	16.133	96.796	65.585	31.211
C	60.165	22.774	136.645	72.198	64.447
D	66.417	29.860	179.160	79.700	99.460

smooth and regular as theory supposes them to be. Thus, an optimal advance of capital may not be unique. Even if there is a unique value for each of K_i, not all capitalists may be able to take advantage of it. They may invest sometimes less than optimally, and sometimes more than optimally. However, the broad tendency towards optimising the advance of capital cannot be denied theoretically, since capital always pursues a maximum surplus profit. The maximum surplus profits that can be earned on the four types of land are, in the present case, the following.

$$R_A = 0,\ R_B = 31.211,\ R_C = 64.447,\ R_D = 99.460,$$

as shown in the last column of Table 8.5. Landed property tends to convert them into differential rents of form II.

* * *

Suppose, for example, that, on land-B, the contractual rent has so far been set at $R_B = 30$. When a capitalist needs more land of type B, he may offer to pay the rent of $R_B = 31$, rather than to forgo the extended cultivation that he considers advantageous. However, if the contractual rent on land-B is consequently raised to $R_B = 31$, other capitalists whose surplus profit is still only 30 can no longer realise the average profit of 20 per cent. Therefore, competition requires all capitalists to seek a maximum profit, which tends to be converted into differential rent of form II. The conversion of surplus profit into rent may not, and indeed cannot, occur instantly. It instead proceeds gradually, as rental contracts are renewed. In the end, all surplus profits arising from the differential productivity of lands are destined to be converted into rent. For otherwise capital would be unable to enforce the law of average profit upon itself.

If the advance of capital is ideal on all the four types of land, when $p = 6$ and $r = 0.2$, Table 8.5 emerges. The maximum surplus profits converted into rent may be called optimal rents. Differential rent of

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form II may be taken to mean optimal rent. For if the advance of capital per acre of land is variable, the maximum surplus profit that can be earned on each land-type (corresponding to the optimal advance of capital) tends to be converted into rent.

In this way, it can be readily seen that differential rent of form I is a special case of differential rent of form II, the two forms being identical if the optimal advance of capital happens to be the same on all types of land (e.g. $K_i = 50$ for all i = A, B, C, D). Such a case, however, would be quite exceptional, since intensive cultivation (advance of capital) which cannot be made on a poor-quality soil is often possible on a better-quality one. Differential rent of form II is, therefore, quantitatively greater than the differential rent of form I. For the latter is equal to the rent that would accrue to the owners of better-quality lands, if the advance of capital on better quality lands were the same as that which is advanced on the least fertile land. In reality, because of competition, more capital is advanced on better lands for greater surplus profits convertible into rent. The second form of differential rent includes these incremental surplus profits. Landed property thus takes advantage of the capitalist competition for higher surplus profits, and increases its revenue at no cost to itself.

Marx's exposition of the second form of differential rent in *Capital* remains quite incomplete. Many unnecessary complications are caused, in his treatment, by the discrete arithmetic method which he employed to illustrate his theory. That method makes it difficult to identify the optimal advance of capital which, I believe, is the concept central to the second form of differential rent. I am using smooth, differentiable curves to represent capital productivity functions, precisely because it facilitates the identification of the optimal advance of capital. What is fundamental to this form of rent is that a greater advance of capital is often justified on a better-quality soil than on a poor-quality soil. The existing lease requires capital to pay a contractual rent, but does not prevent it from seeking surplus profits greater than the contractual rent. Capital, therefore, always tends to make an optimal advance, equalising the marginal value productivity of capital on all types of land equal to the interest force ($pf'_i = 1 + r$). It automatically refrains from investing more, and certainly does not continue to invest until the average value productivity of capital on all types of better-quality land becomes equal to the interest force ($pf_i/K = 1 + r$). This point apparently was not clear to Marx.

By contrast, Kozo Uno's illustration in the table below brings out the concept of the optimal advance of capital, even though he too uses the discrete numerical method in the style of Marx. Assuming $p = 6$ and $r = 0.2$, he considers the capital productivity function on a rent-yielding land, say, land-B, as in the table below. In this case, if the rent is set at $R = 45$, the tenant-farmer must invest either $K = 100$ (as in II) or $K = 150$ (as in III). For, otherwise, he would fail to earn the average profit of 20 per cent. If the rent

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is set at $R = 30$, then he can remain in business even with $K = 50$ (as in I) or $K = 200$ (as in IV). If there is no rent $R = 0$, he can earn the average profit of 20 per cent even with $K = 250$ (as in V). But, under the assumed condition of capitalist competition, differential rent of form II tends to approach $R = 45$. Once the rent is set at that level, capital has no choice but to invest either $K = 100$ or $K = 150$ (as in II or III). In other words, the optimal level of investment in agriculture is determined by capitalist competition, which landed property merely takes advantage of. The limit to the investment of capital is not set by the "law of landed property" (*Capital*, III, p. 735), as Marx reasoned.

	I	*II*	*III*	*IV*	*V*	*VI*
ΔK	50	50	50	50	50	50
K	50	100	150	200	250	300
$(1+r)K$	60	120	180	240	300	360
Y	15	27.5	37.5	45	50	52.5
ΔY	15	12.5	10	7.5	5	2.5
pY	90	165	225	270	300	315
$\Delta(pY)$	90	75	60	45	30	15
$pY - (1+r)K$	30	45	45	30	0	−45

8.2.2 The Accumulation of Capital in Agriculture

In order to consider the relationship between rent and the production-price, let us assume that only one acre of each of the four land-types, A, B, C, D is cultivated for the production of wheat. If the production-price is $p = 4$, the revenue functions are as follows:

$$pf_i(K_i) = m_i\,(\sqrt[3]{K_i - 44.44} + 3.542), \quad i = A, B, C, D \tag{11}$$

and

$$m_A = 7.532,\ m_B = 11.298,\ m_C = 15.064,\ m_D = 18.830 \tag{19}$$

On this basis, the optimal advance of capital, K_i, the output of wheat, Y_i, optimal rent, R_i, etc., on each land-type are calculated as in Table 8.6.

In comparison to Table 8.5, the total output of wheat, which was $Y = 78.676$ when $p = 6$, has fallen to $Y = 63.482$ now that $p = 4$. Such a drastic fall in the output may stimulate demand, and raise the

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Table 8.6 ($p = 4$)

	K_i	Y_i	pY_i	$(1+r)K_i$	R_i
A	0	0	0	0	0
B	50	15	60	60	0
C	53.0	21.043	84.172	63.60	20.572
D	56.4	27.439	109.759	67.68	42.079

Table 8.7 ($p = 5$)

	K_i	Y_i	pY_i	$(1+r)K_i$	R_i
b	50	12.007	60	60	0
B	52.21	15.599	77.993	62.652	15.341
C	56.40	21.951	109.758	67.680	42.078
D	61.158	28.711	143.555	73.390	70.165

market price of wheat to, say, $p = 5$ in consequence. In that case, the constants of the revenue functions change to the following:

$$m_A = 9.4150,\ m_B = 14.1225,\ m_C = 18.8300,\ m_D = 23.5375. \quad (20)$$

The price of $p = 5$ still leaves land-A out of cultivation. Yet land-B, which is now supposed to be the least fertile land in cultivation, does yield some rent. If this rent must be deemed "differential", we must "serendipitously" discover land-b, the fertility of which falls somewhere between that of land-A and that of land-B ($h_A < h_b < h_B$), and suppose that one acre of it is cultivated, yielding no rent. The capital productivity function of wheat on that imaginary land must then be:

$$Y_b = 2.2596(\sqrt[3]{K_b - 44.44} + 3.542). \quad (21)$$

Thus, if it is supposed that, when $p = 5$, land-b (with $h_b = 2.2596$) is cultivated instead of land-A, the state described by Table 8.7 can be deduced. The total output $Y = 78.268$, when $p = 5$, is not very different from what it was, when $p = 6$ ($Y = 78.767$).

Let us now consider the case in which the market price of wheat is raised to $p = 7$. In this case the constants of the revenue functions are as follows:

$$m_A = 13.181,\ m_B = 19.772,\ m_C = 26.362,\ m_D = 32.953. \quad (22)$$

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Table 8.8 ($p = 7$)

	K_i	Y_i	pY_i	$(1+r)K_i$	R_i
a	50	8.571	60	60	0
B	57.311	16.624	116.366	68.773	47.593
C	64.309	23.539	164.775	77.171	87.604
D	72.134	30.916	214.414	86.561	129.853

Table 8.9

	Y_a	Y_A	Y_b	Y_B	Y_C	Y_D	Y	P_Y	K	$(1+r)K$	R	R/p	ϕ	ρ
$p = 4$	0	0	0	15.0	21.0	27.4	63.4	253.6	159.4	191.3	62.7	15.7	20.9	0.39
$p = 5$	0	0	12	15.6	22.0	28.7	78.3	391.3	219.8	213.7	127.6	25.5	31.9	0.58
$p = 6$	0	10	0	16.1	22.8	29.9	78.8	472.6	227.2	272.6	200.0	32.5	48.8	0.84
$p = 7$	8.6	0	0	16.6	23.5	30.9	79.6	557.2	243.7	292.5	265.1	37.8	66.2	1.09

In this case, a differential rent arises even on land-A, which then cannot be the least fertile land. Again we must find land-a, one acre of which is under cultivation, and which has a capital productivity function of

$$Y_a = 1.614(\sqrt[3]{K_a - 44.44} + 3.542). \tag{23}$$

That land, if found, is even less fertile than land-A ($h_a < h_A$). Thus, if it is assumed that, when $p = 7$, land-a (with $h_a = 1.614$) is cultivated instead of land-A, the state described by Table 8.8 emerges. In this case, total output is $Y = 79.650$.

The results of all the above investigation are summarised in Table 8.9. Under the assumption that there are only four types of land, one acre of each being cultivated, the least fertile land has to be B, b, A, a, when the production-price of wheat is $p = 4, 5, 6, 7$, respectively. So long as the cultivation of each land-type does not exceed one acre, all aggregate magnitudes (Y, K, R, etc.) as well as the two ratios (ϕ, ρ) increase without exception, as the price of wheat rises. The acreage restriction, however, imposes a rather unnatural adjustment of the index of least fertility. Although the fertility of land can vary for many reasons, it should not be expected that a mere price change can "serendipitously" call into cultivation either land-a or land-b in place of land-A (or to make h_A to vary conveniently to either h_a or h_b). It is more likely that changes in the social demand for wheat entail adjustments that involve either extension or contraction of the cultivated acreage of each of the existing land-types.

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Table 8.10

	Y_A	Y_B	Y_C	Y_D	Y	pY	K	$(1+r)K$	R	R/p	ρ	ϕ	X
(0)	10	16.1	22.8	29.9	78.8	472.6	231.2	277.5	195.1	32.5	0.84	48.8	4
(1)	17.9	16.1	22.8	29.9	86.6	519.9	270.6	324.7	195.1	32.5	0.72	40.6	4.8
(2)	11	17.7	25.1	32.8	86.6	519.9	254.4	305.2	214.6	35.8	0.84	48.8	4.4
(3)	10	16.1	22.8	37.7	86.6	519.9	248.8	298.5	221.3	36.9	0.89	51.5	4.3

* This table is based on the following calculations:

		K_i	Y_i	pY_i	$(1+r)K_i$	R_i	X_i
(1)	A + ΔA	89.385	17.877	107.262	107.262	0	1.7877
	B	54.654	16.133	96.796	65.585	31.211	1
	C	60.165	22.744	136.645	72.198	64.447	1
	D	66.417	29.860	179.160	79.700	99.460	1
		270.621	86.644	519.863	324.745	195.118	4.7877
(2)	A + ΔA	55	11	66	66	0	1.1
	B + ΔB	60.119	17.746	106.476	72.143	34.333	1.1
	C + ΔC	66.182	25.051	150.306	29.418	70.888	1.1
	D + ΔD	73.057	32.846	197.076	87.668	109.408	1.1
		254.358	86.643	519.858	305.229	214.629	4.4
(3)	A	50	10	60	60	0	1
	B	54.654	16.133	96.796	65.585	31.211	1
	C	60.165	22.774	136.645	72.198	64.447	1
	D + ΔD	83.951	37.737	226.422	100.741	125.687	1.264
		248.770	86.644	519.863	298.524	221.345	4.264

* * *

Let us suppose that, in the beginning, exactly one acre of each of the four land-types, A, B, C, D is in cultivation, and that we have $p = 6$, $Y = 78.767$. Suppose that the social demand for wheat increases so as to raise its price to $p = 7$, but that a 10 per cent expansion of the output to $Y = 86.644$ is enough to restore the original price of $p = 6$. Since it cannot be determined *a priori* on which types of land the incremental production of $\Delta Y = 7.877$ should occur (that depending on the reaction of landed property), let us consider the following three typical cases: (1) only the least fertile land-A expands; (2) all four land-types expand uniformly by 10 per cent; (3) only the most fertile land-D expands. These cases are compared with (0), the original situation, in Table 8.10.

Certain definite conclusions are immediately apparent from the table. In case (1), R and R/p remain unchanged; but, since both X and

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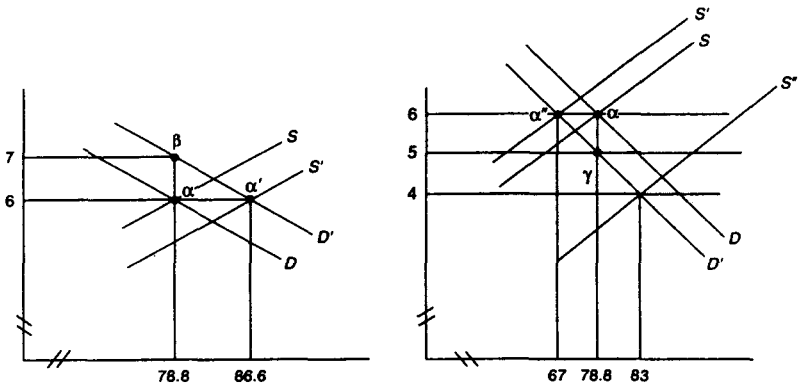

Figure 8.5

K increase substantially, the two ratios ϕ and ρ decline. In case (2), the two ratios are unchanged, since all variables, including X, K, R and R/p, increase by 10 per cent. In case (3), both R and R/p increase more than 10 per cent, but X and K expand less, so that the two ratios must rise. These details cannot be made apparent by the demand-and-supply curves analysis of Figure 8.5, where the left-hand panel depicts the shift of equilibrium from α through β to α', i.e. from $(p, Y) = (6, 78.767)$ through $(7, 78.767)$ to $(6, 86.644)$.

Let us now consider the case in which the social demand for wheat declines, so that the existing supply of wheat, $Y = 78.767$, can be sold off only for $p = 5$. We may suppose that, if the supply is contracted to $Y = 67$, the original price of $p = 6$ is restored. That supply adjustment may or may not be possible. Since, at the original equilibrium, $(p, Y) = (6, 78.767)$, the output on the least fertile land-A was only $Y_A = 10$, it is quite possible that the required contraction in the supply of wheat drives this particular land out of cultivation. In that case, the production-price of $p = 4$ on land-B assumes the market-regulating function. Such a low price may indeed cause a reversal of the demand for wheat, the output of which may now increase, rather than decrease, to $Y = 83$. If the price of wheat stays at this low level, land-A continues to be excluded. The acreage of better-quality lands, B, C, D, and the capital advanced on them can, however, be expanded sufficiently to meet the now increased demand for wheat.

Consider again three typical cases in which such adjustments are made. The acreage and the advance of capital expands (1) only on land-B; (2) on land-types B, C, D uniformly; and (3) only on land-D.

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Table 8.11

	Y_A	Y_B	Y_C	Y_D	Y	pY	K	$(1+r)K$	R	R/p	ρ	ϕ	X
(0)	10	16.1	22.8	29.9	78.8	472.6	231.2	277.5	195.1	32.5	0.84	48.8	4
(1)	0	34.5	21.0	27.4	83	332	224.5	269.4	62.7	15.7	0.30	14.6	4.3012
(2)	0	19.6	27.5	35.9	83	332	208.4	250.1	81.9	20.5	0.39	20.9	3.9225
(3)	0	15	21.0	47.0	83	332	119.5	239.4	92.6	23.2	0.46	25.0	3.7113
(0′)	0	15	21.0	27.4	63.4	253.6	159.4	191.3	62.7	15.7	0.39	20.9	3

* This table is based on the following calculations:

		K_i	Y_i	pY_i	$(1+r)K_i$	R_i	X_i
(1)	B + ΔB	115.06	34.518	138.072	138.072	0	2.3012
	C	53.00	21.043	84.172	63.600	20.572	1
	D	56.40	27.439	109.759	67.680	42.079	1
		224.46	83.000	332.003	269.352	62.651	4.3012
(2)	B + ΔB	65.375	19.613	78.452	78.452	0	1.3075
	C + ΔC	69.298	27.514	110.056	83.158	26.898	1.3075
	D + ΔD	73.743	35.876	143.504	88.492	55.012	1.3075
		208.416	83.003	332.012	250.100	81.910	3.9225
(3)	B	50	15	60	60	0	1
	C	53	21.043	84.172	63.600	20.572	1
	D + ΔD	96.517	46.957	187.831	115.820	72.011	1.7113
		199.517	83.000	332.003	239.420	92.583	3.7113

In Table 8.11 the results of these adjustments are compared with (0) the original situation, and also with (0′), the situation in which only one acre each of land-types B, C, D is cultivated under the production-price of $p = 4$.

Several conclusions immediately follow. In comparison to (0), the original situation in which the production-price was $p = 6$, both R and R/p as well as the two ratios, ϕ and ρ, have fallen in all three cases, (1), (2) and (3), because of the lower market production-price of $p = 4$. The output increases, but the advance of capital decreases, in all cases. The acreage increases in case (1) but decreases in both (2) and (3). If the results are compared to (0′), the situation which excludes land-A from the beginning, all aggregate magnitudes (such as Y, K, R, etc.) as well as the cultivated acreage, X, are greater because of the increased scale of production, except that, in case (1), R and R/p remain unchanged. The two ratios, ϕ and ρ, are unchanged in case (2), lower in case (1), and higher in case (3). Indeed, in case (2), in which lands B, C, D expand uniformly, both K and X grow by the same

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proportion as R and R/p, so that the two ratios cannot change. When the extended cultivation occurs only on the least fertile land-B, as in case (1), both K and X increase substantially even though neither R and R/p change. Hence, the two ratios decline. When the extended cultivation occurs only on the most fertile land-D, as in (3), the reverse occurs.

So far it has been assumed that the market prices of wheat such as $p = 5, 7, \ldots$, which are different from the individual production-prices ($p = 6, 4, 3, 2.4$) on the four types of land, are observed only temporarily, and will eventually revert to one of the latter which will then regulate the market. This assumption implies that the socially desired increase or decrease in the production of wheat can always be accomplished by a suitable adjustment in the cultivated acreage of the existing land-types. In other words, it is assumed that landed property is always willing to accommodate increases in the social demand for wheat by making required land available to capital. If landed property is not so cooperative, the accumulation of capital in agriculture will be exposed to further restrictions. However, even before it actively interferes with the formation of prices (so as to extract absolute and monopoly rent), landed property subjects capital to a variety of unpredictable contingencies by making some pieces of land available but not others. This problem existed even with regard to the first form of differential rent, but becomes considerably worse with regard to the second form.

* * *

Once the rental contract is signed, the capitalist farmer is freed, so long as he continues to pay the contractual rent, from further interference by the landlord, until the renewal time of the contract arrives. If conditions permit, he can earn more surplus profit than he needs for the payment of his rent, and can pocket the difference. The surplus profits that he earns on the leased land is not the kind that is also available to any other capitalist who advances the same amount of capital. It is the kind that springs from the exclusive right to cultivate the land, which he has secured by contract. While the farmer utilises the land to his best advantage during the period of the lease, the landlord merely observes the capitalist operation, without interfering with it, and informs himself of the potential productivity of the land. When the time for the renewal of the lease arrives, however, the landlord demands the conversion of all the surplus profit realisable on his land into rent. The capitalist is in no position to refuse this demand, unless he is prepared to relinquish the use of the land to his competitor. Since

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a rental contract must be renewed periodically, all the surplus profit realisable on any land is eventually converted into rent.

Under the circumstances, the tenant farmer is understandably wary of advancing capital since the returns may not have fully accrued to him, by the time the lease expires. The advance of fixed capital with a long depreciation period, especially if it is irrevocably embodied in the soil as land-capital or otherwise tied to land as "immovables", tends to be discouraged. For only a small portion of the cost of investment can, in most cases, be recovered during the contractual period. Capitalist agriculture, therefore, has the tendency to stint long-term investments for proper maintenance and improvement of the soil, and thus to exhaust it by improvident cultivation.

Not all items of fixed capital in agriculture, it is true, are either "immovable" or incorporated into the soil. For example, a tractor or a thresher is not tied to any particular land, and capital can dispose of it freely as a commodity, if need be, without being obstructed by the landlord. However, fixed capital in agriculture consists predominantly of "immovable" items. An efficient operation of the farm requires farmhouses, granaries, barns, etc., which stand on the ground, and the irrigation, fertilisation and fencing of the farmland, which are tied to land and immovable, if not always chemically incorporated into the soil. When the rental contract expires, they fall into the hands of the landlord. The capitalist, who invests a considerable sum of money in these items, runs the risk of not recovering the whole or part of their value, by the sale of his farm products, within the period of the lease.

Suppose, for example, that a sufficient advance of fixed capital on the least fertile land-A can, in fact, raise its fertility index permanently to the equivalent of that of land-B. If the improvement of land-A is the experiment of only a small number of capitalist farmers, the market-regulating production-price of wheat may still remain at $p = 6$. In that case, those who cultivate improved land-A will earn the surplus profit of 31.211 per acre, in just the same way as those who cultivate an acre of land-B. Since the surplus profit arising on improved land-A, unlike that arising on land-B, is not yet convertible into rent, the innovating capitalists may pocket their surplus profit. The question arises as to how long they can enjoy that advantage.

If they continue to earn a surplus profit on improved land-A long enough to pay off the cost of the soil improvement, that profit, unlike that on land-B, will actually represent an extra surplus value. The former possesses value substance, whereas the latter represents a false social value. If the period of the rental contract were long enough, other capitalists too might undertake to improve the soil quality of land-A,

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so that the market-regulating production-price of wheat would gradually fall from $p = 6$. By the time it fell to $p = 4$, not only the surplus profit on land-A but also the differential rent on land-B would be eliminated, just as was the rent on waterfalls in the earlier example of this chapter (Subsection 8.1.2, a). Capitalists will certainly not hesitate to earn extra surplus value, if the terms of the rental contract permit it. Nor will the advance of capital that improves the soil quality be restricted to land-A. The fertility indices of all lands will be upgraded, so long as it is technically possible. It is extremely unlikely, however, that a technical improvement of the soil can be accomplished in so short a period of time. The rental contract will most likely expire before the capitalist recovers the cost of the soil improvement. Therefore, if he undertakes it, most of its benefits will be expropriated by landed property as soon as the contract is renewed.

Suppose, for example, that it takes five years for the capitalist to recover the cost of improving land-A fully, but that in three years the present contract expires. In that case, not only does the capitalist fail to recover two-fifths of the cost, but, in the fourth and the fifth year, if he continues to rent the same land, he may have to pay the whole of his surplus profit as rent to the landlord. The surplus profit that he earns on improved land-A could be considered to possess value substance in the first three years, if it were assumed that other capitalists too undertake the same improvement in the meantime. In the fourth year and afterwards, however, the surplus profit arising on improved land-A, but not on unimproved land-A, represents merely a false social value convertible into rent. Under such circumstances, the soil improvement which requires an advance of fixed capital cannot easily be undertaken. Even if it were introduced by chance by some capitalists, others would not follow suit.

To the extent that landed property obstructs the capitalist mechanism of extra surplus value, technical progress in agriculture is impeded, and must fall behind that in manufacturing. Of course, this fact alone may not completely explain the reason why the organic composition of capital in agriculture is, in general, assumed to be lower than that in manufacturing. It is, however, undoubtedly true that agricultural technology would develop more quickly if the mechanism of extra surplus value operated in agriculture, as in manufacturing, without being obstructed by the presence of landed property.

8.2.3 Differential Rent Arising on the Least Fertile Land

Suppose that the production of wheat has been in equilibrium at $(p, Y) = (6, 78.767)$ for some time, when a sudden increase in de-

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Table 8.12 ($p = 8$)

	K_i	Y_i	pY_i	$(1+r)K_i$	R_i
A	53.085	10.534	84.274	63.702	20.574
B	60.165	17.081	136.645	72.198	64.447
C	63.650	24.234	193.871	82.380	111.491
D	78.275	31.900	255.198	93.930	161.268

mand raises the market price of wheat to $p = 8$. Then the constants of the revenue functions $pf_i(K_i)$ will be as follows:

$$m_A = 15.064,\ m_B = 22{,}596,\ m_C = 30{,}128,\ m_D = 37.660. \quad (24)$$

If capital responds to this new situation immediately, while the cultivated acreage is still one acre each of lands A, B, C, D, then the state described in Table 8.12 will emerge.

The current price of $p = 8$, however, is not equal to the individual production-price of any existing land-type, and so will last only temporarily. For unless land-a', with the capital productivity function,

$$Y_{a'} = 1.41225(\sqrt[3]{K_{a'} - 44.44} + 3.542), \quad (25)$$

is suddenly discovered, and called into cultivation, in place of land-A, more than four acres of land must be used for wheat production. It is, however, not always necessary, as has been supposed so far, that an increase in production re-establishes a new equilibrium at the original price of $p = 6$. The restoration of the original price implies that the farmers correctly foresee its return and make only the optimal investment of capital per acre warranted by it, when the increased demand calls for the expansion of both the output and the acreage of cultivation. In reality, however, capitalists frequently make miscalculated overinvestments, when the product price soars. They tend to do so, given that landed property, bound by the existing contracts, cannot immediately collect optimal rents corresponding to the current price. Thus, the market cannot always be expected to function in an orderly fashion. Once a speculative overproduction of wheat occurs, however, the presence of surplus profits profoundly distorts the market for many years to come. One cannot pretend that, in the abstract world of theory, such a thing cannot happen.

If, for example, the price rises from $p = 6$ to $p = 8$, the contractual rent on

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land-B will, for a while, remain at $R_B = 31.211$ based on $p = 6$ and $K_B = 50.654$ (see Table 8.5). If the capitalists on land-B continue to advance $K_B = 50.654$, they earn the surplus profit of 60.7923, when the price has risen to $p = 8$. Therefore, after paying the rent of 31.211, they gain the windfall of 29.5813. If they advance $K_B = 60.165$ as in Table 8.12, however, their surplus profit will be $R_B = 64.447$ of which 31.211 must be contractually paid as rent. Consequently, their windfall income will be 33.236. Under the circumstances, there is no reason to believe that speculative capital may not be lured by the high price of wheat into advancing more than $K_B = 50.654$, which is the optimal advance of capital per acre of land-B based on $p = 6$.

Suppose that, in fact, the capitalists on land-B speculatively advance $K_B = 60.165$ and produce $Y_B = 17.081$ (see Table 8.12), expecting to sell this output for $p = 8$, and realise the windfall income of 33.236. However, unlike red radish in summertime, wheat cannot be raised in a matter of a few weeks. It may, therefore, happen that, by the time this year's wheat is harvested, its price has already fallen well below $p = 8$. The capitalists who advanced $K_B = 60.165$ are then forced to sell their output $Y_B = 17.081$ as soon as possible, while they can still secure the general profit-rate of 20 per cent, after paying the contractual rent of 31.211. The minimum price for which they can sell their wheat, without losing their average profit, is determined by the relation

$$p_B\ 17.081 = 31.211 + (1.2)(60.165), \tag{26}$$

as $p_B = 6.054$.

If the capitalists operating on land-B can now sell all their output $Y_B = 17.081$ for this price, everyone else must be selling wheat for the same price. Therefore, in the present condition, $p = 6.054$ is the market-regulating price of wheat. Such a price may be called *the production-price of expediency*, even though it is different from the individual production-price of wheat on any of the existing four types of land. Given the expedient production-price $p = 6.054$, the constants of the revenue functions $pf_i(K_i)$ now become

$$m_A = 11.3997,\ m_B = 17.0995,\ m_C = 22.7994,\ m_D = 28.4992. \tag{27}$$

On the basis of these revenue functions, the state described in Table 8.13 can be deduced.

Thus, even on the least fertile land-A, a differential rent of $R_A = 0.573$ arises. The reason why this rent must be considered "differential" is that the market-regulating price of $p = 6.054$, though consequent

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Table 8.13 ($p = 6.054$)

	K_i	Y_i	pY_i	$(1+r)K_i$	R_i
A	50.075	10.010	60.663	60.090	0.573
B	54.792	16.160	97.833	65.750	32.083
C	60.378	22.817	138.132	72.454	65.678
D	66.714	29.919	181.130	80.057	101.073

upon the speculative over-investment on land-B, and determined by expediency rather than by technical conditions, is still a "capitalist-rational" price, and not a price imposed on capital from the outside by uncooperative landed property. The expedient production-price is not a genuine production-price, which should be equal to the individual production-price of wheat on the least fertile land-A. It is, however, capital itself that seeks the regulation of the market by the expedient production-price, through its own competition.

Landed property has not refused to make land available for the necessary production of wheat. It has only abided by the existing rental contract. It is not responsible for enticing capital to make speculative over-investment. The speculative overproduction of wheat and the consequent regulation of the market by the expedient production-price of $p = 6.054$ are both capital's own doing. If, however, the expedient price rules the market for some time, landed property is entitled to demand optimal rents on that basis, such as $R_A = 0.573$, $R_B = 32.082$, etc., when the lease is renewed (see Table 8.13). Capital cannot object to this well-established practice either, even though landed property now collects a differential rent on the least fertile land-A. The left-hand panel of Figure 8.6 illustrates the theory of this subsection.

* * *

There is, of course, no need for the production-price of expediency to be formed only on land-B, which has been selected arbitrarily to represent better-quality land. A speculative over-investment lured by the market price of $p = 8$ can occur on all types of land, including the least fertile, in exactly the same fashion as illustrated above. First, an inordinately sanguine advance of capital raises the output of wheat to an excessively high level. When the price begins to fall, production-prices of expediency appear on all lands, i.e. the minimum prices which assure an average-profit even after the payment of the contractual rent. They are

$$p_A = 6.047, \quad p_B = 6.054, \quad p_C = 6.059, \quad p_D = 6.062. \qquad (28)$$

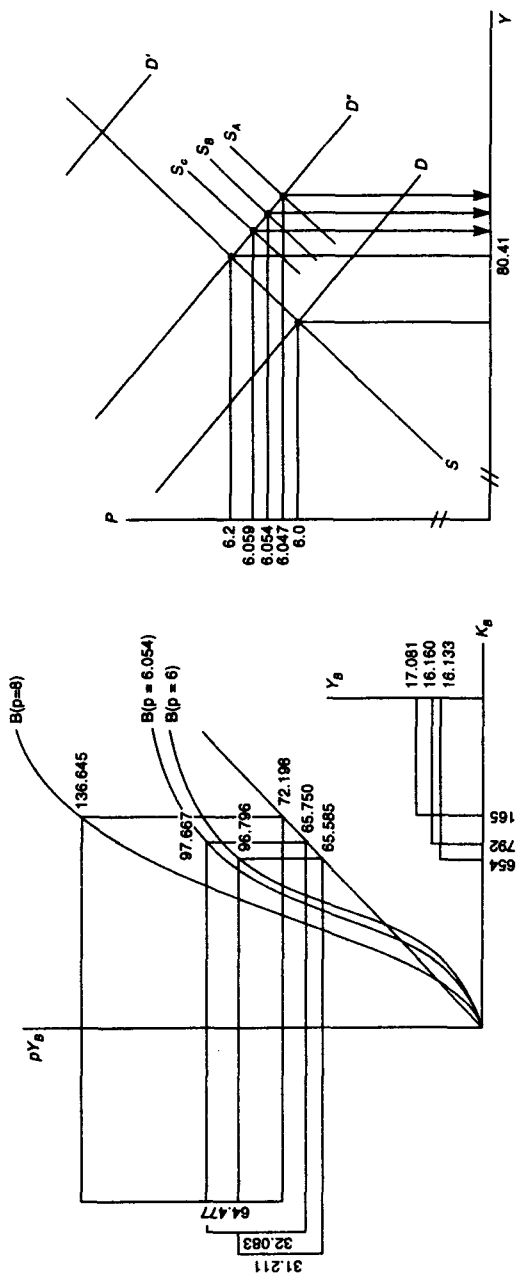

Figure 8.6

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Which of these will play the market-regulating rôle cannot be determined *a priori*. Any of them can, however, be stabilised as the normal price, depending on how landed property has adjusted the supply of land in the meantime, given the actual state of the social demand for wheat.

For example, suppose that the demand for wheat turns out to be relatively mild, despite the initial over-enthusiasm on the part of capital. The right-hand panel of Figure 8.6 illustrates this situation. First, the demand curve, D, was believed to have shifted as far as to D′, but, in reality, the new demand curve turns out to be no more than D″. If, at this point, landed property does not increase the supply of any type of land, so that the supply curve S does not move, then the output level, for instance, of $Y = 80.41$ at the price of $p = 6.2$ may be held stable, as shown in the diagram. The assumption, however, is that landed property responds to the capitalist demand for increased acreage in one way or another, so that the supply curve will shift rightward. If it shifts as far as to S_A, then $p_A = 6.047$ will become the market-regulating production-price of expediency. If it shifts to S_B, then $p_B = 6.054$ will become the market-regulating production-price of expediency, etc.

We cannot immediately calculate the corresponding output level in each case, since that depends on the exact combination of acreage variations which take place behind the scenes. (Along the supply curve, S, it is assumed that exactly one acre of each land-type is under cultivation. Any other acreage distribution over the four types of land will be reflected in a shift of the supply curve.) In any case, the rôle of landed property, at this point, is limited to the selection of one of the expedient production-prices which capital has designated.

Let us suppose that $p_A = 6.047$ has been stabilised to rule the market as the production-price of expediency. In that case the constants of the total revenue functions $pf_i(K_i)$ are as follows:

$$m_A = 11.3871,\ m_B = 17.0806,\ m_C = 22.7741,\ m_D = 28.4677. \quad (29)$$

In light of these constants, optimal rents per acre are calculated as in Table 8.14. The differential rent, $R_A = 0.5063$, on the least fertile land-A has, in this case, arisen from the expedient production-price, $p_A = 6.0473$, which was formed by the speculative investment of capital on that land (see the left-hand panel of Figure 8.7). In general, however, differential rent on the least fertile land can arise from speculative over-investments that take place on any land. For example, even if no speculative overproduction takes place except on land-B, the differential rent of $R_A = 0.573$ can be formed, as was shown in Table 8.13.

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Table 8.14 ($p = 6.047$)

	K_i	Y_i	pY_i	$(1+r)K_i$	R_i
A	50.066	10.0186	60.5855	60.0792	0.5063
B	54.775	16.1568	97.7049	65.7297	31.9752
C	60.351	22.8113	137.9465	72.4216	65.5249
D	66.670	29.9104	180.8769	80.0123	100.8646

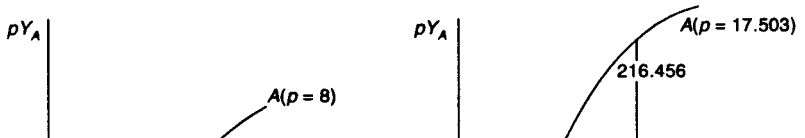

Figure 8.7

The expedient production-price that regulates the market plays much the same rôle as the genuine production-price of the "serendipitous" land-a or land-b to which we resorted earlier (Subsection 8.2.2, a). The possibility of suddenly discovering lands of appropriate fertility to replace land-A is rather remote, to say the least. I can, however, show that the same effect is achieved by the choice of an expedient production-price.

For example, if the market-price of wheat rises to $p = 7$, surplus profit arises even on the least fertile land-A. In order to convert this surplus profit into differential rent, it was necessary earlier to discover the "serendipitous" land-a with the productivity constant $h_a = 1.614$. Such a land-type may, in fact, not exist. Even in that case, the same result can now be derived, by assuming an appropriate speculation on the part of capital. Let the capitalists cultivating land-A speculatively foresee a tremendous rise in the price of wheat, such as $p = 17.6027$.

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They will then be lured into advancing as much speculative capital as $K_A = 72.14$ and produce $Y_A = 12.367$ (see the right-hand panel of Figure 8.7). If, at the harvest time, they find that such a price rise was a chimera, they must quickly dispose of their excessive output. The minimum price that guarantees at least the average profit of 20 per cent to them is calculated as $p_A = 7$ (from $p_A 12.367 = 1.2 \times 72.14$). If they are lucky enough to sell their output for this price, they and others may, in future, take this price as the norm or market-regulating normal price of wheat.

The expedient price, $p = 7$, need not be formed by the speculation of capitalists on land-A. The capitalists operating on land-B, contractually obligated to pay the rent of $R_B = 32.211$, may also expect the price of wheat to rise to as high as $p = 16.7474$. In that case, they would advance $K_B = 92.07$ to produce $Y_B = 20.2428$. If, at the harvest time, the expected demand does not materialise, the minimum price for which the output can be safely disposed of is again $p = 7$ (which is calculated from $p_B 20.2428 = 32.211 + 1.2 \times 92.07$). It is, therefore, not necessary to count on the serendipity of land-a, in order to justify $p = 7$ as its individual production-price. The same price can always be obtained as the expedient production-price of any of the land-types A, B, C or D, provided that an appropriate speculation occurs on any of them.

* * *

Differential rent arises even on the least fertile land because capital forms an expedient production-price, which regulates the market, at a level higher than the genuine market production-price. The expedient market production-price gives rise to surplus profit convertible into rent even on the least fertile land. It is a "differential" rent, and is quite different from an absolute or monopoly rent, which, as will be explained later, has nothing to do with the differential fertility of land. The rent that arises on the least fertile land, however, is "differential", only insofar as the capitalist speculation which gave rise to it is equivalent to the serendipitous discovery of a new land-type, the fertility of which is even lower than the least fertile of the hitherto-known land-types, and which, if cultivated, would yield no rent. In this sense, this particular form of rent brings the concept of "differential" rent to its limit.

The first form of differential rent is deduced simply from the differential fertility of lands. The same magnitude of capital advanced on the same area of land earns a surplus profit permanently, if that land is better than the least

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fertile. This surplus profit is converted into differential rent of form I. The capitalist activity is assumed to be the same in this case, so as to emphasise the effects of natural differences in the conditions of production. The cause of the second form of differential rent is explained not only in terms of the differential fertility of lands, but also in light of the capitalist activity of pursuing maximum surplus profit. Thus, the optimal rent on more fertile land is higher than that on less fertile land, not only because more output per acre can be produced by the same advance of capital, but also because more capital can be profitably advanced per acre of the more fertile land than per acre of the less fertile one. When a surplus profit convertible into rent arises even on the least fertile land, its cause no longer actually lies in the differential fertility of the soil, but as a consequence of capitalist speculation. However, this must be viewed as the limiting case of the second form of differential rent only because of the equivalence, as explained above, of capitalist speculation and the discovery of a hitherto-absent land of even lower fertility.

It is in the nature of anarchic commodity production that individual activities of capital continually deviate from the norm, requiring the law of value to correct the deviations *ex post facto*. Since individual units of capital in competition always operate under uncertainty, excesses and deficiencies are the normal phenomena of the commodity-economy. It is, therefore, a grave error to assume, even in the present abstract context, that capital refrains altogether from ill-advised speculation. In manufacturing and commerce, however, capital itself can absorb the effects of speculation more or less completely. That is to say, even though individual units of capital may perish because of unwarranted speculation, capital as a whole suffers from its effects only temporarily. In agriculture, not all the effects of speculation can be contained and corrected by capital, since landed property takes advantage of them. It is as if an aberrant youth leaves a criminal record which becomes a stigma all his life. If capital overproduces due to a miscalculation, and forms an expedient production-price as a makeshift adjustment to the situation, landed property seizes upon it. When the first opportunity arises to renew the rental contract, landed property demands, because of its strong bargaining position, the right to collect differential rent even on the least fertile land.

This callous reaction on the part of landed property epitomises its parasitic nature, but not its untrammelled greed. For it does not as yet consciously withhold the supply of arable land. By merely selecting one of the expedient production-prices which capital designates for its own advantage, landed property accommodates, in one way or another, the capitalist demand for more arable land. Capital, therefore, has no reason to object to this predictable reaction on the part of landed property,

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which merely takes advantage of what has developed in the capitalist market. Yet once a differential rent is contractually fixed even on the least fertile land, the normal prices of agricultural commodities cannot again fall to their individual production-prices on that land. Thus, without directly interfering with the working of the capitalist market, landed property has imposed on it an irrevocable restriction.

8.3 ABSOLUTE RENT

8.3.1 Landed Property and Absolute Rent

Differential rent arises even on the poorest soil due to capitalist speculation and the consequent formation of an expedient production-price, which then assumes a market-regulating function. If capitalists do not speculate, so that no production-price of expediency emerges, this kind of rent need not be paid. That, however, does not mean that, in the absence of capitalist speculation, landed property makes the least fertile land available to capital free of charge. Even that kind of land is monopolised by landed property, and capital gains access to it only in return for a lease payment, which we shall call *absolute rent*. This rent can be paid only if the prices of agricultural goods exceed their production-prices on the least fertile land. In order to entail this result, landed property directly interferes with the working of the capitalist market, by limiting the supply of arable land. If landed property refuses to accommodate the capitalist desire for extended cultivation, the prices of agricultural commodities can be held at a level higher than the highest of the individual production-prices, genuine or expedient.

Suppose, for example, that no more than one acre each of the four land-types, A, B, C, D, can be cultivated, when the market price of wheat rises to $p = 7$. Suppose also that no land, such as land-a, which would have an individual production-price of $p = 7$, is "serendipitously" found to replace land-A, which has so far been regarded as the least fertile land. Then the situation illustrated by Table 8.15 (which differs from Table 8.8 only in the top row) emerges. The total output of wheat is $Y = 81.352$, and the existing social demand is supposed to absorb that output at the price of $p = 7$.

From the table it is at once apparent that, even on the poorest soil, the optimal rent of $R_A = 10.174$ arises. This rent is not a differential rent. If some of the existing land-types, A, B, C or D, could be sufficiently expanded for cultivation, so as to raise the output to, say, $Y = 90.582$,

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Table 8.15 ($p = 7$)

	K_i	Y_i	pY_i	$(1+r)K_i$	R_i
A	55.446	10.273	71.909	61.735	10.174
B	57.311	16.624	116.366	68.773	47.593
C	64.309	23.539	164.775	77.171	87.604
D	72.134	30.916	214.414	86.561	129.853

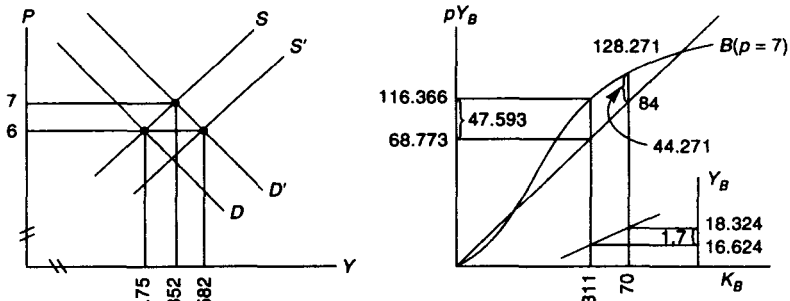

Figure 8.8

the price of wheat would revert to $p = 6$ (see the left-hand panel of Figure 8.8). If that happens, $R_A = 10.174$ will be eliminated, regardless of the way in which the necessary extension of the acreage is achieved over the four types of land. If, however, no more than one acre of each land-type exists, or, alternatively, if landed property categorically refuses to make any more land available to capital, then the output of wheat cannot rise beyond $Y = 81.352$. In consequence, $R_A = 10.174$ persists as absolute rent that accrues to the owners of land-A.

Absolute rent, too, would constitute surplus profit if capital pocketed it without paying it to landed property. Suppose that the owners of land-A, on a festive occasion, declared a rent-holiday and exempted their tenants from the payment of $R_A = 10.174$. In that case, the capitalist producers of wheat who have privileged access to land-A would earn the same amount as surplus profit, in addition to their average profit. It would be impossible for other capitalists to invest in land-A, in the expectation of being able to enjoy the same benefit, and expand the output of wheat sufficiently to restore its price of $p = 6$. For the possibility of extended cultivation is ruled out by the assumption. We must, therefore, conclude that it is most unlikely for capital to be able

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to pocket $R_A = 10.174$ as surplus profit. We may, nevertheless, consider absolute rent to be a converted form of surplus profit, since the price of wheat may be raised *after* the current lease is signed. For example, let the present lease presuppose the wheat price of $p = 7$. If the price is further raised to $p = 8$, absolute rent should be $R_A = 20.574$ (see Table 8.12), although only $R_A = 10.174$ need be paid under the present contract. Therefore, capital can pocket the difference of 10.4, pending its conversion into rent as soon as the lease is renewed.

In fact, the above assumption that the output of wheat is rigidly fixed at $Y = 81.352$, unless landed property cooperates in acreage extension, implies that the present contract has converted all surplus profits into rent. For example, rent payable on land-B is, in that case, equal to $R_B = 47.593$ (as in Table 8.15). However, if, as a result of a previous contract which is still in force, the capitalists on that type of land need to pay only $R_B = 44.271$, then they can invest as much as $K_B = 70$ instead of $K_B = 57.311$, to produce $Y_B = 18.324$ instead of $Y_B = 16.624$ (again as in Table 8.15), without losing average profit. Hence, on that land alone, the extra output of 1.7 units can be generated (see the right-hand panel of Figure 8.6). If similar conditions prevail on other land-types as well, a substantial increase in wheat output can be obtained, even with a fixed acreage of cultivation.

* * *

Now that a non-differential rent has emerged on the least fertile land, the question may be asked whether or not an upper limit exists to the magnitude of such a rent. An acre of land-A yields the rent of $R_A = 10.174$, if the wheat price is $p = 7$. If the latter rises further to $p = 8$, $= 9$, etc., R_A will also increase to $= 20.575$, $= 31.211$, etc. The price of wheat rises because an increased social demand for it does not entail sufficient extension of the acreage for wheat production. If the supply of land were less than is enough to feed the existing population adequately, agriculture would become a natural monopoly, and the products of the soil would fetch monopoly prices. Such a possibility has already been excluded (Subsection 8.1.1, b). However, high quality wine, the production of which requires land of very special geographical and physical attributes, is an example of an object of natural monopoly. For it cannot be capitalistically reproduced beyond a certain quantity, regardless of the social demand for it. Commodities such as rare quality wines, antiques, works of art, etc., cannot be reproduced by capital, nor do they possess normal prices. They are not genuine commodities or value-objects. If most agricultural products were irreproducible, i.e. could not be produced as value-objects, capitalism would indeed be impossible.

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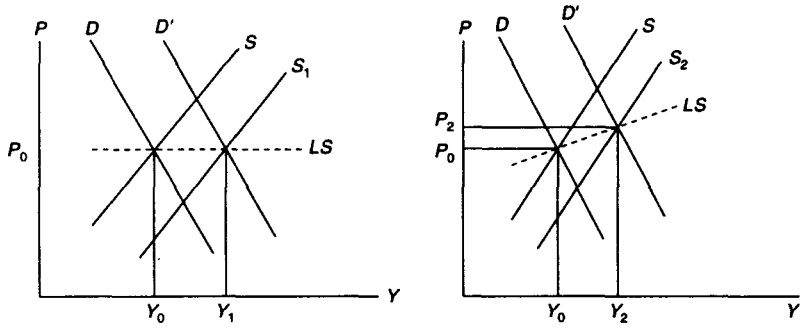

Figure 8.9

To say that a commodity is capitalistically reproducible and has a normal price implies that the industry can produce it with a constant supply price in the long run, or that it is produced by a constant-cost industry (see the left-hand panel of Figure 8.9). If a diseconomy external to the firm but internal to the industry remains even in the long run, the supply price of the commodity rises with the output, and the industry is said to be subject to increasing costs (see the right-hand panel of Figure 8.9). In the dialectic of capital, such a possibility exists only when not enough land is brought under cultivation because landed property refuses to make it available to capital. In other words, only in agriculture in which the specific factor of production, land, is not at the free disposal of capital, is it possible for the industry's long-run supply curve (*LS*) to have an upward slope. In Figure 8.9, the original position of equilibrium (p_0, Y_0) is given by the intersection of the supply curve, *S*, and the demand curve, *D*. If after an autonomous increase in demand, which shifts the demand curve from *D* to *D'*, capital is free from external interventions in making its own adjustment, there is no reason why the supply curve should not also shift from *S* to S_1, so as to absorb the whole impact of the variation in demand (see the left-hand panel of Figure 8.9). Only when landed property interferes with this process, and obstructs the capitalist desire to produce Y_1, does the price remain above the normal supply price, p_0, establishing a new equilibrium at (p_2, Y_2) (see the right-hand side of Figure 8.9).

Since there is no compelling reason why landed property should always concede to capitalist convenience, the long-run supply curve (*LS*) of an agricultural product often possesses an upward slope. How steep that slope is in the neighbourhood of the original equilibrium depends, of course, on the cooperativeness of landed property. If the

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Table 8.16

	$p = 6$	$p = 7$		$p = 8$		$p = 9$	
A	0	10.174	(10.174)	20.575	(20.575)	31.211	[10.636]
B	31.211	47.593	(16.382)	64.447	(33.236)	81.745	[17.298]
C	64.477	87.604	(23.127)	111.491	(47.014)	136.058	[24.567]
D	99.460	129.853	(30.393)	161.268	(61.808)	193.622	[32.354]

slope is sufficiently moderate, the new equilibrium price, p_2, can remain consistent with the value regulation of the product. If the slope is too steep, it no longer reflects the value regulation of the commodity. In the present context, it is not yet possible to specify exactly when the value regulation of the commodity is lost. (This will be examined next in Subsection 8.3.2.) However, capitalist society must, in any case, presuppose a landed property which is sufficiently cooperative with capital. For, otherwise, capitalist agriculture would be impossible, as has already been explained.

Let us, for the present, simply assume that, if the new equilibrium price of wheat does not exceed $p = 8$, then the value regulation of wheat, which has the production-price of $p = 6$ on the poorest soil, can be maintained. In that case, the rent of $R_A = 10.174$ that arises on land-A is absolute rent. So is $R_A = 20.575$ that arises on it, when $p = 8$ (see Table 8.16). But the rent of $R_A = 31.211$ that arises on land-A when $p = 9$ must be divided into the absolute rent of 20.575 and the monopoly rent of 10.636. In other words, absolute rent is non-differential rent accruing to landed property, when it fixes an equilibrium price of the agricultural product above its market production-price, genuine or expedient, but not in excess of the limiting price beyond which its value regulation lapses. A monopoly rent arises when landed property fixes a market price above the limiting price. Such a price is a monopoly price, and the commodity which fetches a monopoly price is not considered to be capitalistically reproducible.

In Table 8.16, the first column shows only differential rents. In the second column, the unparenthesised numbers include both differential and absolute rent. For example, total rent on land-B is 47.593, and that on land-A is 10.174. However, the difference between these two numbers, which is 37.419, does not correctly represent the differential rent on land-B, which appears above in the first column as 31.211. Differential rent can be calculated only in the light of the market production-price of $p = 6$, which $p = 7$ is not. Therefore, the absolute rent on land-B, when $p = 7$, must be equal to $47.593 - 31.211 = 16.382$, as

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shown in the parentheses in the second column. In this and the third column, total rent on each land-type is shown by the unparenthesised number, and absolute rent by the number in parentheses. Since, by assumption, $p = 8$ is the limiting price, absolute rent cannot be larger than the number in parentheses in the third column for each land-type. For example, on land-D, absolute rent cannot exceed the maximum of 61.808. In the fourth column, total rent includes monopoly rent in addition to absolute and differential rent. Monopoly rents are shown in the square brackets. For example, on land-C, the total rent of 136.058 must be divided into the differential rent of 64.477 (as shown in the first column), the absolute rent of 47.014 (as shown in the parentheses in the third column), and the monopoly rent of 24.567 (as shown in the square brackets in the last column).

* * *

Absolute rent confirms that no land in capitalist society can be cultivated free of charge, even if capital does not engage in speculation, and so does not form an expedient production-price. It may appear that absolute rent only now establishes the private property of the least fertile land. Actually, it has been presupposed all along that every piece of land, in capitalist society, must be privately owned and monopolised, and hence is made available to capital only in return for a lease payment of some sort. This lease money or total rent is divided, apart from monopoly rent if any, into absolute and differential rent. It is rental income as a whole that adequately establishes the existence of landed property in capitalist society.

The way in which a particular landlord derives incomes to sustain his livelihood is theoretically irrelevant. It is surely unnecessary, for instance, to worry about the plight of one who owns only a small plot of infertile land, and whose rental revenue may not suffice to support his family adequately. He may be ruined tomorrow, or may unexpectedly inherit a large fortune. That kind of contingent detail is of no concern to capital. The theory of rent is indifferent to the distribution of wealth among landowners. It deals exclusively with the manner in which the "capitalist mode of production creates for itself the required form [of landed property] by subordinating agriculture to capital" (*Capital*, III, p. 617).

It is from the point of view of capital, not of landed property or anything else, that the component parts of total rental income in capitalist society must be brought to light one after another. This procedure reflects the process by which capital, as a self-dependent kingdom, concludes its *external* relations, as it were, with landed property viewed

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as an alien power. Capital first recognises landed property lying outside its own sphere of influence because it does not willingly submit to its logic. With the first form of differential rent, capital establishes a "mechanical", or formal, relation with landed property, to which it cedes, as tributes, surplus profits that it cannot absorb. In this relation, capital and landed property are indifferent to each other, the only link between them being the transfer of surplus profits, of which capital divests itself with little qualms.

In the second form of differential rent, the relation becomes more intimate or "chemical". For the advance of capital on a given area of land is no longer strictly a matter of free choice. Of course, capital maximises surplus profit on any land, if left free. But the process is sometimes expedited, sometimes obstructed, by the presence of landed property. The latter, for example, discourages long-term investment of fixed capital for the preservation and improvement of the soil. It also abets the speculative over-investment of capital, which causes a permanent rise in the price of an agricultural commodity. Thus, landed property does not remain a strictly indifferent recipient of surplus profits, but becomes a rather unwelcome parasite, which can exert perverse influences on capitalist accumulation in agriculture.

The "chemical" relation, however, does not imply an open confrontation between capital and landed property, since the latter does not as yet directly interfere with the working of the capitalist market. Absolute rent arises precisely when that reservation ceases to apply. Since landed property refuses to rent even the least fertile land free of charge, capital is prevented from producing as much agricultural output as it wants, and is forced to charge a price higher than it likes. The effect is the same as that of the imposition of an excise tax. In other words, landed property applies an extra-commodity-economic coercion to capital (see Subsection 8.3.3n).

Yet capital must tolerate such an infringement of its rights inasmuch as capitalism itself presupposes the private ownership of land which has been emptied of the direct producers. Capital has no choice but to accept this commodity-economically repugnant extortion, by developing a "teleological", or symbiotic, relation with landed property. Absolute rent most clearly expresses the teleological concession of capital to landed property, which is regarded by capital as a necessary evil. Capitalism itself compels capital to coexist with landed property. Capital must, therefore, adapt its distribution principle and accommodate landed property, in such a way as to preserve the value regulation of the capitalist production of commodities.

By establishing the limits within which it can coexist with landed

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property, capital, in other words, forges the "required form" of landed property in capitalist society.

8.3.2 The Distribution of Surplus Value in Agriculture

In order to justify the emergence of absolute rent, it is necessary first to establish the reason why agricultural methods of production remain technically inferior to manufacturing methods of production under capitalism, in terms of both the organic composition and the turnover-speed of capital. As already remarked, the existence of landed property obstructs the mechanism of extra surplus value in agriculture, and delays technical progress there. That, however, is in addition to the more fundamental fact that agricultural production is bound to be more ecological than technical.

Even in agriculture some technical progress must occur. The capitalist method of production always involves cooperation, the manufacture division of labour and mechanisation. Thus, in principle, capitalist agriculture too must pursue a maximum rate of surplus value, by assembling wage-workers in one place, promoting a division of labour among them, and introducing mechanical devices. This, however, does not mean that agricultural production can occur in fully mechanised factories. Even among manufacturing industries, some can be more easily mechanised than others, and differences in the organic composition and turnover-speed of capital cannot be avoided. Between manufacturing and agriculture, the difference in the degree of "roundaboutness" is even more obvious. Unlike manufacturing, which typically utilises the forces of nature through value-objects, agriculture, which does not always permit such a mediation, is subject to a variety of nature-imposed constraints. The annual cycle of seasons, weather conditions, the fertility of the soil, and so on, restrict the production of value and surplus value in agriculture, and impede the normal development of the capitalist method of production there.

Although, in manufacturing, the lengthening of the working-day and the intensification of labour can always contribute to the production of absolute surplus value, they are often useless in farming after sunset or in a wrong season. The production of relative surplus value needs to be enhanced through the mechanism of extra surplus value. Although that mechanism works automatically in manufacturing, it is, as already pointed out, greatly hampered by landed property in agriculture. Even apart from that particular instance, however, agriculture itself is not congenial to the pursuit of extra surplus value.

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The pursuit of extra surplus value in manufacturing occurs cyclically during the depression period, as intensified capitalist competition compels the rationalisation of industrial technology. A new technology that significantly reduces the cost of production can be advantageously introduced, when the existing fixed capital is about to end its life. Fixed capital in agriculture, however, does not have the same average durability as in manufacturing, nor does innovation, if introduced during the depression phase, necessarily bring down the production-cost of agricultural goods. "Rationalisation" in agriculture does not occur in that fashion. The production-cost of agricultural goods, which is largely dependent on weather and other contingent factors, cannot be markedly changed by mechanisation, unless the scale of operation is already large enough. That cannot be expected of capitalist tenant-farmers who, of course, operate quite differently from plantation owners and/or agri-business companies.

Finally, there is the question of the turnover-speed of capital. The latter is almost a matter of free choice for capital in manufacturing, since the production-period (in the Marxian, and not Austrian, sense) can be shortened by specialisation. By contrast, the production-period in agriculture, which forms an organic unity from seeding to harvesting, cannot normally be subdivided and assigned to different capitalist enterprises.

These considerations make it apparent that the capitalist method of production does not develop in agriculture as easily as in manufacturing. Since agriculture is directly tied to nature, and has a generally lower degree of roundaboutness, the process of mechanisation in it cannot proceed as rapidly as elsewhere, even apart from the obstruction of the mechanism of extra surplus value by landed property. If the speed with which technology develops is slower, its level of development too will eventually be lower in agriculture than in non-agriculture, regardless of the initial conditions. Therefore, the development of capitalism itself will make it certain that, in a purely capitalist society, agricultural technology lags behind manufacturing technology, whether in terms of the organic composition or in terms of the turnover-speed of capital.

The present claim may, in some cases, appear to be at variance with the empirical observation of agricultural history. If so, it is all the more necessary to reaffirm the method of the dialectic. The latter does not merely compare the level of technical development in agriculture and manufacturing in any particular period in history, as an empirical matter, in order to justify the present contention. Instead, it refers to specific difficulties in operating agriculture capitalistically because of the nature-imposed restrictions on the use-values that it produces. These restrictions make the capitalistic subsumption

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of agriculture more difficult than that of manufacturing. Precisely for that reason, the theoretical image of capitalist agriculture presented here may be quite at variance with what is normally observed in history.

* * *

It has been explained that landed property, by limiting the supply of agricultural land, can raise the prices of agricultural goods above their market production-prices, and can thus appropriate part of surplus value produced in agriculture, *before* its capitalist distribution as average profit. Since the value composition of capital in agriculture tends to be lower than the social average, and the production-prices of agricultural goods are also lower than their value-proportional prices, surplus value normally tends to be transferred from agriculture to non-agriculture. The appropriation of agricultural surplus value by landed property in the form of absolute rent, of course, reduces average profit, which is the form of distribution of surplus value to capital. It does not, however, reverse the flow of surplus value from agriculture, with a relatively lower composition of capital, to non-agriculture, with a relatively higher one.

It is, however, technically possible for landed property to limit the supply of land so drastically as to raise the market prices of agricultural goods above their value-proportional prices. If such a thing were to happen, landed property would earn monopoly rent in addition to absolute rent, and that would disrupt the operation of the law of average profit. For surplus value would then have to flow from non-agriculture with a higher capital composition to agriculture with a lower capital composition, the exact opposite of the principle of the distribution of surplus value which the law of average profit stipulates. Should this happen, the regulation of capitalist society by the law of value would be suspended.

Since this problem is both important and involved, I will illustrate the theory with the help of a concrete numerical example. Consider a simple capitalist economy in which two means of production, X_1 and X_2, two wage-goods, Y_3 and Y_4, as well as two luxury goods, Z_5 and Z_6, are produced. Let the odd-numbered commodities (X_1, Y_3, Z_5) be manufactured goods, and the even-numbered ones (X_2, Y_4, Z_6) be agricultural goods. Suppose that they are produced with the following technology and activity levels to meet the existing social demand:

X_1'	X_2'	L		
(38,	22,	20)	$\rightarrow$	$183 = X_1$
(40,	10,	30)	$\rightarrow$	$190 = X_2$
(18,	40,	15)	$\rightarrow$	$120 = Y_3$

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$$
\begin{array}{rrrcl}
(5, & 30, & 40) & \rightarrow & 75 = Y_4 \\
(10, & 20, & 5) & \rightarrow & 20 = Z_5 \\
(20, & 10, & 5) & \rightarrow & 30 = Z_6 \\
\hline
131 & 132 & 115 & &
\end{array}
$$

Needless to say, X_1' and X_2' denote the two capital goods used up in, and L the hours of labour directly spent for, the production of each commodity. All commodities are measured in suitable physical units.

The set of production-prices (p_i, $i = 1, 2, \ldots, 6$) and general rate of profit (r) that satisfy the above technology complex can be found from the price system spelled out as follows:

$$
\left\{
\begin{array}{l}
(p_1\ 38 + p_2\ 22 + w\ 20)\ (1 + r) = p_1\ 183, \\
(p_1\ 40 + p_2\ 10 + w\ 30)\ (1 + r) = p_2\ 190, \\
(p_1\ 18 + p_2\ 40 + w\ 15)\ (1 + r) = p_3\ 120, \\
(p_1\ 5 + p_2\ 30 + w\ 40)\ (1 + r) = p_4\ 75, \\
(p_1\ 10 + p_2\ 20 + w\ 5)\ (1 + r) = p_5\ 20, \\
(p_1\ 20 + p_2\ 10 + w\ 5)\ (1 + r) = p_6\ 30; \\
p_3\ 120 + p_4\ 75 \equiv w\ 115.
\end{array}
\right. \tag{30}
$$

Assume that the wage-rate is normalised to equal one ($w = 1$). Substitute the third and the fourth equation of (30) into the last identity to obtain

$$(p_1\ 23 + p_2\ 70 + w\ 55)(1 + r) = w\ 115. \tag{31}$$

Then this and the first two equations of (30) can be solved together for p_1, p_2 and r (with $w = 1$). These latter can then be substituted into the other equations of (31) to determine $p_3, \ldots, p_6$. The results are as follows:

$$
\begin{array}{lll}
r = 0.3671, & p_1 = 0.2843, & p_2 = 0.3226, \\
 & p_3 = 0.3762, & p_4 = 0.9314, \\
 & p_5 = 0.9771, & p_6 = 0.6340.
\end{array}
$$

The set of values (λ_i, $i = 1, 2, \ldots, 6$) and rate of surplus value (e) that satisfy the above technology complex are found from the following value system:

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$$\left\{\begin{array}{rrrrrrrrr} \lambda_1 & 38 & + & \lambda_2 & 22 & + & 20 & = & \lambda_1\ 183, \\ \lambda_1 & 40 & + & \lambda_2 & 10 & + & 30 & = & \lambda_2\ 190, \\ \lambda_1 & 18 & + & \lambda_2 & 40 & + & 15 & = & \lambda_3\ 120, \\ \lambda_1 & 5 & + & \lambda_2 & 30 & + & 40 & = & \lambda_4\ 75, \\ \lambda_1 & 10 & + & \lambda_2 & 20 & + & 5 & = & \lambda_5\ 20, \\ \lambda_1 & 20 & + & \lambda_2 & 10 & + & 5 & = & \lambda_6\ 30; \\ \lambda_3 & 120 & + & \lambda_4 & 75 & \equiv & 115/(1 & + & e). \end{array}\right. \tag{32}$$

The solutions are tabulated as follows:

$$\begin{array}{lll} e = 0.5715, & \lambda_1 = 0.1689, & \lambda_2 = 0.2042, \\ & \lambda_3 = 0.2184, & \lambda_4 = 0.6263, \\ & \lambda_5 = 0.5387, & \lambda_6 = 0.3473. \end{array}$$

In the light of the above, we find out that

$$\begin{array}{llll} K_a = 109.61, & \Pi_a = 40.24, & S_a = 27.28, & S'_a = 46.64, \\ K_m = 85.21, & \Pi_m = 31.28, & S_m = 14.55, & S'_m = 24.88, \\ \hline K = 194.82, & \Pi = 71.52, & S = 41.83, & S' = 71.52, \end{array}$$

where K stands for capital advanced, including both the constant and variable component, in price terms; Π for profit also in money terms; S for surplus value in terms of labour embodied; and subscripts, a and m, refer respectively to the agricultural and the manufacturing sector. S' denotes surplus value in value-proportional prices, defined in such a way as to obtain $\Pi = S'$.

We may then conclude that the agricultural and the manufacturing sector produce the surplus value of $S'_a = 46.64$ and $S'_m = 24.88$ respectively, but the total $S' = 71.52 = \Pi$ is distributed to the two sectors as $\Pi_a = 40.24$ to agriculture and $\Pi_m = 31.28$ to non-agriculture. Therefore, 6.40 units of surplus value are transferred from the agricultural to the manufacturing sector.

* * *

Suppose that these 6.40 units of surplus value are appropriated by landed property as absolute rent, before the remainder $71.52 - 6.40 = 65.12$ can be capitalistically distributed between the two sectors.

Since the aggregate-social capital in terms of the existing prices is $K = 194.82$, the rate of profit exclusive of rent must be $r' = 0.3342 = 65.12/194.82$. If $r'' = r' + \rho$ is the rate of profit in agriculture

inclusive of the rent-rate ρ, the new system of prices may be calculated as follows (again $w = 1$ is assumed):

$$\begin{cases} (p_1' 38 + p_2' 22 + w\ 20)(1 + 0.3342) = p_1' 183, \\ (p_1' 40 + p_2' 10 + w\ 30)(1 + r'') = p_2' 190, \\ (p_1' 18 + p_2' 40 = w\ 15)(1 + 0.3342) \\ \quad + (p_1' 5 + p_2' 30 + w\ 40)(1 + r'') = 115. \end{cases} \tag{33}$$

Whence

$$r'' = 0.3926, \qquad p_1' = 0.2735, \qquad p_2' = 0.3238.$$

These can then be substituted into

$$\begin{cases} (p_1' 18 + p_2' 40 + w\ 15)(1.3342) = p_3' 120, \\ (p_1' 5 + p_2' 30 + w\ 40)(1.3926) = p_4' 75, \\ (p_1' 10 + p_2' 20 + w\ 5)(1.3342) = p_5' 20, \\ (p_1' 20 + p_2' 10 + w\ 5)(1.3926) = p_6' 30, \end{cases} \tag{34}$$

to obtain

$$p_3' = 0.3654, \qquad p_4' = 0.9485,$$
$$p_5' = 0.9481, \qquad p_6' = 0.6383.$$

In comparison with the original prices, the prices of all manufactured goods are lowered, and the prices of all agricultural goods are raised, by the intervention of landed property. Indeed, we can confirm that $p_i > p_i'$ $(i = 1, 3, 5)$ and $p_i < p_i'$ $(i = 2, 4, 6)$. We also find that the rate of profit exclusive of rent ($r' = 0.3342$) falls, and that inclusive of rent ($r'' = 0.3926$) rises, from the original level ($r = 0.3671$). Indeed, we have $r'' > r > r'$.

In terms of the newly calculated prices, we now find that capital advanced and profits distributed are as follows:

$$\begin{array}{llll} K_a' = 108.95, & \Pi_a' = 42.77 = r''K_a', & r'' = 0.3926, \\ \underline{K_m' = 84.61,} & \underline{\Pi_m' = 28.28 = r'K_m',} & r' = 0.3342, \\ K' = 193.56, & \Pi' = 71.05. \end{array}$$

Since the rate of profit exclusive of rent is $r' = 0.3342$, the average profit of the agricultural sector should be $r'K_a' = 36.42$. Its difference

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from $r''K'_a = 42.77$, or 6.35 units, must amount to absolute rent. This is slightly lower than the absolute rent of 6.40 units calculated in the original prices. It is interesting to note that the absolute rent actually collected (6.35) turns out to be slightly less than that which was intended for collection (6.40). But that is only to be expected, since the very process of collection of absolute rent involves price changes.

Landed property applies the same method to the collection of both absolute and monopoly rent. It is, therefore, useful to know how it might collect the maximum absolute rent. To find that out, let us consider $r_m = S'_m/K_m = 0.2920$ to be the rate of profit that would be determined in the capitalist market, in the absence of the agricultural sector. Let us also claim that, if $r' \geqq r_m$, no monopoly rent will arise. Therefore, in order to determine the maximum absolute rent, set $r' = r_m = 0.2920$, and consider $S' - r'K = 14.63$ to be the absolute rent intended for collection. However, if we know that $r' = 0.2920$, then we can find, as before, the corresponding prices and rate of profit inclusive of rent as follows:

$$r'' = 0.4227, \quad \begin{matrix} p'_1 = 0.2625, & p'_2 = 0.3278, \\ p'_3 = 0.3535, & p'_4 = 0.9702, \\ p'_4 = 0.9161, & p'_6 = 0.6416. \end{matrix}$$

In the light of these numbers, we can now estimate the money values of capital advanced and of surplus value distributed as follows:

$$\begin{matrix} K'_a = 108.46, & \Pi'_a = 45.84 = r''K'_a, & r'' = 0.4227, \\ K'_m = 84.21, & \Pi'_m = 24.58 = r'K'_m, & r' = 0.2920, \\ \hline K' = 192.67, & \Pi' = 70.42. \end{matrix}$$

The maximum absolute rent actually collected is then

$$R' = \Pi'_a - r'K'_a = 14.18,$$

which is again slightly lower than that which was intended for collection (14.63). This amount comes to about 20.13 per cent of total surplus value ($= R'/\Pi'$).

It can, therefore, be concluded that, in the present example, up to 20.13 per cent of surplus value can actually be collected as absolute rent. If a greater proportion of surplus value is pre-empted by landed property, prior to its capitalist distribution as profit, the general rate of

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profit (r') will fall below r_m, and will no longer maintain a close tie with the rate of surplus value. For, in that case, even manufacturing, which does not directly employ land as natural means of production, would be open to arbitrary exploitation by landed property. (I am, of course, ignoring a small land space occupied by the site of an industrial factory, a warehouse, etc.) If such a thing were allowed, capital would no longer be free in the determination of commodity prices and the rate of profit, even in those cases where land makes no significant (direct) contribution to production. The kingdom of capital would then have lost its independence from landed property. The regulation of the capitalist market by the law of value, in other words, would no longer be secured.

In the above analysis, the rent-rate, ρ, was taken to be uniform for all industries of the agricultural sector. In reality, such a simplifying assumption will not apply. If, however, $\rho(1 + \delta_i) = \rho_i$ ($i = 2, 4, 6$) with known deviations, δ_is, the gist of the above theory will not be affected. The most likely case is that the production of the luxury agricultural good, Z_6, is subject to a monopoly rent, and its rent-rate deviates upward from the norm, $\delta_6 > 0$, while the other agricultural goods, X_2 and Y_4, are substantially free from the monopoly element, so that their rent-rates are close enough to the norm, $\delta_2 = \delta_4 = 0$. In that case, the capitalist market determines all variables, except p'_6, because it is free from the unpredictable interference of landed property.

8.3.3 Industrial Capital and Landed Property

Even if the production of some luxury goods may give rise to monopoly rents, capitalist society in its pure form may be deemed essentially free from monopolistic exploitation by landed property. One important reason for this is that rental revenues automatically increase with the development of capitalism, even though landed property does not maximise its revenues, which it cannot convert into capital. In the early period of capitalism, when landed property could not as yet take full advantage of the capitalist tendency towards increasing rent, it may have expropriated not only rent proper, but also part of profits and wages. In parallel with the accumulation of capital, however, the magnitude of surplus value produced in agriculture increases. Therefore, by the time capitalism establishes itself, a minor elevation of the prices of agricultural goods over their production-prices is enough to generate quite enough absolute rent.

For example, if total surplus value is 100 units, 20 per cent of that converted into absolute rent is only 20 units, but if total surplus value is 1,000 units, then even 10 per cent of that amount is already 100 units. If the number

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of landlords quintupled in the meantime, the dispersion of landownership would also be five times greater. In reality, a contrary tendency towards the integration of landownership is more conspicuous under capitalism. If, to be on the safe side, we assume the population of landlords to be more or less stationary, then a declining proportion of total surplus value (which increases with capital accumulation) needs to be converted into absolute rent, in order to ensure their increasing affluence. That is to say, the burden of absolute rent on capital becomes lighter, rather than heavier, as capitalism progresses.

Moreover, the development of capitalism is bound to widen the technological gap between manufacturing and agriculture, so that the organic composition of capital in the latter will fall relative to that in the former. That means that the maximum of absolute rent collectible per given amount of surplus value should increase, as capitalism develops. Therefore, even if the burden of absolute rent became somewhat heavier, rather than lighter, the working of the law of value would not thereby be jeopardised.

A contrary impression, however, seems to linger under the influence of classical political economy, which was completed before the repeal of the Corn Laws in 1846. It was the general impression then that the protective effect of the Corn Laws maintained the prices of agricultural capital goods and wage-goods (X_2 and Y_4) at an artificially high level, thereby unjustly depressing the general rate of profit (r'). The Ricardian theory of the falling rate of profit, therefore, speculated that, if this tendency was allowed to develop unchecked, not only would absolute rent soon become monopoly rent, but also the pursuit of the latter would eventually reduce the rate of profit (r') to nought, leading the capitalist economy to a stationary state. (Ricardo, of course did not formulate a theory of absolute or monopoly rent, and so attributed the cause of the falling rate of profit to the law of diminishing returns, which was reflected in high grain prices. The classical fear of the stationary state, however, was more real than the validity of the law of diminishing returns. The former can be more consistently explained by the present theory of absolute and monopoly rent, without invoking such a law.)

In a country like England, where agricultural production is naturally limited, it is not impossible for the monopoly of land to become overbearing. It is believed, however, that the main impact of the Corn Laws was felt by small (non-capitalist) farmers, and that capitalist agriculture established itself upon their ruin, *after* these laws were repealed. It was, therefore, not capitalist agriculture, but rather capitalist manufacturing, that fought for and won the abolition of the Corn Laws in 1846. Nevertheless, this date may be justifiably viewed as a historical landmark signalling the victory of industrial capital in general over the landed class. Why then did landed property yield to capital at this point? From the point of view of economic theory, it is not sufficient to say that the balance of political power worked in favour of capital. Evidence suggests that the economic and political strength of the landed class did not in any way diminish after the repeal of the Corn Laws. This fact

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indicates the parasitic nature of landed property in capitalist society well. It is never in the interest of landed property to exploit capital to its ruin. For, in capitalist society, landed property benefits only from the prosperous activity of capital in agriculture.

Thus, in capitalist society, a "teleological coexistence" of landed property with capital is assured. The speedier the accumulation of capital, the greater the base of absolute rent. The more prosperous the capitalist activity, the more affluent the landed class. The problem arises rather when landowners earn more revenues than they can reasonably consume. Since they cannot themselves convert their savings into capital, they must, in principle, spend their revenues on consumption. If they fail to do so, a deficiency of "effectual demand" will develop, as Malthus and other under-consumptionists were quick to point out. Yet the theory of a purely capitalist society must presuppose that this problem is absent.

To assume away potential dangers to capitalism such as monopoly rent and the savings of the landed class might appear to be an evasion of the issue by an unsound economic theory. To believe so would, however, be a methodological error. What we claim here is that the logic of capital unfolds in its fullness only in their absence, not that they are unimportant as empirical facts. Both monopoly and under-consumption can cause serious problems to capitalism; *but they do so from the outside*. Rather than being inherent in the commodity-economic logic of capital, they are extreme cases of the external constraints that landed property imposes on capital. If they become overwhelming, capitalism may be undermined. The purpose of economic theory is to show (or define) how capitalism works, when it is least obstructed by such outside factors. The significance of the theory of rent, in particular, is to examine how capital negotiates the terms of its teleological coexistence with such an outside power as landed property. It would certainly be a grave error to view such things as monopoly and under-consumption as directly springing from the nature of capital itself.

It is interesting to note that, during the liberal era, the excess riches of landed property were often important sources of funds for the administration of the state, the protection of the arts, charities, military contributions and the formation of social capital in general. These were, of course, essential activities upon which the operation of the bourgeois state depended, but to which capital made minimal contributions. Landed property thus contributed to the strengthening of the infrastructure of capitalist society. On the other hand, if landlords did not contribute in this way to public spending, their life-style often became decadent because they were earning more income than they could themselves wholesomely consume.

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The theoretical presupposition that landed property must unproductively consume all of its revenue was, of course, not always satisfied in reality. It was presumably this fact that gave rise to the Malthusian doctrine of under-consumption. The problem of deficient effective demand, however, became acute much later. By that time, not only had landed property joined the class of rentiers in generating a substantial amount of savings, but the capitalist class too had lost its "animal spirit" which impelled it to explore new investment opportunities. Clearly, capitalism was by then besieged and was put on the defensive.

* * *

The bourgeoisie of the nineteenth century regarded landed property with a great deal of suspicion. Ricardo, representing the bourgeoisie, argued that capitalist society would end in a stationary state, since landed property enriches itself at the expense of the other classes. Some radical students of Ricardo went even further, and called for the nationalisation of land (James Mill, Heinrich Gossen and Léon Walras, in particular), as if capitalism could survive the abolition of private landownership. Even Marx agreed that "the landowner . . . is a useless superfetation in the industrial world" (*Theories of Surplus Value* (Progress, Moscow), pt II, pp. 44–5). According to him, "[the] only requirement [of the capitalist mode of production] is that land should not be a common property, [and] that it should confront the working class as a condition of production [while] *not belonging* to it, and th[is] purpose is completely fulfilled if it [land] becomes state-property, i.e., if the state draws the rent" (ibid.). Marx was also quite explicit that, "if the state appropriated land and capitalist production continued" (p. 103), differential rent would continue to be paid to the state. He was, however, not clear what would happen to absolute rent (p. 104). Later Kautsky (*The Agrarian Question* (Zwan, London), vol. 1, p. 82) and Lenin (*Collected Works* (Progress, Moscow), vol. 13, pp. 297–300) both held the view that, in that case, absolute rent would no longer exist, and that view seems to have become the orthodox Marxist interpretation.

Let us, therefore, consider the theoretical question as to whether or not absolute rent would disappear, if land were nationalised under capitalism. No society, capitalist or otherwise, would survive if agricultural land were absolutely scarce, i.e. if the existing population could not be adequately fed. We must, therefore, suppose that, under capitalism as well, some arable land remains uncultivated, and can be made available to capital when the demand for agricultural products rises, provided that the owner of the land consents to it. If the state is the landowner, and if it wants to avoid absolute rent, it must supply the least fertile land free of charge. The state, however, cannot make such

land available only to capital, and not to the direct producers (contrary to Marx's "only requirement" in the above quotation). For the state would thwart commodity-economic rationality if it discriminated against the direct producers. If that were permitted, the state could also discriminate against small capitalists in favour of large capitalists. Therefore, if the state did not refuse to supply free land to the direct producers, the latter would soon become self-supporting peasants; and that would erode capitalism, by undoing the commodification of labour-power. Therefore, even if land were wholly state-owned, absolute rent would be necessary in order to perpetuate the separation of the direct producers from land, a basic premise of capitalism.

The collection of absolute rent by the state, however, implies that the pricing of agricultural goods can no longer be left exclusively to impersonal market forces. It is as if an excise tax were levied on all agricultural products. Clearly, that is a much less preferable alternative to capital than the "anonymous" intervention of landed property. If, for example, the market impersonally determines the price of wheat as $p = 7$, capital cannot, and does not, object to it, by asserting that it is higher than the theoretical price of $p = 6$, which capital does not know in any case. If, however, the free market price is $p = 6$, on which the government imposes the tax rate of 16.7 per cent, the villain is much too obvious for the commodity-economy to ignore. That is an outright intervention in the free play of the market. Thus, the consequence of the nationalisation of land would be an open acceptance of public intervention in the management of real economic life, which is inconsistent with the fundamental premise and aspiration of the commodity-economy.

The private ownership of land under capitalism is, therefore, far from "a useless superfetation". It is an essential "safety valve" without which the self-containedness of the commodity-economy falls to the ground. Capitalist society stands on the conversion of labour-power into a commodity, and this fact crucially depends on the separation of the direct producers from land, their natural means of production. If capital had to depend on the state for its own condition of existence, capitalist society could hardly be said to be self-dependent. Even though it is alien to capital, private landed property can be subordinated or adapted to the commodity-economic principle of capital. (The rôle of the state in capitalist society is different, and must be discussed at the stages-theoretic level.)

With private landed property, capital can develop a teleological relation of coexistence. For, if land is privately owned, there is a possibility of converting it into a commodity, a possibility which would be denied if land were publicly owned.

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If private landed property and capital jointly prosper in capitalist society, and the various appropriate forms of rent develop in it, the only problem that remains is for capital to justify the ownership of land from the viewpoint of the commodity-economy. Although land is a means of production, it cannot be purchased as a commodity in the capitalist market, nor is it directly convertible into capital. The ownership of inherited land, unlike that of capital, cannot be explained by the original purchase of a commodity. That is what makes landed property an element alien to the capitalist market. From the viewpoint of the commodity-economy, the ownership of a commodity, for which the original price has been paid, is the only rationally acceptable form of ownership. If land is merely inherited from an unknown past, it is as good as having been stolen. The owner of such a questionable wealth cannot be a *bona fide* member of the capitalist market.

In order to coexist peacefully with landed property on an equal footing in the capitalist market, capital must, therefore, rationalise the property of land as the ownership of a commodity. This rationalisation involves an imputation of the commodity-form to land, even though the latter is not a capitalistically reproducible value-object. If land too is viewed as a commodity in possession of a "capitalistically rational" price, it is possible to accept the present owners of land as having paid their due in the past, i.e. as rightful commodity-owners. Only when the primitive acquisition of land, by means other than commodity exchanges, is successfully buried behind this fiction, can landed property become a fully acceptable partner of capital.

In the early period of capitalist development, it was possible for a merchant capitalist to elevate himself to nobility by purchasing land, or for a self-supporting peasant to be paid a nominal compensation when his land was confiscated. To trade land like a commodity, therefore, is a well established historical practice which requires no great stretch of imagination on the part of capital. If, however, land is a commodity merely in the same sense as an antique or an object of art is one, its price remains wholly arbitrary, and cannot be accepted as "capitalistically rational". In a fully developed capitalist society, land is a natural means of production capable of being leased to capital, entitling its owner to a portion of surplus value as a regular flow of rental incomes. Land must, therefore, be priced "capitalist-rationally" as an asset yielding a stream of rental incomes. This pricing is, in fact, done by the well known method of the capitalisation of such incomes. The question, however, is how capital may theoretically rationalise this method.

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If land is to be purchased as a commodity in a fully developed capitalist society, the money needed to pay the price can only come from the pool of idle funds which await conversion into capital. The motion of industrial capital generates idle funds which cannot be immediately converted into money-capital. As will be explained in the following chapter, such idle funds are converted into commodities, and floated as "loan-capital" in the money market, to earn interest instead of average profit. If those funds are used for the purchase of land, the latter can be regarded as a special form of loanable capital which earns rent instead of interest.

This reasoning, however, does not quite justify the pricing of land by the method of the capitalisation of incomes. It is true that a land-price can be calculated with the current rate of interest as a principal sum of money that yields a series of rental revenues rather than of interest revenues. Idle funds, however, take the form of loan-capital only temporarily, pending their eventual conversion into industrial or commercial capital. The latter forms of capital earn average profit instead of mere interest. Thus, if the agricultural capitalist had had to purchase his own land, he must have tied up the purchase price of the land permanently, which earns him only the equivalent of interest (not of profit) in the form of rent. In order to justify even the hypothetical purchase of land as a rent-yielding asset the price of which is capitalised rental revenues, the practice of holding capital itself as an interest-bearing asset, i.e. as a thing or property the price of which is determined by the method of capitalisation, must already be established. In other words, capital too must take on the commodity-form. For only then can the pricing of land be made equivalent to the pricing of capital.

The conversion of land into a commodity can be justified only in parallel with the conversion of capital itself into a commodity. But to comprehend the latter we need a systematic approach which we will develop in the following chapter.

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9 Theory of Interest

9.1. LOAN-CAPITAL AND INTEREST

9.1.1 Commercial (or Trade) Credit

In forging "external" relations with landed property, capital agrees to cede part of surplus value to it in the various forms of ground-rent. This practice rationalises the principle that, in capitalist society, the owner of a property is entitled to a flow of periodic incomes. The same principle, once established, can be applied "internally" to capital itself, which then regards itself as a "property", yielding a stream of interest (rather than rental) revenues. The adoption of this particular principle of distribution, however, involves a re-conceptualisation of capital by capital itself. Rather than viewing itself as value-augmenting motion operating in the production-sphere in which the technical diversity of use-values needs to be addressed, capital now returns to where it originated, namely, to the circulation-sphere. For, it is in the latter sphere that the diversity of use-values are meant to be subdued, attenuated and eventually overcome. Capital thus takes the final step towards surmounting use-value restrictions.

The main concern of industrial capital, at this point, is how best to save collectively on circulation-costs. Indeed, it cleverly designs a "capitalist-social" mechanism within which it economises on them. From the peculiarity of this design, we derive the guiding concept of this chapter, i.e. "interest" on capital.

Although, in practice, "interest" is not a new concept to industrial capital, which originated in, and still contains within itself, the forms of both merchant and money-lending capital, it is not sufficient for theory simply to evoke the interest that money-lenders used to collect from merchant borrowers. That concept is much too abstract and unspecified to be of use at this point. The dialectic must, therefore, generate a more advanced (specified) concept of interest from within the circulation-process of industrial capital.

Let it be recalled that the circulation-process of industrial capital, $M - C \ldots P \ldots C' - M'$, begins with money-capital, M, but ends with simple money, M'. Not all of the money, M' that flows back at the end of each turnover can, however, be re-advanced immediately as money-capital, M.

For example, if fixed capital is being depreciated, the corresponding part of M′ must be withheld in a sinking fund, awaiting the time for its renewal. That part of surplus value which is not individually consumed by the capitalist must, in general, bide its time in the form of accumulation-funds, before it reaches a magnitude suitable for investment. Moreover, since the purchase of productive elements must be timed suitably to fit the technical need, not all of the existing accumulation-funds can be used as money-capital at the same time. A part of them is reconverted into money-capital sooner than the rest. In the meantime, changes in the conditions of the market that affect the circulation-period of capital sometimes release money-capital as idle funds, and sometimes tie them up again as money-capital. The expectation of price changes also immobilises a greater or smaller quantity of reserve money.

Thus, in the link M′ · M of the on-going circulation-process of capital, some idle funds always drop out of the process, for a longer or shorter period of time, because they cannot be immediately employed as money-capital. Such idle funds, temporarily disengaged from the motion of industrial capital, and remaining in the state of rest, are not without significant economic functions. They are often called "loanable funds" (or idle money-capital as distinct from money-capital proper or active money-capital, though such an expression is not always felicitous), and constitute special use-values. Loanable funds are formed (produced) as idle money drops out of the circulation-process of capital, and are destroyed (consumed) as it either rejoins the circulation-process or otherwise is spent on commodities, after due intervals of time. As these special use-values are demanded and supplied in money markets, they take on the character of independent commodities, capable of being traded for capitalist-rational prices. Idle money in capitalist society exists in the form of loanable funds, which function primarily as means of payment.

Since capitalist production must be mediated by circulation, instead of being directly linked to consumption, part of capital must always remain in the forms of the commodity and money. We have previously studied how individual units of capital automatically tend to minimise the holding of circulation-capital (money- and commodity-capital) and the expenditure of pure circulation-costs as well, since both are "unproductive" (see Volume 1, Chapter 5, Subsections 5.1.2 and 5.1.3). Individual efforts to save circulation-costs, ordinary and pure, cannot, however, stop the formation of idle money in capitalist society. Even when they all minimise such costs individually, capital as a whole is still burdened with the "unproductive" holding of value-objects (either as circulation-capital or as "idle" money-capital) which do not directly contribute to the production of surplus value (quite apart from the necessary expenditure of pure circulation-costs).

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This burden can be reduced only if idle money that is formed by one capital (e.g. as depreciation funds) can be utilised as means of payment by another capital, so as to expedite the conversion of commodities into money. For, in that case, not only is the proportion of idle to active money-capital diminished in society, but the proportion of circulation-capital to productive capital too can, in consequence, be socially lowered. That enables a greater proportion of the aggregate-social capital to engage itself directly in the production of surplus value.

Money as means of payment has two aspects. On the one hand, it is cash, M, that those who have purchased commodities on credit must build up by the day of settlement. On the other, it is non-cash means of payment, or credit-money, N, which may circulate before the day of settlement. At any point in time, a certain amount of credit-money, N, can be issued on the basis of cash, M, available (in reserve) for immediate payment. In the theory of simple circulation, it was explained that a credit sale occurs first with a non-cash means of purchase, N, which entails the obligation to pay hard cash, M, later. Here the order is reversed. For the problem now at hand is how non-cash means of payment, N, may be generated out of idle money, M, which automatically evolves from the circulation-process of industrial capital. Thus, the build-up of cash, M, for final settlement becomes a matter of secondary consideration to the more intricate problem of the mutual cancellation of payments in N. It is from this point of view that the form of loan-capital will be studied.

Loan-capital, M . . . (N) . . . M′, implies the lending of cash, M, via the instrument of credit-money, N, for interest, $m = M' - M$, rather than for profit. This form need not evoke pre-capitalist money-lending capital, which obtained loanable money, M, outside of the motion of capital. For, in the present context, loanable money arises automatically in the link M′ · M of the on-going circulation-process of industrial capital. It is industrial capital itself (and not an independent money-lending entity) that develops the form of loan-capital. The latter indirectly enhances the production of surplus value, by reducing deductions from the productive component of the aggregate-social capital. Interest can, therefore, be paid out of the increased production of surplus value thus made possible.

Strictly speaking, idle money-capital (loanable funds) is (are) not money-capital, M, but simply idle money, M′. To improve the efficiency of value augmentation, however, the capitalist must minimise the holding of money, whether as M or as M′, and of commodities, C′, so that the largest proportion of his assets on his balance-sheet (see Chapter 5, Section 5.1.2) is devoted to "productive capital", which directly contributes to surplus value production. Earlier we studied how a capitalist reduces the holding of "unproductive" circulation-capital, M and

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C′. What is to be studied here is how the aggregate-social capital collectively economises on the holding of M′ in its asset portfolio. It will be shown that the saving of M′ has an indirect effect on saving M and C′ as well.

The quantity of idle funds in society tends to increase with the expansion in the scale of its reproduction-process. While imposing a dead weight on the production of surplus value, these funds are nevertheless held as a necessary cost of operating the reproduction-process. This cost can be saved, not only individually, but also collectively, i.e. "capitalist-socially". The first method of the collective saving of circulation-costs is "commercial [or trade] credit, which the capitalists engaged in reproduction give to one another, [and which] forms the basis of the [entire] credit system" (*Capital*, III, p. 479).

Although the same relation develops very actively among commercial capitalists, as will be seen later, the differentiation of commercial capital from industrial capital has not yet been made explicit. Therefore, commercial (or trade) credit must, at the present stage, be understood to be credit given and taken by industrial capitalists who buy and sell commodities for themselves. This must be so notwithstanding the fact that, prior to the full development of capitalism, trade credit was a well established practice among merchant capitalists themselves and also between them and small commodity producers, and that, even in a fully developed capitalist society, surviving merchant capital, not quite transformed into modern commercial capital, can also make extensive use of trade credit. Though they are formally identical to modern trade credit, its historical antecedents cannot, by themselves, expose its economic significance in capitalist society which is grounded on the reproduction-process of industrial capital.

* * *

An industrial capitalist possessed of sufficient reserve money often need not sell his product for cash in order to continue his present operation. If he can sell his commodity to a dependable customer more easily on credit than for cash in the open market, he will not hesitate to draw a bill of exchange and accept a deferred payment of the commodity's price. For, in that way, the capitalist can avoid needless prolongation of the selling-period, during which time the use-value of his commodity would have to be preserved at his expense. The purchaser too can productively consume the commodity, without, in the meantime, having to pay cash for it. He only has to pay off the debt later, when he has the proceeds from the sale of his own product. Thus, trade (or commercial) credit benefits both parties: the seller and the purchaser of the commodity.

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Suppose that a cotton spinner sells his yarn to a weaver, in exchange for the promissory note which stipulates that the purchaser pays $100 three months hence. The weaver is then enabled to continue his production without having to possess the money-capital of, say, $98, which, let us suppose, would be the cash price of the yarn. He can, therefore, immediately begin to produce surplus value by weaving the yarn which he would otherwise not be able to get. The spinner, on his part, must be in a position to continue his own production at the desired scale without receiving the cash price of $98 for the present. In other words, if he did receive those $98 now, they would remain idle for at least three months, and would not be immediately convertible into his money-capital.

Thus, by means of this trade credit, the $98 which would have remained idle in the hands of the spinner have been activated as money-capital by the weaver. Consequently, the cotton yarn worth $98 cash, which would not otherwise have been sold, has been sold. For this trade credit to be "self-liquidating", it is necessary only that the weaver should be able to sell his cloth (which, by the way, need not be the product of the very yarn in question) within three months for cash, and should be in possession of the means of payment, M, by the expiry of the credit period. Thus, provided that the reproduction-process of the weaver proceeds as expected, and that the spinner does not in the meantime face an unexpected need for cash, the idle funds of $98 are capitalist-socially convertible into money-capital.

The spinner who, in this example, is the giver of credit to the weaver may also, at the same time, be the receiver of credit from the cotton grower. In that case, the promissory notes that the spinner receives from the weaver in lieu of cash can circulate as a means of payment, N, so long as its eventual conversion into cash is deemed certain. The spinner, instead of holding on to the bill of exchange, may use it to purchase raw cotton, priced at $98 cash, from the cotton-grower, by endorsing the promissory note of the weaver to pay $100 three months hence. That will be equivalent to his having issued a similar promissory note of his own to the grower (having the latter draw another bill of exchange on him). If the cotton grower agrees to sell his raw cotton to the spinner, for the promissory note of the weaver endorsed by the spinner, the $98 which would remain idle in the hands of the grower are utilised as money-capital by both the spinner and the weaver. Thus, the idle money of $98 can, in this case, generate the money-capital of $196.

The circulation of commercial bills, therefore, raises the degree to

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which existing idle funds are capitalist-socially utilised as money-capital. The other side of the same story is that the raw cotton and the cotton yarn, together worth $196 in cash, which would not be sold in the absence of trade credit, are immediately removed from society's stock of commodity-capital. Society's reproduction-process is thereby accelerated, and its production of surplus value is, to that extent, enhanced. Thus, on the basis of the M that the weaver is deemed certain to possess three months hence, a certain multiple, say, $\beta > 0$, of it can in the meantime function as credit-money, $N = \beta M$, in the reproduction-process of industrial capital.

The capitalist production of commodities forms an integrated social activity, even though each commodity is produced anarchically by independent private businesses. Therefore, commodity production has both a social and a private (individual) aspect. The introduction of commercial credit, to some extent, counters the dispersion of private (individual) capitalist enterprises, and strengthens the socially integrated aspect of commodity production. Indeed, if cotton growing, spinning and weaving were integrated under the operation of one single capital it would not be necessary for the product of each process to be circulated as a commodity and sold for money. It is the differentiation of capital into independent, and specialised, operating units that splits one technical process into several sub-processes, and compels society to hold unproductive circulation-capital side by side with productive capital. Commercial credit does not abolish circulation-capital but reduces its proportion in the aggregate-social capital, and thus contributes to a more efficient operation of the reproduction-process, i.e. to an increased production of surplus value in capitalist society.

* * *

What commercial (or trade) credit substitutes for is, therefore, a vertical integration of industries which consists of amalgamating a sequence of technical processes in the production of a use-value. In the present example, commercial credit brings together the growing of raw cotton, the spinning of cotton into yarn and the weaving of yarn into cotton fabric, by arranging to "monetise" (sell for money) raw cotton, cotton yarn and cotton fabric in one sweep. Commercial credit can thus be seen to eliminate the need to monetise intermediate goods, prior to the monetisation of the final product. The grower can give credit to the spinner and the spinner to the weaver because raw cotton is used to produce cotton yarn, which, in turn, is used to produce cotton fabric.

The reverse, however, is not possible. For cotton yarn is not (ordinarily)

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produced from cotton fabric, nor raw cotton from cotton yarn. Commercial credit always follows the one-way technical sequence of use-value production in a downstream direction. By the same token, the weaver, who can perhaps give trade credit to a tailor, cannot give it to a brewer or silversmith. For cotton is not (normally) an input in the production of either beer or silver crafts. Commercial (or trade) credit springs directly from the concrete-specific sale of a commodity; it is given by the seller of the commodity to its purchaser. It cannot be generalised indiscriminately because it is closely tied to the technical sequence of use-value production.

From this restriction follows the fact that a series of trade credits do not normally form a closed circuit, and cannot be wholly cancelled without the intervention of hard cash. It is, of course, not impossible to imagine a series of transactions that form a closed loop, such as $\mathbf{A} \rightarrow \mathbf{B} \rightarrow \mathbf{C} \rightarrow \mathbf{A}$, if **A** is both the importer of raw materials and the exporter of the final product, or if **A**, **B** and **C** only trade in items of constant capital among themselves, as Marx mentions (*Capital*, III, pp. 479–80). As he also expressly remarks, however, "a complete circuit of reproduction assumed above can only constitute an exception" (ibid.). Even in the highly unlikely event in which the string of transactions, $\mathbf{A} \rightarrow \mathbf{B} \rightarrow \mathbf{C} \rightarrow \mathbf{A}$, forms a closed circuit, there are normally discrepancies in the amounts and periods of credit involved, so that a perfectly mutual cancellation of debtor–creditor relations, which does not require payment in hard cash, is most unlikely.

In practical affairs of business it may be convenient to substitute book-keeping for actual monetary transactions, particularly among regular trade partners. The theoretical reason for the use of trade credit is, however, not that it saves "costs of transactions" or is otherwise convenient. It is because some capitalists possess idle money which they themselves cannot convert into capital.

The above also explains, in part, why trade bills remain only very imperfect credit-money, which has a narrow scope of circulation. Trade bills cannot be used to pay wages. Neither workers nor capitalists can acquire goods for their personal consumption by means of trade credit. Trade credit, which is under discussion here, is quite different from "consumer credit", which has gained popularity only in recent years. Even during the classical stage of the development of capitalism, consumer credit of some sort may have existed, but its scope of application was insignificant. Indeed, consumer credit plays a small part or no part in the theoretical reproduction of a purely capitalist society. Trade credit,

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in contrast, is its fundamental constituent, having its ground in the circulation-process of industrial capital. All industrial capitalists possess idle funds at one time or another. Because each capitalist has a different time-profile of cash flows and capital investment, it is only to be expected that some have more money than they can invest as capital, while others lack enough money for investment. Industrial capitalists can mutually finance the formation of capital because those who borrow N today can pay back M tomorrow.

Suppose that a chain of transactions, **A** → **B** → **C** → **D**, and another chain, **H** → **I** → **J** → **K**, are separately financed by trade credits. It is quite possible that an increased trade in **D**'s commodity (say, coffee) has an expansionary effect on **K**'s commodity (say, sugar) because they are "complementary" commodities. If the production of **D**'s commodity has been made easier by trade credit granted by A, that will probably increase the demand for **K**'s commodity, which, in consequence, may stimulate the utilisation of trade credit in the sequence **H** → **I** → **J** → **K**. From this example, however, it does not follow that trade credit has by itself a self-expanding capacity. For, if **D**'s commodity and K's commodity were not technically complementary, the financing of the **A** → **B** → **C** → **D** chain would have little effect on the financing of the **H** → **I** → **J** → **K** chain.

The present example rather shows the passive character of trade credit in responding to an autonomous expansion of the reproduction-process. It is necessary that the demand for either **D**'s commodity or **K**'s commodity, or both, should somehow be stimulated first, before trade credit is activated in the technically related field of society's reproduction-process. It is true that trade credit is actively used in prosperity, and remains stagnant in a depression. That, however, does not mean that the utilisation of trade credit is, by itself, the cause of business cycles. Even if **A** has an ample supply of idle funds, they cannot be socially activated by trade credit, unless the production of a commodity, for which **A**'s commodity is a technical input, is in sufficient demand.

The utilisation of trade credit makes possible the production of surplus value which would otherwise not be possible. The additional surplus value which has been produced because of the utilisation of trade credit can, therefore, constitute the source of interest. For example, suppose that the credit of "$100 payable in three months" granted by the spinner to the weaver enables the latter to produce the surplus value of $5 which, in the absence of the credit, would not have been produced. If $3 out of this additional surplus value correspond to the average profit accruing to the weaver's own capital, the remaining $2 can be paid as interest by the weaver to the spinner who has lent, say, $98. Of course, in an actual arrangement of credit, the price of "$100

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falling due in three months" must be agreed upon as, say, \$2 between the two parties, prior to the production by the weaver of the additional surplus value, and the agreement should be binding, even if the weaver fails to produce the expected surplus value. That, however, is not the issue here. The problem at hand is to show how the price of loanable funds, or the rate of interest (discount), is determined as \$2/\$98 = 2.04 per cent over three months.

Unfortunately, this problem cannot be answered within the present scope of the theory of trade credit. The terms of lending and borrowing, by way of trade credit, are subject to many contingent factors surrounding the use-values that are actually traded. For example, suppose that a spinner possesses some idle funds. He may then choose to sell his yarn, worth the cash value of \$98, to weaver-**A** in exchange for the promise to pay \$100 three months hence, and to weaver-**B** in exchange for the promise to pay \$101 two months hence. The spinner is also at liberty not to grant any credit at all to weaver-**C**. Such discriminations are possible, even if the "risk factor" involved in all these cases is identical. It is also possible for the same weaver to be given credits of different terms from different spinners for the same period.

Even if the cost of credit is uniform between cotton spinners and weavers, an altogether different rate of interest may be agreed upon between hop growers and beer brewers. The persistent variety of the rates of interest shows the limitation of trade credit, which cannot be disengaged from the sale and purchase of concrete-specific commodities, and which is, therefore, subject to various contingencies arising from the nature of those specific use-values and from the idiosyncrasies of those who trade them. This limitation also implies the imperfect commodification of loanable funds by means of trade credit. Bank credit is now introduced to overcome this kind of imperfection.

9.1.2 Bank Credit and Discounting of Bills

The limitations of trade credit can be overcome when a banking system which is capable of discounting commercial bills develops. Suppose that the spinner, who has sold cotton yarn worth \$98 cash to the weaver in exchange for a promise to pay \$100 three months later, suddenly faces a need for cash in a month and a half. It may be due to the spinner's need to purchase raw cotton worth \$99 cash. The spinner must, therefore, persuade the grower of cotton to sell it in exchange for a promise to pay \$100 one-and-a-half months later. The spinner may propose either to issue his own promissory note, or to simply

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endorse the bill of exchange drawn on the weaver, and which he has so far retained, and pass it over to the grower. In either case, however, the grower cannot oblige unless he has idle funds to spare; that is to say, unless he would be unable to invest $99 himself, for at least one and a half months, even if he received them now.

If the grower refuses to grant credit due to the lack of idle money on hand, the reproduction-process of the spinner cannot be maintained on the desired scale. Surplus value that he could have produced cannot be produced in the absence of the necessary finance. The institution of trade credit is powerless in this case, even if a miller finds himself in the meantime unable to invest his $99 for a month and a half. For the spinner does not (normally) buy flour to make his yarn. Only a baker, who may not need it, can utilise the miller's finance. From the point of view of capital, it is repugnant that the spinner cannot count on the miller's ability to lend, in order to increase society's production of surplus value. Bank credit is specifically designed to overcome such a restriction.

Let us, at first, suppose that all industrial capitalists deposit their idle money with the banking system, which mediates its capitalist-social reallocation. The banking system collects society's idle funds, such as "$100 not investible as capital for the next six months", "$150 remaining idle for the next three months", etc., as term deposits and pays depositor's interest on them. Having made up a portfolio of available loanable funds out of the deposited money, the banking system can find suitable borrowers for them. In other words, banks are, in the first instance, brokers of idle funds. For example, a bank that receives some significant sum of money as a time deposit, say, for the term of three months, may lend it out to a customer for the same period, charging him the lender's interest, which is a little higher than the depositor's interest on the same amount of money.

Banks are, thus, traders of funds as commodities, profiting from a differential between depositor's and lender's interest. Loanable funds concentrated in the banking system are no longer restricted by specific trade in use-values, and constitute a common source of finance to all industrial capitalists. Idle funds generated anywhere in capitalist society can be channelled to wherever investible funds are needed, by the medium of the banking system.

Bank credit takes the form of loans and discounts. In discounting the bill of exchange that the spinner has drawn upon the weaver, for example, the bank may use the money deposited by the miller, the shoemaker, the silversmith or anyone else. Bank credit, it is true, is

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still based on the sale of cotton by the spinner to the weaver. Indeed, if the weaver fails to honour the bill at maturity, the spinner who has had it discounted is held responsible for paying. The bank lends money to the weaver, through the spinner, after confirming that the transaction has already taken place or been agreed upon. Therefore, in discounting the bill, the bank is obliged to thoroughly investigate the soundness and credit-worthiness of the parties involved, and may even charge a risk premium on top of the interest if that is advisable.

Moreover, the bank does not lend the spinner its own money, but the money deposited by the miller, the shoemaker, etc. That is to say, it lends the money that constitutes its liability. The bank, therefore, cannot lend the money for a period longer than the terms of the deposit, which the miller, the shoemaker, etc., have chosen at their discretion. In this respect, too, the loanable fund is not completely independent of the production of use-values. Nevertheless, the intermediary function of the bank enables the spinner to make use of the miller's money, despite the fact that, as a use-value, cotton yarn is technically unrelated to flour. It is in this sense that bank credit overcomes the restrictions of use-values to which trade credit was subject.

So far only the "cash discounting" of trade bills by the banking system (as distinct from the discounting of bills by means of banknotes) has been considered. Even within this restricted scope, the function of banks, as "non-bank" financial intermediaries, accomplishes a definite "socialisation" of idle funds. Banks as financial intermediaries make up the money market, in which rates of interest are competitively determined, such as 1 per cent for a three-month credit, 1.5 per cent for a six-month credit, etc. If, in this way, the market impersonally determines a rate of interest for all loans of a definite duration, it may be said that idle funds have been converted into commodities, the prices of which are the rates of interest. Since a reasonably stable interest structure is likely to evolve in a competitive money market, one may even talk of *the* rate of interest as the price of loanable funds in general. Although both the source and the use of funds are related to the production of use-values, funds themselves do not have diverse material qualities. The use-value of funds is strictly commodity-economic and uniform.

From a practical point of view, it may appear strange that the banking system should first be introduced apart from its more typical function of issuing banknotes. Theoretically, however, this latter function is built on the more primitive function of the banks in pooling society's idle funds and making them

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available uniformly to all capitalists. We therefore begin with the characterisation of the banks as financial intermediaries rather than as the issuers of banknotes. Idle funds become commodities by the intermediary function of banks.

In this context, the banking system is being considered in its abstract generality, so that the specialisation of its component banks is left out of consideration. In practice the operation of individual banks is often restricted not only geographically but also in terms of the principal use-values traded by the customer-firms. This point will be considered later. Furthermore, legislation often distinguishes commercial banks from "near banks" of all sorts (such as trust companies, credit unions, etc.). Such particulars will not be considered in the pure theory of interest.

With the formation of the money market, individual capitalists find it increasingly difficult to dispose of their idle funds in an arbitrary fashion. Industrial capitalists, in other words, must submit to the social discipline imposed by the money market both as lenders and as borrowers of funds. For the market determines the rate at which idle funds may be traded at any time, regardless of the contingent circumstances affecting their sources and destinations. The rate of interest thus determined reflects the market forces of demand and supply which, in turn, depend on the prevailing conditions of society's reproduction-process. Loan-capital thus becomes somewhat independent of industrial capital, and confronts it as an external constraint. Loan-capital socially regulates the anarchic activities of the individual units of industrial capital. This relation is further reinforced as banks begin to issue their own promissory notes called banknotes.

We will explain later why the socially regulating function of loan-capital *vis-à-vis* the uncoordinated chrematistics of industrial capital is limited to the sphere of commodity circulation. Loan-capital does not directly coordinate the actual process of capital accumulation. It merely regulates the conversion of idle funds into money-capital with the "socialisation" of funds.

If banknotes are backed by a 100 per cent cash reserve, they are gold certificates and circulate as equivalents of gold coins. The parity with gold, however, does not change the fact that banknotes are promissory notes of the issuing bank, and that they should, therefore, be considered credit-money together with commercial bills in circulation. The only difference between banknotes and trade bills is that the former are convertible into cash "on sight" or on demand, i.e. without any delay in time. However, if instead of discounting trade bills with cash, a 100 per cent reserve bank discounts them equivalently with its notes, it is clear that the operation simply means a substitution of the bank's

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credit for the traders' credit. This implies the conversion of private bills into quasi-social banknotes. Even the cash discounting of bills by a bank is already a conversion of trade credit into bank credit; but the discounting of bills with banknotes makes this fact even more definitive. The banking system homogenises trade credit by suppressing contingencies, which may still be associated with specific trade in use-values, and thus accomplishes the "socialisation" of idle funds which arises from the circulation-process of industrial capital.

Once banknotes are issued, however, the issuing bank immediately realises that they do not need to be backed by a 100 per cent cash reserve in order to maintain the convertibility of their notes. This realisation follows from the fact that banknotes are not only promissory notes to pay cash later, but are also means of circulation and payment, in their own right, as good as cash itself. Banknotes can be safely issued in many multiples of the existing cash reserve, since their primary usefulness consists of being substitutes for circulating cash, rather than of providing access to the sensuous enjoyment of physical gold. In capitalist society bank credit develops not for the purpose of fostering the primitive hoarding of money, but to socially activate idle funds that are bound to be generated by the circulation-process of capital. Therefore, banknotes are not expected, under normal conditions (i.e. apart from the period of a monetary crunch), to be used as mere means of access to gold. The banking system makes use of this fact in building its own credit on the foundation provided by existing idle cash, thereby extending its function of financial intermediation.

* * *

Notes issued by a particular bank are usually not expected to circulate much beyond a regionally restricted sphere as credit-money. Therefore, the intervention of gold money is often required in inter-bank settlements. On the other hand, idle money may arise in the hands of an industrial capitalist in the form of gold or notes of many different banks. Thus, even if capitalists always deposit their idle funds with a local bank, the latter's cash position changes constantly. It is only by experience that the bank learns the safe limit up to which it may issue banknotes in excess of its present cash reserve without having to face the embarrassment of default. All banks issue their own notes (or equivalently create demand deposits), in making loans or discounting bills, within an empirically apparent safety limit. For the fractional reserve system certainly makes banking a much more profitable business than does the 100 per cent reserve system.

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Even in the case where banks create their own credit by issuing banknotes beyond their cash reserve, however, they remain fundamentally financial intermediaries. Banks do not buy commodities with their own banknotes. The latter are, therefore, credit-money, and are different from fiat money which the government issues. These two kinds of money must be sharply distinguished. Besides, banks cannot "create" credit without limit, by issuing notes. They can create credit only to the extent that the reproduction-process of capitalist society is about to generate idle funds. If they create more than that, they are bound to get into trouble.

In this respect, bank credit does not differ from trade credit. For, in granting a trade credit, an industrial capitalist too most frequently lends "potential", rather than actual, idle funds. That is to say, he lends the money that, if presently received, is going to remain idle for some time in his hands, not the money he already possesses, having received it some time in the past, and for which he has not been able to find a profitable use. If, for example, the spinner gives a trade credit to the weaver by selling to the latter the yarn priced at $98 cash for $100 receivable in three months' time, it normally means that the spinner lends to the weaver $98 which he has not received, i.e. his "potential" idle funds of $98, not the same sum already in his possession as idle funds. It will be safe to do so, to the extent that the weaver is expected to acquire the necessary means of payment in due course. If he fails to do so, however, the spinner is bound to be caught in a pinch.

Bank credit implies a mechanism by which the weaver can borrow the potential idle funds of the miller through the spinner, even though the latter cannot afford to lend them, provided that the miller and the spinner are regular customers of the same bank, and use its banknotes routinely. If the 100 per cent reserve system were insisted upon, the perfectly credit-worthy weaver could not borrow, unless the miller had already deposited with the bank $98 which he could not use for the next three months. Under the fractional reserve system, in contrast, the bank does not wait for such a deposit to be made before discounting the spinner's bill in return for its own banknotes of $98. For the miller who needs cash only in three months' time will not return to the bank for conversion of the bank's notes into gold. (We may assume that the bank's cash position is secure with regard to other customers.) In three months' time, the weaver has paid back the spinner, who then pays back the bank. Therefore, by the time the miller appears at the door of the bank, demanding the conversion of its notes into gold, the bank is adequately provided with gold to honour its commitment.

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Thus, if any capitalist (represented here by the miller) can afford to wait for some time, without receiving a payment in cash, another capitalist (here represented by the weaver) is able to take advantage of that "potential" idle money, in the meantime, for the production of surplus value. This requirement justifies fractional reserve banking. The above example is designed to drive home the point that, even under this system, banks cannot lend more than society wants to lend. That is to say, they cannot lend beyond the limit of society's "potential" idle funds. If they exceed the limit, discounts will not be self-liquidating and loans will fail to be repaid. For example, if the bank discounts the spinner's bill, even if the weaver is unlikely to get the means of payment in three months' time, the bank will be out of cash to pay the miller when he brings back its notes for conversion into cash.

Now let us illustrate how profitability increases under the fractional banking system. Suppose that a bank receives a three-month term deposit of $100. If the reserve requirement is 100 per cent, the bank will be able to discount bills only up to $100 for three months. If the bank pays the depositors the interest rate of 1 per cent and charges 2 per cent on discounts, its maximum earning for the three months is only $1. If the bank lends $1,000 against its cash reserve of $100, the deposit interest is still $1, but the lending interest is $20, so that the bank can earn the difference of $19. Since the banknotes of $1,000 will return to the bank in various ways, however, let us consider the following three typical cases.

1. If **A** receives $1,000 as a loan from his bank and spends them to buy commodities from **B**, and **B** spends them to buy commodities from **C**, etc., continuously for three months, then the banknotes of $1,000 do not return to the bank at all. [If any of these traders holds these means of circulation and payment as demand deposits with the bank, that will not be regarded as the return of banknotes here. The bank, in any case, pays no interest on demand deposits, regarding them as equivalent to banknotes in circulation.] The banknotes of $1,000 remain in circulation for three months.
2. If **B** who receives the payment of $1,000 from **A** immediately returns $500 to the bank as a three-month term deposit for the interest rate of 1 per cent, then the bank has to pay $6 on the deposit side, against the $20 that it receives on the loan side, so that the differential is $14. If, however, the bank can find a suitable borrower **C** of the $500 during the same three months, it earns additional $10 at no further cost. If **B**'s $500 and **C**'s $500 remain in circulation, the interest differential will be $24.

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Table 9.1

	Deposit	*(interest)*	*Banknotes in circulation*	*(Interest differential)*	*Loans*	*(interest)*	*Cash reserve*	*(Ratio*)*
(1)	$100	($1)	$1,000	($19)	$1,000	($20)	$100	(11%)
(2)	$600	($6)	$1,000	($24)	$1,500	($30)	$100	(16%)
(3)	$590	($5.9)	$ 900	($22.1)	$1,400	($28)	$ 90	(16.5%)

* the ratio of cash to total liabilities

3. If **B** who receives the payment of $1,000 from **A** deposits $500 with another bank, and if at the same time another trader **C** deposits with **A**'s bank $490 in banknotes of **B**'s bank, **A**'s bank is obliged to pay $10 in cash to **B**'s bank. The cash reserve of **A**'s bank is reduced to $90, while the banknotes of $500 remain in circulation. Against the lending interest of $20, **A**'s bank has to pay the deposit interest of $5.90, so that its earning is $14.10. If, however, the same bank can find a suitable borrower **D** of $400, which remain in circulation during the next three months, additional interest of $8 can be earned, so that the interest differential on the whole is $22.10.

The three cases are compared in Table 9.1, where "cash reserve ratio" is the proportion of cash to total liabilities, and "deposit" means three-month term deposit. Demand deposits are considered equivalent to "banknotes in circulation", and are included under that heading. Total liabilities, which include both term deposits and notes in circulation are equated to total assets, which consist of loans (including discounts) and cash. In reality, the combination of deposits, withdrawals, and repayments is far more complex than is illustrated by the three examples, and the ratio of cash to total assets or liabilities is incomparably smaller. Yet the deliberately arbitrary sets of numbers bring out the basic mechanism of commercial banking adequately.

The discounting of commercial bills and other forms of bank credit by means of banknotes perfects the *conversion of funds into a commodity*, and completes the form of loan-capital. The circulation-process of capital generates funds which may be spent either for consumption purposes or for capital formation. Since not all of such funds can be spent immediately, however, some funds remain idle for a longer or shorter period of time. Only bank credit, and not trade credit, completes the operation of loan-capital, M ... (N) ... M′, which pursues interest, m = M′ − M. Although it originally arises as a subsidiary chrematistic of industrial capital, loan-capital will not be well established until it becomes the banking system's capitalist operation at

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arm's length from industrial capital. So long as trade credits are given and taken by industrial capitalists among themselves, the price, M′ – M = m, paid for the use of loanable funds, M, remains quite arbitrary, as already pointed out. Idle funds must be converted into loans and discounts in banknotes (rather than cash) and traded in money markets. Only then do their prices become capitalistically rational, and free from arbitrariness and contingencies.

The form M ... (N) ... M′, when not mediated by the banking system, may moreover not repeat itself as capital. For $100 that once remained idle for three months in the hands of an industrial capitalist may not do so again under different circumstances. The banking system which concentrates society's idle funds, in contrast, is constantly supplied with them. If a loan is returned, another loan must be extended, so as to repeat the operation of loan-capital. In its never-ending motion it earns an interest, as the capitalistically rational price, for the use of society's idle funds. From this point of view, the earning of depositor's interest by an industrial capitalist is no more than a secondary matter to the whole motion of loan-capital, M ... (N) ... M′, mediated by the banking system.

For example, if an industrial capitalist deposits $100 today, and earns $1 as depositor's interest in the next three months, he only participates transiently in the on-going motion of loan-capital, which converts M = $100 into M′ = $101 every third month. After three months he may withdraw $101 and spend them on commodities, just as one alights from a bus that continues its journey with other passengers. Although industrial capital, as a whole, supplies idle funds to feed the motion of loan-capital, individual capitalists are like passengers of a transit bus, boarding it here and disembarking from it there. Loan-capital is not operated by them, but by the banking system which holds itself aloof from them.

Yet banks cannot be described as "loan-capitalists", since they do not themselves own loanable funds, M. Banks do make use of the idle funds of society at their own discretion, it is true; but they do not own loanable funds which are merely entrusted to them to administer by others. They merely administer other people's properties. Neither can industrial capitalists be described as "loan-capitalists". Industrial capitalists who collectively own society's idle funds cannot, by themselves, operate loan-capital in a sufficiently objective fashion. Thus, we cannot find an independent class of "loan-capitalists", i.e. those who own loanable funds and who also operate the form of loan-capital. It is this fact that most strikingly illustrates the peculiarity of loan-capital, the reinstatement of money-lending capital in a society dominated by industrial capital.

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Not only industrial capital but bank-capital (to be specified presently) and commercial capital (which will be studied in detail in the following section) consist of individual capitalist operations, in which the owners of investible money convert it directly into their own capital in pursuit of average profits. They are industrial, commercial and banking capitalists. Loan-capital does not operate in that way. It consists of assembling and "socialising" idle funds that these capitalists cannot individually convert into capital. In order to "socialise" their idle funds and activate them as capital, it is necessary to separate them from their direct owners and concentrate them socially in the hands of the banking system. Loan-capital thus concentrated and "socialised" no longer belongs directly to dispersed individual capitalists, but to capitalist society at large. However, capitalist society as a whole, which operates loan-capital through its banking system, cannot be an individual capitalist in the same sense as an industrial capitalist is. That explains the absence of a "loan-capitalist" or, as Marx calls it, a "money-capitalist".

In capitalist society, however, even banks whose function is primarily "social" must be operated by individual capitalists as private bank-capital. They purchase buildings, hire clerks, and pay office expenses with their own money, M, in order to concentrate and "socialise" the special commodity, C, called idle funds, and earn a differential between lender's and depositor's interest as profit. Thus, bank-capital, just as commercial capital (which will be discussed soon) has the form $M - C - M'$ of merchant capital. As the reinstatement of merchant capital in a society dominated by industrial capital, however, they (bank-capital and commercial capital) must both earn an average profit to remain in business. In this respect too, it is important to distinguish bank-capital $M - C - M'$ from loan-capital $M \ldots (N) \ldots M'$. For the latter, which may be regarded as the reinstatement of money-lending capital, pursues only interest and not average profit.

Historically bank-capital has its origin in Marx's "money-dealing capital", which specialises in the technical operations of "paying and receiving money, settling accounts, keeping current accounts, storing money, etc." (*Capital*, III, p. 317). It had often developed spontaneously from the monetary "exchange business" in connection with international commerce. Modern banks continue to offer these services and receive commissions for them, though they are only subsidiary operations of modern banks. Banks' profits, therefore, include commissions on these technical services in addition to the interest differential that they earn through their primary function as financial intermediaries.

Since banks are capitalist enterprises, they must earn average profits. If too much capital is advanced in banking, some banks will fail to earn average profits. If not enough capital is advanced in banking,

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Table 9.2

	Bank profit ($)	*Bank-capital* ($)	*Total-assets* ($)
(1)	19	475	1,100
(2)	24	600	1,600
(3)	22	552.5	1,490

some banks will earn surplus profits. Thus, in banking too, a socially necessary quantity of capital tends to be advanced, following the dictates of the law of average profit. If commissions on money-dealing services are abstracted, the profit of the bank consists entirely of the interest differential. Suppose that the general rate of profit is 4 per cent for three months. Then the profit of A's bank in the three cases in the above illustration will be as shown in Table 9.2.

Even in these highly artificial cases, the magnitude of bank-capital is less than half of the value of total assets (cash + loans). In practice, it is well known that the proportion of bank-capital to total assets is almost insignificantly small.

* * *

Inasmuch as banks operate as private enterprises in capitalist society, the banking system necessarily consists of diverse individual elements, catering to the specialised needs of particular regions and industries. For example, there are those which provide only agricultural finance or which deal mostly or exclusively with textile-related businesses. Such specialisation develops naturally since, in discounting bills and making loans, banks must keep abreast of the economic activities of their customer firms. Yet it is also in the nature of banking to divest itself increasingly of restrictions emanating from the trading of specific use-values, and to realise the universalisation of the business of finance.

If the scope of finance always remained restricted, the "socialisation" of funds would not be fully achieved. Country banks must, therefore, establish connections with the monetary centre, whether by opening a branch office in the city, or by arranging to correspond with a city bank. City banks, too, either open branches in the country, in order to maintain a closer relation with local industry, or cooperate with country banks by rediscounting bills already in their portfolio. The money market becomes a truly capitalist-social institution, as the banking system achieves unity of its interdependent individual members. Since funds are not diverse material use-values, banking tends to develop a uniform and self-integrated system of its own accord. The centralisation

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of banks, therefore, is easier than, and has a different meaning from, the centralisation of industrial operations.

A large number of banks are represented in the money market of principal cities, where credit instruments of all sorts change hands constantly. If gold had to be shipped on each such occasion, the cost of financial transactions would be enormous. It is, therefore, only natural that banknotes of larger banks tend to be used as substitutes for gold money, or what comes to the same thing, smaller banks tend to hold demand deposits with larger banks for inter-bank settlement of accounts. If such a practice evolves, however, smaller country banks will prefer to hold even their cash reserve in banknotes of larger banks rather than in gold. For that will significantly reduce their operating cost, without detracting from their pursuit of profit. On one hand, smaller banks are relieved from the burden of safe-keeping gold and printing notes; on the other, they can equivalently substitute book credits for banknotes of their own: that is to say, they can discount bills by opening chequing accounts (demand deposits) for their local customers instead of handing over their banknotes.

Since the scope of circulation of smaller banks' notes would be limited in any case, local transactions can easily be settled by chequing accounts. Thus, the issuing of banknotes ceases to be an ordinary function of small banks, and tends to be monopolised by larger banks, mostly located in principal cities. That means that larger banks in principal cities become the lenders of last resort to many smaller country banks which have ceased to issue their own notes, and which hold their cash reserves in banknotes of (or demand deposits with) larger city banks.

Whether, in the course of this development, smaller banks remain independent unit-banks or are amalgamated as branches of a larger bank depends on concrete-historical circumstances. From the point of view of the integration of banking, however, the effect is known to be substantially the same in either case. Whatever be the circumstances, larger banks in principal cities tend to dominate smaller banks in the country.

If this trend is automatic, however, the same must be true between larger city banks and still more powerful banks in great international centres. Even regionally dominant city banks find it expedient to be under the protective umbrella of a handful of leading international banks with enormous financial resources. Thus, in a purely capitalist society, only a few gigantic banks remain as the issuers of banknotes. In practice, these are the national "central banks" which, by legislation, monopolise the function of issuing notes, and which hold much of the nation's

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monetary gold in their vaults. Central banks are quasi-public institutions that govern national currency areas, given the fact that capitalist society implicitly presupposes politically independent nation-states.

Capital does not defy existing political authorities. Rather than confronting them inimically at an onerous cost, capital circumvents them, with a view to winning substantive concessions from them. It is, therefore, with cunning that capital accepts nationally divided currency areas, and forms a quasi-public central bank in each of them. The Bank of England in the middle of the nineteenth century played the role of a *de facto* international central bank for all practical purposes. Many smaller nations had, by that time, not formally inaugurated a central bank, and leading banks of those nations often held pound sterling, together with gold, as their cash reserve, considering the Bank of England to be the lender of last resort. Existing central banks are called "quasi-public" because of their customary function as the fiscal agents of their respective states. From the point of view of a purely capitalist society, however, this political aspect of central banking is irrelevant. A central bank must be distinguished from ordinary banks in being the lender of last resort. Thus, theoretically speaking, if a central bank is "quasi-public", it only means that it has the character of a "capitalist-social" enterprise *par excellence*. "Capitalist-social" does not, of course, mean genuinely social.

Let us, therefore, consider a purely capitalist society in which a single central bank is present. High-powered money in such a society consists of the cash reserves of the commercial banks (usually their deposits with the central bank) and central banknotes in circulation, and its supply is regulated in turn by the gold reserve of the central bank. The individual hoarding of monetary gold then loses much of its meaning, except under extraordinary circumstances, and idle funds generated from the circulation-process of capital tend to be in the form of central banknotes rather than of gold. The circulation of gold coins will be very restricted, if not altogether suspended, under normal circumstances. Society's stock of monetary gold remains almost permanently in the vault of the central bank. The safe-keeping of monetary gold by the central bank, however, has not become a formal ritual. For only the gold reserve of the central bank measures the value of commodities, using convertible banknotes as its proxy. Banknotes are not by themselves value-objects, nor can they by themselves measure the value of commodities. Only banknotes that are backed by gold, a reproducible commodity or value-object, can measure the value of other commodities and act therefore as the proxy of gold.

This point requires great emphasis. If central banknotes remain securely in circulation, without any apparent need for conversion into gold, that only signifies that commodity exchanges are being regulated

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by value relations and that the reproduction-process of capital continues without as yet exposing its internal contradictions. If, on the contrary, society's reproduction-process faces a fundamental disequilibrium, and commodity exchanges can no longer be regulated by value, central banknotes depreciate immediately and their conversion into gold becomes imminent. In practice, the central bank may be protected by a temporary suspension of convertibility by decree, or may otherwise be spared from bankruptcy if a strong enough nationalist feeling is aroused to support the institution. Theory, however, cannot allow for such contingencies. If society's reproduction-process is paralysed, the "socialisation" of funds becomes an impossibility. The institution of bank credit, therefore, collapses and central banknotes become worthless. Only gold then remains true money.

The famed controversy in the nineteenth century between the currency school and the banking school overlooked this point completely. The currency school ignored the fact that the "socialisation" of funds occurs in response to the motion of the social reproduction-process, and stipulated that the Bank of England might issue notes up to a certain multiple of its gold reserve. That rule, in effect, meant prescribing an arbitrary limit to bank credit, regardless of the conditions of the reproduction-process. It is, however, obvious that too low a limit would unnecessarily deflate the reproduction-process, as too high a limit would unduly inflate it. If the reproduction-process is not ready to grow, a cheap money policy only causes confusion. If it is ready to grow, a tight money policy unduly hinders the motion of capital. Since the capitalist economy grows cyclically, it would be impossible to maintain an "optimum money supply" in reference to an arbitrarily prescribed cash reserve ratio of the central bank.

The banking school, on the other hand, realised that the quantity of banknotes in circulation is regulated by the requirement of commodity transactions, and claimed that excessive bank loans will swiftly and automatically return to the lending banks. On the basis of this theory, the banking school demanded that the profit-maximising activity of banks should be left free from public intervention. It is, however, questionable that freedom in banking ensures an optimum supply of bank credit. Bank loans are, of course, demanded when society's reproduction-process expands, but the latter can sometimes be capitalistically forced to expand beyond its actual capability. That forced expansion regularly occurs in the phase of precipitancy that follows the period of average activity during all business cycles. Since in that phase capital demands the "socialisation" of funds far in excess of what the reproduction-process can in fact digest, banknotes remain in circulation even though more of them were issued than was justified by the formation of potential idle funds. Banks are lured by surplus profits into responding to the blind capitalist demand for credit, which is unfounded on the actual capacity of the reproduction-process, often ignoring their own safety. The banking school offers no solution to this congenital intemperance of capitalist banking.

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The banking system plays the role of a catalyst of the reproduction-process as long as the latter functions within bounds. The C′ – M′· M – C phase of the circulation-process of capital is accelerated by the "socialisation" of idle funds that the banking system accomplishes, and the production of surplus value by capital is pushed to its limit. However, banks cannot, without serious consequences, overstep this limit which is imposed by the existing technology of use-value production. Banks may safely create their own credit, by discounting bills and making loans, only insofar as the reproduction-process itself possesses "potential" idle funds. If bank credit exceeds the potential idle funds of the economy, so that the prevailing reproduction-process fails to generate funds as expected, bills will not be honoured and loans not returned as the credit periods expire. The widespread bank failures that inevitably ensue may even cause the insolvency of the central bank.

The banking system does indeed intend to follow the prior development of the reproduction-process. That is obvious by the movement of the rate of interest which regulates bank credit. It is, however, never wholly abreast of the motion of the reproduction-process of capital. At most it only perceives that aspect of the reproduction-process which externally inter-relates products among themselves, and overlooks the fact that the actual process of reproduction also presupposes a relation between these products and human labour. As the widening phase of accumulation proceeds, the relation between capitalistically producible commodities and labour-power becomes increasingly strained, and this is only exacerbated when loan-capital constrains the production of commodities. The more the rate of profit falls, the more the rate of interest rises. It is this process that can be aptly described as the intensification of the contradiction between industrial and loan-capital.

9.1.3 The Rate of Profit and the Rate of Interest

The contradiction between loan-capital and industrial capital, as it expresses itself in the opposite movements of the rate of interest and the rate of profit, is grounded in the actual process of capital accumulation. The latter is cyclical and hence undergoes the phases of widening and deepening alternately. In the capitalist market, however, these phases appear to us in the more familiar fashion as "prosperity" and "depression", which alternate in the course of business cycles. We shall, therefore, study the said contradiction as it appears across business cycles, which are periodically punctuated by industrial crises. The best way to comprehend the nature of this contradiction is to begin our

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study with the prosperity phase of the cycle, during which the causes of an industrial crisis are in the making. In that phase, the contradiction has not become apparent. Loan-capital assists the reproduction-process of industrial capital positively, in mediating the process of the equalisation of profit-rates.

The *recovery* of business becomes certain only in the "second ascent (*zweite Anstieg*)" of Spiethoff (Arthur Spiethoff, *Die Wirtschaftlichen Wechsellagen*, Mohr, Tübingen, 1955, p. 80) during which period old fixed capital is forced out of operation, and plants that have been renovated with new techniques begin to emerge in various key industries. The process which introduces innovations may not have started in all industries, but the technical foundation for a new value-relation must, by this time, have been laid. Although output prices are not yet rising, cost-prices have been depressed not only because of inactivity in the factor market, but also because of technical progress.

Consequently, the rate of profit recovers in various strategic locations. This trend introduces the widening phase of capital accumulation. The expansion of the scale of production is relatively easy at this stage, as confidence returns to society's reproduction-process which had suffered a sharp contraction during the previous phase of depression. Labour-power is readily available and, because of their comfortable cash position, banks are forthcoming with loans at low interest rates. Different parts of the economy, however, expand at varying speeds, and the rates of profit are far from uniform.

At this point, loan-capital plays an important rôle in channelling funds to the appropriate spheres of production, and in thus contributing to the equalisation of profit-rates. For it is too early for the inter-industry allocation of resources to depend primarily on the movement of market prices. When new technologies are in the process of being introduced, it is not as yet clear what production-prices will be like when the economy returns to normal. Moreover, capitalists who have just started expansion, encouraged by the recovery of profit-rates, are unlikely to raise the prices of their commodities, even if the demand for them turns out to be fairly brisk. They are still fearful of losing their share of the market, which was so hesitant only a short while ago, by overpricing their goods. Since the market is not yet firm, the maximisation of profit-rates by way of price adjustments must wait, while the expansion of the output under given market prices is a much safer option. Thus, industries adjust their output quantities rather than prices. Under the circumstances, the allocation of funds by loan-capital plays the leading rôle in the rebuilding of capital in various industries.

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Once the recovery phase is well under way, however, an important change takes place. As production and employment recover sufficiently, the social demand for commodities also stabilises. The market prices of commodities consequently rise towards a new system of production-prices, and begin to fluctuate in its vicinity, which implies that at least key industries are already in possession of adequate productive facilities. When productive facilities are rebuilt in most industries, loan-capital need play only a subsidiary rôle in assisting the equalisation of profit-rates. For industrial capital can now pursue that equalisation process by itself, guided by positive or negative surplus profits. Loan-capital only supplements and magnifies the expansionary efforts of the producers by making more funds available, since they are the ones most certain to repay their loans later.

In an earlier and more abstract context (Chapter 7), the equalisation of profit-rates was explained principally by the migration of capital from one industry to another. However, an industrial capitalist who has so far been spinning cotton yarn does not suddenly switch to the mining of coal as soon as he sees that the profit-rate is higher in the latter than in the former. The adjustment *in concreto* in the capitalist market involves mediation by the banking system, which finances additional investment in coal mines on the basis of the idle funds generated, or about to be generated, by cotton-spinning mills. A joint-stock company which evolves at a later stage of capitalist development can run both coal mines and spinning mills under the same capital, thereby circumventing the mediation by loan-capital. In a purely capitalist society, however, in which industrial capital operates in small, dispersed and privately-owned enterprises, it is essential for loan-capital to organise them as aliquot parts of the aggregate-social capital by the "socialisation" of funds.

Thus industrial capital, though differentiated into disparate units in the production of use-values, is unified by the mediation of loan-capital. The social unity of use-value production that loan-capital achieves is, however, never absolute. The relation between industrial capital and loan-capital can remain complementary, and the rate of profit and the rate of interest can rise together, only up to the *period of average activity* in business cycles. During this period, the reproduction-process of capitalist society is in a more or less ideal state. The rate of profit is roughly equalised as industries produce close-to-equilibrium outputs relative to the existing pattern of social demand. The reverse side of the coin is that society's idle funds are most effectively utilised during this period, thus enabling the maximum production of additional surplus value.

The circulation of central banknotes, in the meantime, maintains an appropriate quantitative relation to the existing gold reserve. The pro-

duction of monetary gold, which detracts from the production of other use-values, although minimised, is still being undertaken on an appropriate scale. Nor is the demand for labour-power excessive. Thus, the level of money wages remains normal, in the sense of reflecting the value of labour-power. The stability of the credit institution suggests that loans are in general self-liquidating, since the creation of bank credit is followed by the formation of idle funds with a definite and predictable lag. Such a situation further implies that the shortening of the circulation-period, by means of bank credit, maintains an appropriate relation between the formation of inventories and their absorption, and that the prices of all commodities are stabilised at or near their production-prices.

Such an ideal state, however, does not last for ever. For the expansion of the reproduction-process past the period of average activity leads to a general inflation of commodity prices. This inflation is, in the first instance, caused by the acceleration of bank credit. During the period of average activity, the equivalence of banknotes to full-bodied gold money was guaranteed, since loans were self-liquidating. That state of affairs gave the false impression that the gold reserve, dormant in the vault of the central bank, served no useful purpose. If no one demands the conversion of banknotes into gold, the banking system naturally tends to underestimate the importance of its reserves. Convinced of its safety, the system succumbs to the temptation of surplus profits, when the demand for credit shows no sign of decline although the economy has passed the period of average activity. Unless legally or otherwise regulated, banks cannot by themselves determine exactly when they are "fully loaned up". Since their judgement of the safety of their position is always subjective, they tend to err on the side of over-extension. Thus, as long as industrial capital continues to demand loans, banks are unlikely to sacrifice their profitable opportunities for a more prudent course of self-restraint.

It is, therefore, altogether likely that excessive bank credit will sooner or later shorten the circulation-period of industrial capital more than is socially warranted. The inventory of commodities falls rather sharply, while banknotes are issued well in excess of the quantity that is necessary to circulate existing commodities at their production-prices. When the market prices of commodities rise above their production-prices, however, gold production becomes unprofitable. Therefore, the expansion of that sector lags behind that of the other sectors, and the gold reserves of the banking system can no longer keep pace with the continuing growth of the reproduction-process of ordinary commodities. The rise of commodity prices in the face of a relative decline in gold

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production, however, means that the measure-of-value function of gold has been put in jeopardy.

Suppose that one unit of gold with the nominal value of $1,000 requires half an hour of labour to produce. If one unit of a commodity, which is produced with the same organic composition of capital as gold also requires half an hour of labour, the price of this commodity too should be $1,000. However, if, by the acceleration of bank credit, the supply of currency is 10 per cent more than is needed to circulate the existing commodities at their production-prices, the price of that commodity too becomes $1,100.

This anomalous state in the phase of *precipitancy* can, however, continue only so long as no one demands the conversion of banknotes into gold. And who will demand the conversion just for the aesthetic pleasure of fondling gold, when all capitalists scramble for further investments and when banks are only too readily forthcoming with more loans?

* * *

As inventories of commodities fall below their normal level, under the influence of excessive bank credit, the reproduction-process is forced to operate at a crescendo. Since commodities are sold as soon as they are produced, there is little incentive for capital to hold back the self-propelling expansion of its reproduction-process. The prices of both labour-power and industrial materials consequently turn sharply upward. Money wages rise much faster than the prices of wage-goods. The workers demand more wage-goods as the labour market becomes tighter. The speculative holding of industrial materials aggravates their shortage. Thus, in general, cost-prices tend to increase faster than output prices, leading to an inevitable fall in the rate of profit.

It is sometimes asked why commodity prices cannot rise faster than money wages, so as to prevent real wages from rising and the rate of profit from falling. Indeed, compared with the dramatic elevation of the prices of speculatively traded materials, the gain in money wages may appear to be quite moderate. It has already been shown, however, that the shortage of labour-power relative to the demand for it is bound to raise *real* wages, as the production of absolute surplus value becomes increasingly more difficult. Under the circumstances, the rate of surplus value must actually fall. This outcome is inevitable because of the special nature of labour-power as a commodity. So far as the capitalistically reproducible commodities are concerned, the degree by which their market prices exceed their production-prices is limited, on the whole, by the extent to which the banking system lets its cash reserve ratio fall below normal, and this ratio obviously has a lower limit. Besides,

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the price elasticities of supply of such commodities can never become zero, unless labour-power first becomes unavailable as a commodity. The supply of labour-power itself, in contrast, can reach its absolute limit as soon as all the existing workers are fully employed.

It has already been shown, by the second law of average profit, that a rise in real wages depresses the general rate of profit. If the rate of profit falls sufficiently, an excess of capital cannot be avoided. Since bank credit continues to expand in this phase of business cycles, while the production of gold increasingly suffers a setback, the rate of interest (i) necessarily rises as the rate of profit (r) falls.

Let $\beta = J/K$ be the ratio of loan-capital (J) to industry's own capital (K). If the proportion s of the outstanding loan must be currently repaid, the minimum condition for accumulation to continue, even apart from fixed deductions from profit, is

$$r\,(K + J) > (i + s)\,J$$

or

$$r > \frac{i + s}{(1/\beta) + 1} \equiv j.$$

While the rate of profit falls, the number j on the right-hand side of the inequality is bound to rise. For not only the market rate of interest (i) but the repayment ratio (s) and the degree of indebtedness (β) must increase, as the widening phase of capital accumulation proceeds. Therefore, at a positive rate of profit, industrial capital finds itself sooner or later incapable of forming accumulation funds. This quandary applies to the aggregate activity of industrial capital, rather than to some of its misallocated units. The pervasive excess of capital thus stalls accumulation over a wide range of industries, disrupting and disarraying society's reproduction-process. An industrial *crisis* is, therefore, inevitable.

If all of profit after fixed deductions must be applied to the payment of interest and the repayment of past loans, and if more loans must be sought simply in order to meet current obligations and to remain solvent at all, the operation of industrial capital becomes completely futile. Banks cannot, even for a usurious interest, lend to industry when the latter no longer has any prospect of generating idle funds. Industrial capital is, therefore, obliged to dump overproduced commodities in the market for whatever prices they may fetch, in a feverish scramble

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for means of payment. The catastrophic fall of prices that ensues announces the outbreak of a crisis.

Banks are, of course, in no position to rescue industry at this point. They, too, are in imminent danger of losing cash, as deposits are withdrawn and loans fail to be repaid. In the worst case, their own banknotes may cease to circulate and return for conversion into gold, threatening the bankruptcy of their own business. Banks too, therefore, scramble for cash in an effort to redress their precarious reserve position, there being no question of supplying further bank credit. Thus, an industrial crisis is often followed by a monetary crisis (commonly called a "panic"), which dramatically decreases the velocity of circulation of gold money.

The destruction of capital in the wake of a crisis is nothing other than a violent reaction to the overstretching of the existing capitalist production-relation beyond its technical limit. This reaction is yet another instance of the regulation of the productive activity of industrial capital by its own progeny, loan-capital. The commodity-economy isolates money from other commodities, and assigns to it the function of regulating them. By the same token loan-capital, which differentiates itself from industrial capital, becomes an external regulator of the latter's aggregate productive activity. Just as money refuses to buy commodities that are wastefully produced, so does loan-capital refuse to accommodate an over-extended reproduction-process, the retrenchment of which a monetary crisis demands by destroying excessive capital.

The reproduction-process of industrial capital and its accommodation by loan-capital can grow hand in hand only up to a certain point. Past the period of average activity, the reproduction-process increasingly strains loan-capital. As banknotes continue to be issued without an adequate backing of gold, they turn into means of circulation and payment unfounded on the measure-of-value function of money. The over-extension of loan-capital finds its expression in a sharp rise of the rate of interest. An excess of capital then sets in. The excess supply of credit money becomes plain as soon as commodity prices fall. The sudden disappearance of credit, at this point, marks the restoration of gold money as the sole measurer of value. The search for hard cash becomes the more painful, the more irredeemably the production of gold was neglected in the immediate past.

It is true that an industrial crisis, the necessity of which is grounded in the excess of capital, breaks out into the open because of a high rate of interest. This truth, however, does not imply an endorsement of the view that a sufficiently high rate of interest (or extreme stringency of credit) can cause a monetary crisis even in the absence of an excess

of capital, and that an industrial crisis will follow such a monetary crisis. A monetary crisis develops when society's reproduction-process ceases to expand, and cannot generate idle funds which banks may convert into credit-money. If banks have already issued credit, anticipating the formation of idle funds, when the reproduction-process grinds to a halt, bills fail to be honoured and loans fail to be repaid, causing a veritable financial havoc. Therefore, if banks withhold loans, producers cannot afford to sell on credit. Means of circulation (whether gold or adequately gold-backed banknotes) suddenly becomes scarce, resulting in a precipitous fall of prices.

In a concrete-historical context, the bankruptcy of a large banking house might cause a chain of insolvencies, which directly touch off an industrial chaos. Theoretically (i.e. in a purely capitalist society in which monetary gold is produced just as any other commodity by the regulation of the law of value), however, a monetary crisis cannot occur by itself. An individual firm in a particular industry can always find itself in a cash-flow crisis, as *its* profit rate can fall below the market rate of interest. Such an outcome is always possible, as already pointed out, if the firm is notably inefficient, or operates in an inappropriate sphere of production. But isolated bankruptcies of a few firms, whether in industry or in banking, do not cause an excess of capital in the economy as a whole, nor do they entail a monetary crisis.

In order to grasp the nature of the catastrophic price fall, let us suppose that, in the period of average activity, credit-money of \$10 million, built on a gold reserve of \$1 million, together with full-bodied coins of \$2 million, circulate the currently produced commodities at their production-prices. If, in the ensuing period of precipitancy, the supply of credit-money increases to \$16 million, while neither the output of gold nor the output of other commodities materially increase, the market prices of commodities may rise to levels 50 per cent above their production-prices. When a monetary crisis breaks out, the supply of credit-money contracts sharply to well below \$10 million, perhaps even to \$7 million. In that case, the market prices of commodities will probably sink to levels about 50 per cent below their production-prices. The order of magnitude in this highly simplified example is, of course, completely arbitrary. However, it brings out the fact that the fall of prices, in the aftermath of a crisis, is from a level materially above the production-prices to one significantly below them.

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Some prices fall very sharply, others more moderately. It is, in general,

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expected that the prices of producers' goods favoured by speculators are subject to violent fluctuations, and that the prices of the necessaries of life are less volatile. However, the market prices of virtually all commodities will settle to a level well below their production-prices by the time the "dumping" is over. The low prices that will thenceforward remain rigid for some time reflect, first of all, the deficiency of gold reserves relative to the overproduction of other commodities. During the period of precipitancy immediately preceding the crisis, conditions were not favourable for the production of gold. Since gold appeared dispensable, accumulation hardly occurred in that sector. By the time gold returns to its proper place as real money after the crisis, the imbalance between the gold-producing sector and other spheres of use-value production has, therefore, widened considerably. The fall of the market prices of commodities below their production-prices reflects this distortion, and the monetary crisis, which amounts to a temporary hoarding of gold, aggravates the situation.

"Hoarding", in the present context, does not mean the primitive burial of gold by individuals suddenly alarmed by its scarcity, but rather the holding of excessive gold reserves by the banking system. Banks which managed to survive the crisis have built up enough reserves; but the ensuing disruption of the reproduction-process largely eliminates sound lending opportunities. Banks cannot lend simply because they have plenty of cash. They need dependable borrowers who can convert idle funds into capital. Since accumulation has ceased, banks have little choice but to idly hold on to their unprofitable reserves, given that they are unable to supply credit money with confidence. The consequent shortage of the means of circulation depresses commodity prices even further.

As the market prices of commodities, therefore, sink well below their production-prices, the conditions of gold production at last become favourable. Soon the gold-producing sector begins to expand, putting an end to the fall of commodity prices. However, even the normal activity of this sector is small relative to society's reproduction-process, so that the "multiplier effect" originating in this sector is unlikely to restore commodity prices. Industries which receive newly produced gold (in return for their supplies to the gold-producing sector) will probably deposit it with banks, contributing only to the replenishing of reserves in the banking system. If this process continues for some time, the banking system, which must pay depositor's interest without being able to earn lender's interest, will find itself in difficulty.

It must look for some borrowers whose profit-rates, though very low

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in view of depressed price levels, are still adequate relative to the rate of interest which is now at an all-time low. Among the firms which survived the crisis, however, there are bound to be some which operate comparatively soundly, and which can make use of bank credit at a low enough interest rate. Since the rate of interest must fall as the banking system becomes increasingly saturated with cash reserves, there emerges the possibility of a fresh start for loan-capital.

The old plant has by this time been largely depreciated, and may be scrapped without much further loss to its owner. Therefore, as soon as funds are made available for the building of new plants, capitalists are now willing to undertake a major renovation of their productive facilities. If improved technology brings down their individual production-prices to levels lower than the currently depressed market prices, they can make themselves invincible in the intense competition that characterises the depression period. In fact, there is no surer way for them to survive the depression. In various industries, therefore, there gradually appear progressive firms which adopt new techniques and earn surplus profits reflective of extra surplus value.

Bank loans cannot, of course be applied to fixed investments directly. However, those firms which are now capable of borrowing from banks are the ones that have depreciated their capital sufficiently, and have, thus far, built sufficient accumulation-funds themselves. Therefore, if they are given short-term money for current operations, it becomes possible for them to direct their own capital to the renovation of the plant.

With the appearance of such firms, banks too have discovered dependable customers. The multiplier effect that emanates from technically renovated industries is far more powerful than that originating in the gold-producing sector. The beginning of a business recovery has, therefore, arrived, though it will take a while, before innovations spread through the capitalist economy. In the meantime, as new techniques are adopted more and more widely, commodity prices which were low can sink even further.

With the expansion of bank credit, more means of circulation will be supplied, and that will tend to restore the prices of commodities relative to gold. Yet, it is most unlikely that the supply of credit-money will fully restore the former set of production-prices. Price levels would not stabilise there. For the market prices of many commodities will now move towards new and lower production-prices as defined by the new technical methods. The firms which continue to operate with obsolescent techniques are, therefore, faced with the danger of perishing

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in the competition. Unless they too renovate their plants, even at a heavy cost to themselves, they are certain to be forced out of business. Since the rate of interest may, by this time, already have risen, the innovations imposed on many firms by competition, at this point, will not be an easy proposition.

If a large number of capitalists are, therefore, ruined on this occasion, the recovery of business may be delayed, or even temporarily reversed. Yet that is the inevitable process of the elimination of those who are incapable of incorporating the new technology. Although the original crisis has already weeded out a number of unfit firms, those which have so far managed to survive must now meet another test. The commodity-economy applies to itself a harsh and ruthless discipline to ensure the "survival of the fittest".

Only after the technological laggards are inexorably destroyed is the phase of recovery confirmed. By the time the capitalist economy has left the depression phase behind, the technical foundation for a new set of value-relations has been laid. The relative surplus population that is now formed is quite distinct from mere unemployment caused by the abnormal contraction of the reproduction-process. For it is a surplus population that will not be absorbed, even when the reproduction-process regains the scale of its previous peak. It is a surplus population which will enable the economy to best its previous peak.

As is clear from what has been said, two types of disequilibrium appear superimposed upon each other in the course of business cycles: the fundamental disequilibrium between labour-power and all capitalistically produced commodities, and the disequilibrium between gold production and the production of other commodities. Loan-capital plays a fundamental rôle between the two parallel relations. During the prosperity phase, in which relative surplus population is increasingly absorbed, the production of gold lags behind the production of other use-values. The disparity, however, does not become apparent, even though loan-capital progressively extends itself, until the relative surplus population is completely absorbed. Only in the state of an excess of capital, which halts the further extension of loan-capital, is the deficiency of gold production suddenly exposed.

That is to say, this fundamental disequilibrium brings out the monetary disequilibrium that has been building up, by paralysing the function of loan-capital. During the depression phase an increased production of gold enables the banking system to provide low-cost credit and to encourage technical progress in industry, which, by forming relative surplus population, overcomes the fundamental disequilibrium. In other words, the restoration of a monetary equilibrium prepares the ground for an equilibrium between labour-power and all capitalistically producible commodities.

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What transpires from the above analysis is that even loan-capital which achieves some indifference to use-values by the "socialisation" of funds cannot ultimately be free from the use-value production of industrial capital. As the producer of use-values, industrial capital is constrained by the prevailing technology, and cannot expand more than technology permits, without entailing an excess of capital. However, as soon as the rate of profit prevailing in the state of an excess of capital is even slightly exceeded by the rate of interest, society's reproduction-process is thrown into chaos. Since the reproduction-process then ceases to expand, loan-capital can no longer operate.

Only when society's gold stock is replenished, during the depression period, can loan-capital resume its operation, and assist industrial capital in appropriating a new technology for further use-value production. Thus, loan-capital is closely tied to industrial capital and, through it, to the production of use-values as commodities. Logic requires, at this point, another form of capital which, instead of remaining so subsidiary to the activity of industrial capital, prevails upon it and thus may transcend more definitively the production of use-values. Commercial capital is such a form of capital.

9.2 COMMERCIAL CAPITAL AND ITS PROFIT

9.2.1 Commercial Capital and the Equalisation of Profit-Rates

It has so far been presumed that industrial capital trades commodities directly. The time and resources consumed by the act of buying and selling commodities, however, cannot be determined by technical factors alone. There are other factors that influence the length of the circulation-period, and that of the "selling-period" in particular. Indeed, quite apart from technical considerations, the selling-period of even one and the same commodity may differ due to the skill, experience, luck and other contingent elements which distinguish one capitalist from another. Such arbitrariness runs against the grain of capitalist rationality, and so must be overcome as far as possible.

The arbitrariness, however, will be overcome with the development of the market in which the whole output of a commodity is bought by a group of capitalists for a uniform price from its producers, and sold for another uniform price to its dispersed consumers (direct or productive) within a more or less definite period of time. For the group of capitalists who represent commercial capital will shorten the length of

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the selling-period to its socially necessary minimum, by competitively trying to save circulation-capital and the pure circulation-costs involved in the sale of a commodity. Their efforts must be presupposed, if implicitly, by the tendency for profit-rates to become uniform in the capitalist market, a tendency which has already been explained in general terms. For, in their absence, "average profits" would remain only an abstract concept, without actually tending to be realised.

Suppose that there are two industrial capitalists **A** and **B** who supply an identical commodity, and that both advance the capital of 20c + 5v to produce the surplus value of 5s. Suppose also that **A**, who takes a longer time to sell his commodity, must further advance the circulation-capital of 30z, but that **B** who is more efficient in the selling operation needs to advance the circulation-capital of only 20z. In that case, clearly, **A**'s rate of profit, prior to the distribution of surplus value, is 9 per cent and **B**'s slightly over 11 per cent. From the fact that the total capital jointly advanced is 50z + 40c + 10v, it does not, however, follow that the joint surplus value of 10s should be divided between the two capitalists as 5.5 units to **A** and 4.5 units to **B**, so as to make their profit-rates uniformly 10 per cent. For that sort of distribution would imply that capitalists who hold more circulation-capital than is socially necessary, because of laziness or incompetence, have to be subsidised by capitalists who perform better because of superior foresight, ability and perseverance. That would be capitalistically irrational.

An average profit accrues to capitalists, large or small, who only advance socially necessary capital. Here "average" does not, of course, mean the average of good and bad performers. That would be meaningless, unless the socially necessary quantity of circulation-capital were first ascertained. This quantity must evolve through the working of the capitalist market itself, rather than being arbitrarily assigned to the capitalist economy from the outside.

Together with loan-capital, commercial capital contributes to the shortening of the circulation-period, and hence also to a greater efficiency in the production of surplus value. It has been explained that loan-capital which grows out of the motion of industrial capital "socialises" idle funds, and thereby expedites their conversion into money-capital. Since loan-capital makes money and credit available, industrial capital can purchase commodities more speedily than otherwise, and can economise in the holding of unproductive circulation-capital. Commercial capital shortens the circulation-period further, by relieving industrial capital of the complicated operation of selling commodities. By specialising in this operation, commercial capital can execute it more skilfully and expeditiously than industrial capital. Thus, commercial capital saves society not only circulation-capital but also pure circulation-costs, while enabling industrial capital to concentrate on the production of surplus value.

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Both loan-capital and commercial capital shorten the circulation-period. However, while loan-capital makes it easier for industrial capital to purchase commodities by providing credit, commercial capital helps industrial capital to sell commodities more efficiently, by offering a specialised service. Thus, the circulatory operation of industrial capital is assisted by both loan-capital (in the purchase of commodities) and commercial capital (in the sale of commodities). However, while loan-capital, emerging from the link $M' \cdot M$ of industrial capital, remains essentially its subsidiary operation, commercial capital, which takes over the entire phase, $C' - M'$, of the circulation of industrial capital, not only becomes its peer but even tends to overshadow the latter, and challenge its pre-eminence.

As already remarked, the equalisation of profit-rates treated in an earlier context have already presupposed, if tacitly, the presence of a well-developed market, which intervenes between producers and consumers (direct and productive) and standardises, for each commodity, not only the length of the circulation-period but also the amount of pure circulation-costs to be deducted from surplus value. The question then is: who other than industrial capitalists themselves can be found to operate in such a wholesale-and-retail commodity market? It must be commercial capital which differentiates itself from industrial capital, by specialising in the latter's circulatory operation of selling commodities.

Historically, of course, merchant capitalists were the skilled traders of commodities even before the evolution of industrial capitalism. However, if industrial capital had to count on merchant capital for the enforcement of the law of value (through the formation of average profits) in a developed capitalist society, then the thesis so far elaborated that industrial capital is self-dependent could not be defended. Moreover, it was previously shown (in Volume 1, Chapter 3) that merchant capital does not have the capacity to equalise rates of profit. Therefore, the operator of the general wholesale-and-retail market in a fully developed capitalist society cannot be merchant capital which stands apart from and outside industrial capital.

Commercial capital, as derivative of industrial capital rather than its antecedent, forms an integral part of capitalist society and earns an average profit. For the same money that could be advanced as industrial capital or bank-capital serves as commercial capital. Its activity of trading commodities does not occur outside the reproduction-process of capitalist society, but mediates it from within. Commercial capital can, therefore, be defined as capital that earns average profits by trading commodities within the reproduction-process of capitalist society. Specifically, it purchases all commodities from the producing units of in-

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dustrial capital at uniform prices, and sells them at other uniform prices to the consuming units of industrial capital, as well as to final consumers. *Commercial capital, as distinct from merchant capital, can be theoretically understood only at this point, after the relation between industrial capital and loan-capital has already been established.*

Concretely, commercial capital is itself differentiated into various specialised enterprises, some of which are in wholesale trade and others in retail trade. Such specialisation, which depends on many contingent factors, cannot be considered in theory. However, the distinction between commercial capital and traditional merchant capital must be made perfectly clear, even though Marx does not dwell on it. It is true that merchant capital, in practice, used to perform more or less the same function as commercial capital prior to its development. It is true also that many distinguished merchant firms gradually evolved into commercial capital as times changed. Traditional merchant capital, which intervened between small producers and consumers, and which profited from contingent price differentials with personal skills and exclusive privileges, did not operate with indifference to use-values. Nor did the conditions that made the operation of merchant capital profitable (price-differentials) remain in a developed capitalist society except by chance. Therefore, the fact that the historical ancestors of commercial capitalists were often merchant capitalists does not justify a confusion between the two forms of capital.

* * *

Suppose that industrial capital as a whole produces surplus value of $S = 180$ (say, million dollars) with a cost-price of $K = 900$. If fixed capital tied up (minus depreciation which is already included in K) is $F = 100$, and if the circulation-capital of $D = 200$ as well as the deduction of pure circulation-costs, $d = 30$, from surplus value are required for the selling of commodities, the net profit-rate (r) of the aggregate industrial capital will be

$$r = \frac{S - d}{K + F + D} = \frac{180 - 30}{800 + 100 + 200} = 12.5 \text{ per cent.}$$

If it is now supposed that the circulation of commodities is entirely relegated to commercial capital, industrial capital need advance only $K + F = 900 + 100 = 1000$. (This is assumed for the sake of simplicity, even though, in reality, industrial capital requires some circulation-capital and bears some pure circulation-costs if only to sell its commodities to commercial capital.)

In order to recover its cost-price with the profit-rate of 12.5 per cent, industrial capital can now afford to sell its commodities for

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$$K + r(K + F) = 900 + 0.125\ (1000) = 1025.$$

This price will be called the selling-price of industrial capital, and will be denoted as $W = 1025$. Since this price is smaller than the production-price $K + S = 900 + 180 = 1080$, the difference of $55 = 1080 - 1025$ constitutes the part of surplus value that can be distributed to commercial capital as its profit.

If, in this case, commercial capital advances the circulation-capital of $D' = 200$ and bears the pure circulation-costs of $d' = 30$, and turns over $n = 5.125$ times during the year in order to sell the commodities of value $nD' = W = 1025$ for the production price of 1080, then from

$$(nD' + d') + r'(D' + d') = (1025 + 30) + r'(200 + 30) = 1080,$$

it follows that the rate of profit r' of commercial capital is only 10.87 per cent. (The conversion of pure circulation-costs d' into commercial capital will be treated in detail in the following Subsection 9.2.2.)

In order for commercial capital to earn the same profit-rate as industrial capital, it is easily seen that either a reduction of pure circulation-costs by 4.29 or a reduction of circulation-capital by 30, or a combined reduction such as $D' = 180$ (20 less than D) and $d' = 29$ (1 less than d) will be necessary. In any case for commercial capital to earn the same rate of profit as industrial capital earned prior to the differentiation of commercial capital, it is clearly necessary that either circulation-capital, or pure circulation-costs, or both, must be cut back sufficiently.

This general conclusion does not depend on the specific numerical example used for illustration. Since

$$r = \frac{S - d}{F + K + D} \tag{1}$$

$$W = K + r(K + F) \qquad \text{and} \tag{2}$$

$$(W + d') + (D' + d')\, r' = K + S, \tag{3}$$

the substitution of (1) and (2) into (3) with $r = r'$ gives the formula

$$\frac{K + F + D' + d'}{K + F + D}\ (S - d) = (S - d'). \tag{4}$$

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Whence follows the conclusion:

$$\text{If } d = d', \text{ then } D = D' + d'; \text{ hence } D > D'.$$
$$\text{If } D = D', \text{ then } S - d < S - d'; \text{ hence } d > d'.$$

It is, therefore, established that commercial capital cannot even earn as high a rate of profit as industrial capital used to earn prior to the differentiation of commercial capital, without shortening the circulation-period and thereby saving society's circulation-capital and/or pure circulation-costs.

In the above example, the original $D = 200$ and $d = 30$ may be reduced to $D' = 200$ and $d' = 25.7$, or to $D' = 180$ and $d' = 29$, or to $D' = 170$ and $d' = 30$, or in some other ways, in order to let commercial capital earn the profit-rate of 12.5 per cent. This profit-rate, however, means only that the introduction of commercial capital does not diminish the profitability of industrial capital. A more positive significance of commercial capital must be found in its ability to further shorten the circulation-period of capital, and thereby to raise the common or uniform rate of profit $r = r'$.

Let us, therefore, suppose that both commercial and industrial capital earn the same rate of profit, when $D' = 160$ and $d' = 25$. Then, since the selling-price of industrial capital (W) and the production-price ($K + S$) are related as

$$900 + 1000r = W, \tag{2'}$$

$$(W + 25) + (160 + 25)\, r = 1080, \tag{3'}$$

it follows that $W = 1031$ and $r = 0.131$. The selling-price of industrial capital (W) rises from 1025 to 1031, and the common rate of profit simultaneously improves from 12.5 per cent to 13.1 per cent. This rate of profit is, of course, lower than the general rate of profit of 18 per cent $= R = S/(K + F)$ which determines the production-price. It is, however, clearly higher than the net rate of profit that industrial capital, in the absence of commercial capital, would realise by itself. The activity of commercial capital is meaningful in accomplishing this result.

It is worth noting here that commercial capital $D' + d'$ does not become smaller than the circulation-capital $D = 200$ held by industrial capital prior to the differentiation of commercial capital, so long as the common rate of profit remains 12.5 per cent. In particular, $D' + d' = D$ when $D' = 170$ and $d' = 30$; otherwise $D' + d' > D$. This is apparent from

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$$D' + d' = \frac{K + F}{S - d}(d - d') + D\frac{S - d'}{S - d} \qquad (5)$$

which is just another way of writing (4). In (5) one can readily confirm that

$$D' + d' = D \text{ if } d = d',$$
$$D' + d' > D \text{ if } d > d'.$$

Thus, apart from the case $d = d'$ and $D' < D$, society requires more capital to produce and circulate the same surplus value of $S = 180$, if the differentiation of commercial capital shortens the circulation-period only enough to maintain the common profit-rate of 12.5 per cent, which is equal to the net profit-rate of industrial capital prior to the differentiation of commercial capital.

It follows that, in order for the combined advance of industrial and commercial capital, $K + F + D' + d'$, not to exceed the previous advance, $K + F + D$, of industrial capital alone, commercial capital must shorten the circulation-period more than is necessary to maintain the common rate of profit of 12.5 per cent. If, however, $D > D' + d'$, as when $D' + d' = 160 + 25 < 200 = D$, the common rate of profit does not fail to rise above 12.5 per cent, the net rate of profit that industrial capital used to earn by itself. The reason, of course, is that society's total advance of capital, in order to produce and circulate the same surplus value of $S = 180$, is diminished by $D - (D' + d') = 200 - 185 = 15$, in that case.

The significance of commercial capital in capitalist society is now clearer. Commercial capital shortens the circulation-period of capital so far that the total advance of capital in society is diminished, even with the conversion of pure circulation-costs into commercial capital ($D' + d' < D$), and thereby increases the uniform or common rate of profit accruing to both industrial and commercial capital. Commercial capital partakes of society's surplus value in the form of commercial profit because of this positive contribution to capitalist society. Commercial capital does not simply reduce the length of the circulation-period; it must do so at least enough to ensure that $D' + d' < D$.

In that case, however, the difference $D - (D' + d') > 0$ remains as idle funds and need not be capitalised for the production and circulation of the present surplus value ($S = 180$). If these funds are converted into loan-capital, an additional production of surplus value, $\Delta S > 0$, becomes possible. This

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additional surplus value may explain the source of the interest which would accrue to the loan-capital of $D - (D' + d')$, but does not explain the source of commercial profit. For commercial capital earns its profit, not by making additional production of surplus value possible, but by enabling the production and circulation of a given magnitude of surplus value with less capital. In other words, even if $D - (D' + d')$ were not converted into loan-capital, commercial profit would arise.

In the present numerical example, this point can be illustrated as follows. Deduct from the production-price $K + S = 1080$ the cost-price, K, and pure circulation-costs, d, convertible into commercial capital. Call the remainder, $1080 - (K + d') = S - d'$, "disposable surplus value". If $D' = 160$ and $d' = 25$, it follows from (2′) and (3′) that $S - d' = 155$. Since this latter is distributed to an aliquot part of society's capital, $K + F + D' + d' = 1185$, with the uniform profit-rate of 13.1 per cent, industrial capital, $K + F = 1000$, receives the profit of 131 and commercial capital, $D' + d'$, the profit of 24. If part or all of $D - (D' + d') = 15$ is converted into loan-capital and contributes to an additional production of surplus value, ΔS, that will not add to commercial profit, unless the common rate of profit thereby increases.

Suppose that the common rate of profit, $r = 0.131$, remains constant when the loan-capital of 15 is made available to industrial capital which can advance it as money-capital together with its own $\Delta K = 35$ for additional production of surplus value. Then, $\Delta S = r(\Delta K + 15)$ will equal 6.55. Of this 1.5 will accrue to loan-capital, if the rate of interest is 10 per cent; and the rest, 5.05, will add to industrial profit. Since $r\Delta K = 4.585$, industrial capital earns the surplus profit of 0.465. It is assumed that commercial capital neither borrows money nor expands with its own resources, even though the volume of commodity circulation must have slightly increased.

* * *

The emergence of commercial capital demands a new definition of average profit. It was previously stated that industrial capital in the original sense, i.e. prior to the differentiation of loan-capital and commercial capital, earned an average profit by selling its commodity for a production-price. The general rate of profit, R, times the advance of industrial capital, K, as originally conceived was its average profit, which was the form of distribution of society's surplus value to individual units of industrial capital. However, when society's capital is advanced not only in industry but in banking and commerce as well, a common rate of profit, r, smaller than the general rate of profit, R, must distribute surplus value to all units of capital, whether in industry, in banking, or in commerce. Therefore, "average profit in the new sense" or "normal profit" is the common rate of profit, r, times the advance of any capital.

This new definition, however, does not render the general rate of profit, R, ineffective. For commercial capital continues to sell commodities for their production-prices, which imply the general rate of

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profit. Even the common or uniform rate of profit, r, and the redefined average profit or normal profit calculated accordingly, presuppose production-prices and the general rate of profit.

In order to confirm that point, consider a simple capitalist economy in which only three goods are produced. Let X, Y, Z be the outputs of the capital good, the wage-good, and the luxury good. If X_x, X_y, X_z and L_x, L_y, L_z are the capital good and labour currently consumed in the three sectors, then the capitalist market in which commercial capital is present can be represented by the following system:

$$\begin{cases} (p_xX_x + wL_x)(1 + r) = (1 - u)\, p_xX, \\ (p_xX_y + wL_y)(1 + r) = (1 - u)\, p_yY \equiv (1 - u)\, w(L_x + L_y + L_z), \\ (p_xX_z + wL_z)(1 + r) = (1 - u)\, p_zZ, \\ (D' + d')(1 + r) = u(p_xX + p_yY + p_zZ) + D', \end{cases} \tag{6}$$

where w is the wage-rate and $0 < u < 1$ is the shortfall of the selling-price of industrial capital, W, from the production-price, P, namely,

$$(1 - u)\, P \equiv W, \qquad P \equiv p_xX + p_yY + p_zZ. \tag{7}$$

The last equation of (6) is obtained as follows. Commercial capital purchases the value of $W + d'$ and sells the value of P during the year, after claiming the profit of $r(D' + d')$. Therefore, $(W + d') + r(D' + d') = P$, or $d' + r(D' + d') = P - W = uP$, whence we get $(D' + d')(1 + r) = uP + D'$.

Assume $w = 1$, and consider the following specific case:

$$\begin{bmatrix} X_x & L_x & X \\ X_y & L_y & Y \\ X_z & L_z & Z \end{bmatrix} = \begin{bmatrix} 50 & 20 & 150 \\ 40 & 30 & 80 \\ 30 & 40 & 90 \end{bmatrix},$$

$$(D',\ d') = (100,\ 10).$$

Since $(1 + r)/(1 - u) = 1 + R$, the general rate of profit and the production-prices are found to be

$$R = 0.7338,\ p_x = 0.5477,\ p_y = 1.125,\ p_z = 1.0871$$

from the equations

$$\begin{cases} (p_x50 + 20)(1 + R) = p_x150, \\ (p_x40 + 30)(1 + R) = p_y\, 80 = 90, \\ (p_x30 + 40)(1 + R) = p_z\, 90. \end{cases}$$

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The last equation of (6) is accordingly

$$110(1 + r) = 270u + 100.$$

This equation together with

$$1 + R = \frac{1 + r}{1 - u} = 1.7338$$

determine the common rate of profit and the price-deviations u ($\equiv [P - W]/P$) as

$$r = 0.3924, \qquad u = 0.1969.$$

This example shows that (r, u) can be calculated only after (R, P) is first known.

The activity of commercial capital, therefore, presupposes the establishment of the general rate of profit and production-prices. If, in the same market, commercial capital manages to reduce (D', d') from (100, 10) to, say, (95, 5), neither the general rate of profit (R) nor production-prices (P) are affected, but the common rate of profit rises from $r = 39.24$ per cent to $r = 42.73$ per cent, and the shortfall of the selling-price of industrial capital (W) from the production-price (P) is reduced from $u = 19.69$ per cent to $u = 17.68$ per cent.

Marx does not clearly distinguish between the general rate of profit and the common rate of profit, i.e. between average profit and normal profit. Nor does he insist on calling the selling-price of industrial capital W, and the production-price P, with different names, though in one place he suggests the term "the price of production in its more precise sense" for the former, and the term "actual price of production" for the latter (*Capital*, III, p. 286). There is, of course, nothing sacred about my choice of terminology: it is only a practical device meant to avoid unnecessary confusion. Much more important is the fact that the theory of (R, P) previously established is in no way invalidated at this point by the additional theory of (r, u).

Earlier, i.e. prior to the differentiation of commercial capital from industrial capital, the equalisation of profit-rates was discussed under the supposition that industrial capital did the selling of its own commodities to their consumers, direct and productive. As already mentioned, however, the marketing of specific commodities to their consumers is a process fraught with severe use-value restrictions. If industrial

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capital acted as its own merchant, it too would be tied to specific use-values. That would make it difficult for industrial capital to equalise the rates of profit, just as it was for traditional merchant capital which operated as middlemen between producers and consumers.

Indeed the same sum of money in the hands of merchant **A** and in the hands of merchant **B** could realise larger or smaller profit-rates, depending on their individual skill, luck or experience in wresting expropriatory gains. The equalisation of profit-rates was difficult for traditional merchant capital, inasmuch as it dealt with commodities which were not capitalistically produced as values. For the demand and supply of such commodities depended on many contingent factors. Even in developed capitalism, however, if the activity of the merchant were restricted to the buying and selling of commodities from a particular class of producers to a particular class of consumers, he would still be faced with similar difficulties.

Thus, industrial capital cannot afford to operate as its own merchant. For in that case a perfectly competitive capitalist market would not in fact materialise. The general rate of profit and production-prices, through which the law of value is supposed to enforce itself in the capitalist market, would also remain empty categories in the sense that they would only be what capital wished to accomplish, and not something that actually tended to be achieved. The theory of the capitalist market, in order to be actual rather than imaginary, must therefore presuppose, if implicitly, the full activity of commercial capital.

Yet the dialectic did not expose the activity of commercial capital earlier. For that would have unduly cluttered the theory of profit. Although circulation-capital should, in principle, be included in total capital advanced, and circulation-costs in the cost-price, these were deliberately held implicit in the initial explanation of the equalisation of profit-rates. Only now can the dialectic of the capitalist market expose the activity of commercial capital in full, by articulating what has always been tacitly implied. In this way, the dialectic specifies the rôle of commercial capital more clearly, as it operates within the reproduction-process of capitalist society.

By shortening and standardising the circulation-periods, commercial capital finally removes the use-value restrictions that even industrial capital shares with merchant capital. With the deployment of commercial capital, therefore, the capitalist market completes itself, making the equalisation of the rates of profit both real and rational.

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9.2.2 The Source of Commercial Profit

As commercial capital differentiates itself and becomes independent from industrial capital, taking over the latter's function of selling commodities, it develops the form of capital, M – C – M′ (or W – C – P, where W is the money representing the selling-price of the commodity by industrial capital and P that representing its production-price), which is now free from the restriction of use-values emanating from their specific production-processes. Unlike pre-capitalist merchants, commercial capital buys a commodity in bulk from a large number of producers, or buys many different commodities simultaneously. It sells to consumers of all sorts without quantitative and qualitative constraints. In this way commercial capital "socialises" commodities that are produced individually under different circumstances.

It is not that all commercial capitalists operate a department store or a chain store. Many, it is true, specialise in specific groups of commodities and in specific locations. Yet the bulk-trading and diversification of commodities, in one way or another, by all units of commercial capital inevitably bring together a mass of producers and a mass of consumers. An individual producer equipped with a small sales department in one corner of his factory cannot communicate with the capitalist market at large. He can at most test a small local segment of it, which may not necessarily reflect the general trend of social demand and supply. In other words, he cannot effectively "socialise" his commodity, just as traditional merchant capital could not, being caught as it was between restricted groups of producers and consumers.

Commercial capital does not link a small group of producers with a small group of consumers, and take advantage of their limited information, but brings together all producers and all consumers into the network of the capitalist market. It thus acts as a catalyst in the reproduction-process of capitalist society by ensuring an efficient absorption of commodities flowing out of it unceasingly. In consequence, the stock of commodities that are urgently needed by society quickly depletes, and the stock of commodities that are socially redundant immediately feels the unresponsiveness of the market. The motion of market prices reflects the state of social demand accurately *vis-à-vis* current supplies of commodities, signalling the producers to make appropriate adjustments.

Commercial capital socially concentrates the output of any given commodity, whether it is produced by large firms or by small, whether it is produced in location **X** or in location **Y**, by purchasing it at a

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uniform price, apart from transportation and storage costs, and by selling it off for its production-price within a definite period of time. This result is accomplished through competition among individual units of commercial capital. If the commodity sells well in location **X** but not in location **Y**, units of commercial capital move quickly from location **Y** to location **X** in pursuit of surplus profits. If commodity A is in great demand but not commodity **B**, more units of commercial capital will deal with commodity **A** in preference to commodity **B**. Thus, the sale of commodities is expedited wherever the demand for them is maximum.

Since commercial capital too competes for surplus profits, and since it is no longer constrained by specific use-values, the rates of commercial profit tend to be equalised. Moreover, the absence of use-value restrictions further means that, if the rate of profit is higher in industry than in commerce, commercial capital becomes industrial capital, and vice versa. If, however, a common rate of profit prevails both in industry and commerce, the aggregate social capital must be allocated to both spheres optimally. In other words, commercial capital, unlike merchant capital, has the rational ground to earn a normal profit (i.e. average profit in the new sense) by operating within the reproduction-process of capitalist society. Commercial capital earns a normal profit because, being no longer destined to remain a middleman, it can at any time become industrial capital.

The above also implies that commercial capital accomplishes the socialisation of circulation-capital and circulation-costs, which industrial capital by itself was unable to. If industrial capital **A** and industrial capital **B** produce the same commodity, but **A** requires one month and **B** two months to sell their commodity, it is impossible to determine what the social requirements of circulation-capital and circulation-costs are in order to sell one unit of this commodity. Capital, as the "cost of chrematistic", therefore, remains individually arbitrary and socially indeterminate. If, however, this commodity is sold in three weeks by commercial capital that earns a normal profit, society does not recognise any more circulation-capital and circulation-costs than are involved during this period as socially necessary.

This presupposes the fact that, if some commercial capitalists sell this particular commodity in two weeks and earn a surplus profit on top of the normal profit, then other commercial capitalists will seek the same opportunity until the special advantages are eliminated, and all commercial capitalists take three weeks to sell. The special advantages will not persist because commercial capital is free from individually specific conditions of trade. Under the

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circumstances the selling-period of this commodity is competitively determined as socially necessary.

Just as industrial capital accepted only technically necessary elements of production as its cost of chrematistic, so does commercial capital take only the socially necessary holding of circulation-capital as part of its cost of chrematistic. But that is not all. In order to account for the real nature of commercial capital, we still have to examine some more subtleties in what follows.

* * *

As previously mentioned (in Volume 1, Chapter 5), industrial capital can readily accept the fact that it must hold unproductive circulation-capital in order to avoid interruptions in its production of surplus value. The holding of circulation-capital occurs in proportion to the length of the circulation-period, and is accepted as the ordinary cost of circulation, just as the holding of productive capital in proportion to the length of the production-period is accepted as the time-cost of production. On the other hand, industrial capital cannot include pure circulation-costs in its cost-price in the same way as the means of production and wage-funds that are necessary for the production of the commodity. For they are not part of direct production costs, nor are they even borne for the purpose of avoiding interruptions in production. *Their purpose is rather to reduce the burden of holding capital*, both productive and unproductive. They are costs that lighten the time-costs of production and circulation: in other words, costs that reduce the burden of other unavoidable costs.

Suppose that a producer of cotton yarn invests money M_1 on a special device for the purpose of reducing the waste of cotton, the monetary cost of which is M_2. Then M_1 is a genuine addition to capital. For it most certainly increases his output of cotton yarn and the surplus value embodied in it. If, however, he were to pay a bribe to have his taxes reduced, while his production of surplus value remained unchanged, he would not consider it an investment of capital automatically entitled to a profit, inasmuch as the cost of bribing depends on individually contingent factors. Only when the bribing becomes "socially necessary", or when all capitalists must purchase the service of tax lawyers in order to operate adequately as capitalists, can bribes or legal expenses, M'_1, that reduce other unavoidable costs, M'_2, be deemed as part of capital, i.e. as part of the cost of chrematistic.

As already shown, commercial capital earns its profit by reducing costs for industrial capital. Commercial capital does not merely hold

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the circulation-capital, D, that was previously held by industrial capital but reduces it to $D' < D$, by shortening the period of circulation. The pure circulation-costs, d', which play a very positive rôle in the socially necessary reduction of D to D' can, therefore, become capital in the hands of commercial capital. Actually the operating capital, d', has much more active significance in commerce than the purchase price of commodities, D'. It will be mentioned presently that a sizeable portion of D' is normally financed by loan-capital, whereas commercial capital tends to advance its own money in d'. So long as $D > D' + d'$ is ensured, even a situation such as $d < d'$ can, in principle, be tolerated, though in fact this never occurs.

Although D' diminishes in proportion to the length of the circulation-period, d' does not necessarily do so. However, d' is certainly saved by the social organisation of commodity trade that commercial capital accomplishes. If, therefore, the circulation-period is shortened by the same cause, $D > D'$ and $d > d'$ must occur simultaneously most of the time, if not always.

The concentration of commodities under commercial capital makes the selling operation more efficient and saves society's holding of unproductive circulation-capital. The same fact, however, clearly reduces the operating cost of trade. For example, as Marx mentions: "It takes ten times as much time to make 10 purchases at £100 each as it does to make one purchase at £1000. It takes ten times as much correspondence, paper and postage, to correspond with 10 small merchants as it does with one large merchant." "This is the reason why concentration appears earlier historically in the merchant's business than in the industrial workshop" (*Capital*, III, p. 295). Thus, even if $d' < d$ socially, if there are 1,000 units of industrial capital and 500 units of commercial capital, an average unit of commercial capital advances more money ($d'/500$) in trading operations than an average unit of industrial capital deducts circulation-costs from its surplus value ($d/1{,}000$). Therefore, in general, an individual unit of commercial capital can more efficiently handle a much greater volume of commodity trade than an individual unit of industrial capital.

This fact explains why commercial capital manages to shorten the circulation-period of capital substantially, and thus can save society the holding of circulation-capital. If so, the conversion of pure circulation-costs into operating commercial capital, d', is a far more important contribution of commercial capital than its mere takeover of D from industrial capital as D', the connection upon which Marx seems to

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place a greater emphasis. It is perhaps because of this misplaced emphasis that Marx's treatment of commercial labour remains unsatisfactory.

Pure circulation-costs include not only material resources but also commercial labour. Marx, who divides the advance of operating commercial capital into their "constant" material component, d'_c, and their "variable" labour component, d'_v, does not question that the former must be recovered with profit from the price-differential, $uP \equiv P - W$. He is, however, not sure whether the latter, or commercial labour, should also be treated in the same manner. The problem seems to arise because unproductive commercial workers too receive wages that represent the price of their labour-power in much the same way as productive workers do. If commercial capital, therefore, demands a profit for its employment of unproductive labour, why cannot the commercial capitalist too pay himself wages and demand a profit for that cost?

Suppose that a commercial capitalist is adequately assisted by his willing family members, so that he need not advance any d'_v. Suppose that he and his family live comfortably on his commercial profit $r(D' + d'_c)$. If one day he decides to send some of his family members on vacation and the rest to school, and to employ commercial workers in their place, his advance of capital increases by d'_v, which must give him the profit of rd'_v. If this situation becomes permanent or the returning members of the family demand commercial wages as well, where can the capitalist find the source of rd'_v? If he adds rd'_v to the production-price, P, he will no longer be competitive. If all capitalists add rd'_v to the production-prices of their commodities, the functioning of the law of value will be compromised.

It appears that the only way out of this stalemate is to declare that commercial labour is "exchanged for capital and not for revenue" (Marx, *Theories of Surplus Value*, pt 1, pp. 151ff). After some hesitation Marx seems to conclude that the labour component of pure circulation-costs, which is unproductive when purchased by industrial capital, becomes productive when it is purchased by commercial capital. (For example, see *Capital*, III, p. 301).

My own belief is that a distinction between the two components of pure circulation-costs is theoretically meaningless. For only productive capital can be divided into a constant and variable component. Of course, no capitalist purchases material resources or labour-power unless it is profitable to do so. Therefore, unless $(D' + d')(1 + r) - D' = rD' + (1 + r)d'$ can be wholly paid out of the price differential, uP, no commercial activity can be capitalistically undertaken. Under investigation in this chapter, however, is the mechanism whereby even unproductive commercial capital can partake of already produced surplus value as commercial profit in much the same way as landed property partakes

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of it as rent. Dividing d' into a constant and a variable component only serves to obscure this fundamental relation.

On the other hand, the fact that the commercial workers, who assist the capitalist only in the unproductive labour of business administration, formally (though not substantively) occupy the same position *vis-à-vis* commercial capital as industrial workers do *vis-à-vis* industrial capital, constitutes a genuine problem. Since there is no qualitative difference between the commercial labour performed by the workers and that performed by their capitalist employers, it appears to follow that capital and labour are mere occupational classes with no irreconcilable conflict of interest. If that is the case in commerce, however, why is it not so in industry as well? Such formal thinking inevitably leads us to the conclusion that capitalists too are workers earning their entrepreneurial profits as wages. The conception of industrial harmony that mystifies the production of surplus value necessarily arises in consequence. This persistent capitalist ideology has its origin in commercial capital, and in its d'_v component, in particular.

* * *

Commercial capital rarefies capitalist relations because it does not produce surplus value. It merely partakes of already produced surplus value in the form of commercial profit. Although commercial capital too pursues a maximum rate of profit, its rate of profit is not directly related either to the rate of surplus value or to the organic composition of capital. Of the three factors determining the rate of profit, only the turnover frequency is relevant to commercial capital. The turnover-time of commercial capital, however, is not determined by technical parameters. If industrial capital sells its annual output for W, and, if commercial capital (apart from its operating component) turns over n times a year, then the relation $W/n = D'$ must hold.

In the example of Subsection 9.2.1, c, $W = (1 - u)P = (1 - 0.1969)$ $270 = 216.84$ was sold to commercial capital possessing $D' = 100$. Thus, the implied turnover frequency of commercial capital was $n = 2.1684$. The common rate of profit was then $r = 39.24$ per cent. When (D', d') was changed from (100, 10) to (95, 5), the rate of profit rose to $r = 42.73$ per cent. Under that assumption, however, $W = (1 - 0.1768)270 = 222.26$ implied $n = 2.3396$. Suppose that (D', d') is further changed to (90, 10) with $D' + d' = 100$ unchanged. In that case it can readily be calculated that $u = 16.55$ per cent, $r = 44.69$ per cent, $n = 2.5035$. Thus, in general, an increase in n raises both u and r, and reduces D'.

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That proposition can be proved as follows. From Subsection 9.2.1, c, we know that

$$\begin{cases} D'r + (1 + r)d' = uP, \\ (1 + r) = \phi(1 - u). \end{cases} \tag{8}$$

Here

$$P \equiv p_x X + p_y Y + p_z Z,$$
$$\text{and } \phi \equiv 1 + R$$

can be considered as given. Add the definition of n, which is

$$nD' = (1 - u)P, \tag{9}$$

to the above two relations, and apply the operation d/dn to (8) and (9). The result can be arranged as

$$\begin{bmatrix} r & -P & D' + d' \\ 0 & \phi & 1 \\ n & P & 0 \end{bmatrix} \begin{bmatrix} \frac{dD'}{dn} \\ \frac{du}{dn} \\ \frac{dr}{dn} \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \\ -D' \end{bmatrix} \tag{10}$$

This system can be solved immediately as follows:

$$\frac{dr}{dn} = \frac{r\phi D'}{(n + r)P + n\phi(D' + d')} > 0, \tag{11}$$

$$\frac{du}{dn} = \frac{rD'}{(n + r)P + n\phi(D' + d')} > 0, \tag{12}$$

$$\frac{dD'}{dn} = \frac{-D'[P + \phi(D' + d')]}{(n + r)P + n\phi(D' + d')} < 0. \tag{13}$$

All the derivatives have a definite sign as indicated, thus demonstrating the proposition.

If commercial capital is active and turns over many times a year, the gap u of the selling-price of industrial capital below the production-

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price widens. At first sight this may appear to reduce the rate of profit of industrial capital. However, since D' diminishes at the same time, the deduction rD' from the disposable surplus value, $S - d'$, also diminishes. Therefore, in the final analysis the rate of profit, r, common to both industry and commerce, registers a net gain.

Because of the profit motive, commercial capital accelerates its turnover through competition. Although, in any given capitalist market, there is a finite limit beyond which the annual frequency of turnover, n, cannot be raised, this limit is not known to any individual capitalist. He simply aims at a higher rate of profit by turning over as quickly as possible. If the production-price, P, is given, a rise in n lowers the selling-price of industrial capital, W, through a reduction in D'. However, this general rule of the capitalist market escapes individual commercial capitalists.

Suppose that the common rate of profit is $r = 15$ per cent and he has $D' = 100$. Then he will reckon as follows: If $n = 1$, he can purchase commodities worth 100 which he must sell for 115. If $n = 5$, he can purchase commodities worth 500 which he need sell for only 515. In order to maintain the same profit rate, therefore, the price-differential can be reduced as the volume of trade increases with a more rapid turnover of capital. The pursuit of the "nimble penny" by experienced traders raises the turnover frequency of capital, and the common rate of profit will therefore rise in consequence.

When merchant capital traded limited volumes of commodities, it often resorted to the cheating of producers and consumers to maximise its expropriatory profits. Commercial capital prefers to trade large volumes of capitalistically produced commodities for small profits by accelerating its turnover. In this respect the behaviours of the two types of capital are different. Yet, they both share the same philosophy in recognising the source of profit in circulation, i.e. in the trading activity of the capitalist himself.

Commercial profit can, therefore, be said to reinstate the concept of "profit upon alienation" which was familiar to merchant capital. Profit, no longer conceived as the distributional form of surplus value, now begins to appear as the fruit of the trading activity of the commercial capitalist himself. This appearance, however, is more than a mere illusion. The relation between commercial capital and loan-capital that will be studied in the next Subsection clarifies the necessity of this appearance, and establishes commercial capital as capital *par excellence*, i.e. capital which regards itself as perfect.

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9.2.3 Commercial Capital and Loan-Capital

Commercial capital, from the beginning, presupposes the presence of loan-capital, extends the latter's scope of activity and brings it to completion. The mutually complementary relation between the two forms of capital is similar to that between merchant capital and money-lending capital. The order of appearance, however, is precisely the opposite. That is to say, whereas merchant capital was theoretically prior to money-lending capital, commercial capital (which is a reinstatement of merchant capital) cannot be introduced until loan-capital (a developed version of money-lending capital) establishes itself first.

Loan-capital arises from industrial capital *before* the latter's selling operation is differentiated from the production of surplus value and is entrusted to commercial capital. In a purely capitalist society (in which such a thing as consumer credit is unknown), credit always develops from the exchange of commodities among industrial capitalists. (They are supposed to do the selling of their products among themselves in the first instance, i.e. prior to delegating the business of selling commodities to commercial capitalists.) The use of credit saves them circulation-capital. With the socialisation of idle funds, loan-capital enables industrial capital, not consumers, to purchase commodities more easily. In principle, the capitalists who produce means of production can benefit from credit facilities and save circulation-capital, but not those who sell directly to consumers. The reason is that a consumer buys the output of industrial capital only little by little as he needs it, and not in bulk or wholesale. In other words, the industrial capitalist whose output is not likely to be sold *en gros* does not deserve to buy his means of production on credit.

Suppose, for example, that the weaver finds himself unable to pay for cotton yarn until he sells his product, cotton fabric, to its direct consumers for money. In that case, the selling-period of the weaver is either too long or too uncertain for the spinner or cotton yarn to finance. The latter would not normally draw a bill of exchange on the weaver, and sell his cotton yarn on credit. Even in the unlikely event in which that happens, banks would not discount the bill. If a merchant intervenes, however, between the weaver and the direct consumers of his product, the situation changes altogether.

Since the weaver is paid in cash as soon as he sells his cotton fabric to a wholesaler, the spinner can easily extend a short-term credit to the weaver. Banks too will be willing to discount his bill, should he need money before the expiry of the credit period. In this way, indus-

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trial capital, regardless of what it produces, becomes eligible for credit in the purchase of commodities. That is to say, the presence of commercial capital enables industrial capital to make more extensive use of loan-capital.

The above also means that industrial capital can now continue its reproduction-process with greater autonomy, even if its products are not sold to their eventual users, i.e. even if they remain in the sphere of circulation. The capitalist market must in any case hold some commodity stocks in order to ensure the continuity of the reproduction-process. However, as commercial capital assumes the responsibility of maintaining such commodity stocks at appropriate levels, their excess and shortage affect the activity of industrial capital only indirectly through the motion of prices. For its part, industrial capital, now free from the management of inventories, can strive to expand the scale of its production to the extent that loan-capital can finance.

The function of loan-capital is limited to facilitating the purchase of commodities by industrial capital. Both trade and bank credit are issued on the basis of a commodity already sold. Money is lent to the purchaser either directly by the seller, or indirectly by the bank through the seller. That is to say, for one industrial capitalist to purchase a commodity on credit, its sale must have been arranged already. Loan-capital cannot relieve industrial capital from the trouble of selling its commodity in the first instance. Only commercial capital, which takes on the risk of selling commodities, relieves industrial capital from the real uncertainty of circulation. However, the relative independence of commercial capital from industrial capital also tends to magnify the speculative aspect of the capitalist mode of production.

Commercial capital can retain enormous stocks of unsold commodities in the circulation market, while speculatively maintaining their prices at high levels. It is because commercial capital thus conceals the onset of an excess of capital that the crisis, when it finally breaks out, often appears to have been caused by the overtrading of commodities by commercial capital.

Its speculative tendency apart, commercial capital is itself a major supplier and demander of loanable funds, and, consequently, makes extensive use of loan-capital. Since the selling of commodities by commercial capital is a regular and predictable process (unlike the retailing of its own commodity by industrial capital), there is little reason why credit should be withheld from commercial capital. Industrial capital could not convert circulation-costs into capital, nor could it expect to earn profit by spending them. Commercial capital, by contrast, can advance such costs as capital and also expect to earn profits on its genuinely capitalist operation. Therefore, the utilisation of credit

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by commercial capital to supplement its operating expenses (d') becomes capitalistically permissible. Moreover, the price of commodities that commercial capital purchases for resale (D') is, like the "circulating" part of industrial (constant) capital, recoverable in one turnover. Thus, credit is even more readily forthcoming to supplement that part of commercial capital.

For example, the commercial capitalist who buys a certain quantity of cotton fabric from a weaver may recover its price with a profit by selling it off to someone else within three months. In that case the commercial capitalist who borrows the purchase price of cotton fabric can easily pay the interest owing out of his profit. Not only can the weaver grant him a credit with few qualms, but banks too are willing to discount the bill that the weaver has drawn upon the commercial capitalist. If this commercial capitalist does not buy cotton fabric directly from the weaver but indirectly from another merchant, the latter may also be forthcoming with an offer of credit. Commercial capital thus establishes itself as an important customer of loan-capital.

This fact, of course, should not create the false impression that commercial capital need not possess its own D' and may purchase all commodities on credit. To conceive of a commercial capitalist who advances his own money only in d' would be as ridiculous as to conceive of an industrial capitalist who finances all of his productive elements other than his machines and labour-power with credit. If any capitalist undertook such a reckless operation, his credit rating would sink very low, and he would in future disqualify himself from any access to credit.

What is to be emphasised here is merely that commercial capital can handle a much greater volume of commodities than its own nD' can buy. Commercial capital too supplies idle funds as it depreciates its fixed assets and prepares for future expansion in the scale of its business, though probably not to any greater extent than industrial capital. In the demand for loanable funds, however, commercial capital, which advances money primarily in "circulating" assets, tends to be more voracious than industrial capital. To some extent, therefore, industry is a net supplier of funds to commerce. This fact will make loan-capital more speculative than otherwise for the following reason.

If an industrial capitalist buys cotton yarn on credit, the yarn is productively consumed in the making of cotton fabric. Therefore, by the time the fabric is sold for money and the credit is cancelled, the cotton yarn as a commodity has already disappeared from the market. However, if a commercial capitalist, who buys cotton yarn on credit, sells it profitably to someone else, the credit can be liquidated, but the

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cotton yarn has not necessarily ceased to be a commodity. It may stay in the circulation-sphere as an item of speculation, by merely changing hands without being consumed, so long as its price can continue to be "marked up" at every move. In that case, the self-liquidation of credit does not reflect any progress in the reproduction-process. Loan-capital's operation thus has no bite in real economic life and can be properly described as speculative.

* * *

Loan-capital and commercial capital are, therefore, closely related to each other as they both serve the single purpose of shortening the circulation-periods of capital, albeit with two different methods. There is more to it, however. These two forms of capital together restore the circuit of money-capital for the motion of the aggregate-social capital. From that point of view, it can be said that commercial capital consummates the process which loan-capital has initiated.

As is apparent in the reproduction-schemes, the motion of the aggregate-social industrial capital assumes the circuit of commodity-capital. This motion sustains itself, in other words, by converting capitalistically produced commodities, C′, into productive elements, C. Therefore, the reproduction-process of industrial capital constitutes a continuum of commodity exchanges, C′ – M′ · M – C, which can be abbreviated to C′ – M – C. Even though industrial capital too originates in money, M, its on-going motion presents itself as a social interaction of commodities, C′ – M – C, in which money functions primarily as the medium of exchange. This outlook, however, changes with the advent of commercial capital.

For money that commercial capital spends to purchase commodities from industrial capital is not a medium of circulation passing through the hands of their consumers, direct or productive. Commercial capital pays in advance for the commodities which they subsequently sell, handing over funds to industrial capital for the continuation of its productive operation. It does not use its money simply as the means of circulation. Instead, it advances its money as capital in the chrematistic operation, M – C – M′. Industrial capital is thus released from the most hazardous capitalist operation of selling commodities C′– M′, which Marx described as a "deadly leap". By taking up almost single-handedly the whole burden of commodity-economic anarchy, commercial capital now assumes the position of "the capitalist *par excellence*". Industrial capital, by contrast, becomes a rather colourless partner of commercial capital.

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Commodity exchanges C′ – M – C which are absorbed by the form, M – C – M′, of commercial capital are no longer subordinated to the motion of industrial capital. Unlike the M – C – M′ of merchant capital, the same form operated by commercial capital represents a pure chrematistic *indifferent to the use-values of particular commodities*. In order for commercial capital to assimilate the social exchange of capitalistically produced commodities, C′ – M – C, to its form, M – C – M′, however, at least one part of the aggregate-social capital should remain in the form of money. Indeed, it should remain in the form of money-capital capable of being advanced whether in commerce, in banking, or in industry.

Money that can be advanced as commercial capital must first arise as idle funds from the motion of industrial capital. More specifically, it must arise from the link M′ · M within the C′ – M′ · M – C phase of the motion of industrial capital. Such idle funds, however, cannot become capital, unless they are socialised by loan-capital M . . . . . M′, in the first instance. Only loan-capital, which socialises the idle funds of industrial capital, can form additional money-capital which can be advanced in commerce as well as industry. It is, therefore, loan-capital that constitutes the source of all new capital formations.

It is in the light of this fact that industrial capital too can accept the necessity that part of the aggregate-social capital should always be found ready in the form of money. Unlike the old merchant and money-lending capital, commercial capital does not derive its investible funds from outside industrial capital. Commercial capital advances, in place of industrial capital, the money which the latter has spawned and which loan-capital has socialised. If industrial capital ceases to sell its commodities, it can release much of its circulation-capital as idle funds to the money market. These funds are used for the expansion of commercial capital.

It is, however, not possible for industrial capital to immediately generate commercial capital as the monetary component of the aggregate-social capital. The process C′ – M – C cannot be suddenly converted into the process M – C – M′ by a stroke of the magician's wand. Surely industrial capital cannot simply set aside part of its money-capital and declare that from now on that part of its capital shall function as commercial capital. In practice, it may perhaps not be impossible that an industrial capitalist closes his factory one day and becomes a shop-keeper the following morning. Theory, however, cannot explain a sequence such as M – C . . . P . . . C′ – M′· M – C – M′, without the mediation of loan-capital.

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Even the mobility of industrial capital from one sphere of production to another requires, in reality, the mediation of loan-capital. Yet, for industrial capital, socialised funds are only supplementary means, effective primarily in the short run, to bring about a flexible adjustment of production. The adjustment, in the last analysis, must be accomplished by the mobility of self-owned capital, or by the differential speeds of its accumulation, from one industry to another. That is the reason why the abstract theory of the equalisation of profit rates could and should be explained in terms of the variations of market prices from production-prices, without making the rôle of loan-capital explicit.

The abstract theory of average profit explains that capital moves from the production of a commodity which sells in the market for a price lower than its production-price to the production of a commodity which sells for a price higher than its production-price because competing units of industrial capital always seek a maximum rate of profit. In reality, however, it is not easy for anyone to withdraw capital already advanced in the production of a specific use-value, and to move it elsewhere for the production of another. The adjustment of production, therefore, occurs mainly in the process of accumulation, in such a way that the formation of new capital is accelerated in relatively more profitable industries, and is restrained in relatively less profitable industries.

Even in that case, a temporary excess of the market price over the production-price does not immediately generate enough accumulation-funds in that industry. For a new capital of sufficient magnitude to be formed in that industry, loan-capital must flow into it and mediate the conversion of some of its circulation-capital into productive capital. In other words, before capital moves into the industry from elsewhere, or before capital within a particular industry builds its own accumulation funds sufficiently, an acceleration of production must be made possible with the assistance of socialised funds that loan-capital makes available to that industry. That is just another way of saying that part of the aggregate-social capital must be ready in the form of money-capital capable of being advanced in any sphere of use-value production.

The same procedure cannot be followed in explaining the mobility of capital between industry and commerce. In this case, because both the general rate of profit and production-prices (R, P) have already been formed, relative commodity prices are irrelevant. Given (R, P), the levels at which the common rate of profit and the price-differential (r, u) will be determined will depend on how far commercial capital can in fact shorten the circulation-periods of capital in any given capitalist market. The only way in which the mobility of capital between industry and commerce can be explained is by the flow of loan-capital to whichever sector earns a surplus profit on top of the common rate of profit.

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Thus, for example, if a surplus profit arises in commerce, some idle funds generated from industry and socialised by loan-capital are not returned to industry in the form of credit to provide it with additional money-capital. They are converted into additional money-capital in commerce instead, so as to expedite the expansion of commercial activity. Conversely, if commerce is relatively inactive and surplus profits arise in industry, credits that normally assist commerce will instead be offered to industry. In other words, the marginal adjustment between the two sectors must depend on the redistribution of socialised funds, originating in the common source (loan-capital) and capable of being utilised as money-capital, whether in industry or in commerce. *In the absence of loan-capital, which socialises idle funds, the communication between industrial capital and commercial capital would be severed, and that would mean that commercial capital would in turn retrogress to merchant capital which was wholly external to industrial capital.*

It is, therefore, quite certain that, for commercial capital to function side by side with industrial capital within the reproduction-process of capitalist society, the prior existence of loan-capital must be taken for granted. However, idle funds, regularly generated from the circulation-process of industrial capital, even when socialised by loan-capital, cannot be made available to industry and commerce alike for an indefinite period of time. Only when industrial capital permanently renounces the major part of its selling operation, can circulation-capital, D, which it originally possessed, be released as idle funds without a time limit. It is this D which industrial capital sends to the money market that launches commercial capital $D' + d'$.

Thus, even when commercial capital differentiates itself from industrial capital and assumes a certain measure of independence, the two forms of capital are inextricably related through loan-capital, which regulates their relative scale of operation. It is therefore, fundamentally the motion of industrial capital itself (from which both loan-capital and commercial capital develop) that makes it necessary for the aggregate-social capital to assume, at least in part, the form of money. Commercial capital that advances society's money-capital operates the form $M - C - M'$, in which it wholly contains the $C' - M - C$ of industrial capital. The pure capital-form, $M - C - M'$, can, therefore, bury under it the motion of industrial capital, which, because of its diverse techniques of use-value production, could not by itself quite achieve its goal: the absolute indifference to use-values.

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Commercial capital not only presupposes the activity of loan-capital but also arises from the same source as loan-capital, i.e. from idle funds that industrial capital does not employ as capital. If the idle funds are only temporarily available, they are converted into loan-capital; if they are permanently set aside, as industrial capital withdraws from the selling operation, they are convertible into commercial capital. It goes without saying, however, that the two sorts of idle funds are not distinguishable by different names or colours when they enter the money market. If some idle funds are advanced as commercial capital, the same funds could as well have been lent as loan-capital under different circumstances.

This fact is particularly obvious when commercial capital purchases its trading stock D' with borrowed money. Even without borrowing, however, commercial capital advances money that industrial capital fails to embody in its motion, i.e. the money that normally becomes loan-capital. The historical source of commercial capital is not in question here. In order for self-owned commercial capital to grow, part of surplus value produced in industry must be channelled to commerce via the money market. Only loan-capital can make idle funds of industrial capital available to commerce. Commercial profit that arises in consequence may in part be used for the expansion of commercial capital. It is because of this relation that commercial capital always views itself in comparison with loan-capital.

Commercial profit $r(D' + d')$ is, therefore, automatically compared with the interest $i(D' + d')$ which would be realised in the money market, were the same amount of money floated there, instead of being advanced as commercial capital. The difference $(r - i)(D' + d')$ is then understood as a reward for the purely capitalist activity of buying and selling commodities and is called an "entrepreneurial profit". *Commercial profit is thus divided into the two components: interest and entrepreneurial profit.*

Although interest on loanable funds has so far been explained by the additional production of surplus value made possible when they are lent to industrial capital, the same explanation cannot apply to the case in which the same funds are lent to commercial capital, since the latter does not produce surplus value. The interest component $i(D' + d')$ of commercial profit must be regarded as income automatically accruing to "capital as a property" as distinct from the compensation it receives for the capitalist activity of trading commodities. The conception that the mere property of capital yields an interest just as the mere ownership of land yields a rent, therefore, develops.

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This conception, however, cannot be simply dismissed as the fanciful illusion of the commercial capitalist. It is a *quid pro quo* that has its foundation in the very nature of commercial capital. For the reproduction-process of capitalist society to maximise the production of surplus value, the circulation-period of capital must be shortened as far as possible and circulation-costs, both ordinary and pure, must be reduced to their minimum. These purposes are served by loan-capital and commercial capital. The functioning of these two types of capital, however, necessarily requires that one part of the aggregate-social capital should always remain in the form of money. In consequence, the motion of industrial capital as a whole, $C' - M - C$, is submerged under the purer form, $M - C - M'$, of capitalist chrematistic. The fact that commercial capital which produces no surplus value thus dominates industrial capital demands a re-conceptualisation of capital by capital.

The distribution of surplus value as profit cannot for ever remain an internal affair of industrial capital. The sharing of surplus value with commercial capital must be founded on the activity of loan-capital, and in particular on the rate of interest that it forms in the money market. The rates of interest actually established in the money market, however, are no more than the prices of funds converted into commodities, and cannot be taken to be expressions of the fetishism of capital. Only commercial capital, which divides its profit into two components, genuinely expresses the fetishism of capital.

For commercial capital which produces no surplus value and which profits from a purely circulatory operation cannot conceive of profit as a distributional form of surplus value. To commercial capital, normal profit consists of an entrepreneurial reward for its purely capitalist activity and an interest automatically accruing to the property of capital itself. The fetishism of capital finds its expression in the conception of capital as a property. The division of profit would still be *quantitative* rather than qualitative, if it applied only when commercial capital borrowed funds to purchase commodities from industrial capital. For, in that case, the commercial profit accruing to the borrowed money would actually be divided into the two components noted. For the reasons already given above, however, we know that commercial capital would divide the whole of its profit even if it did not borrow. Because this is so, we can say that, the division of profit has become *qualitative*, thus securely establishing the fetishism of capital.

The qualitative division of profit already implies the submergence of industrial capital, together with its $C' - M - C$ form, underneath the form $M - C - M'$ of commercial capital. Therefore, this qualitative

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division can now be transferred to industrial capital itself. Actually even industrial capital has never found it difficult to quantitatively distinguish the additional production of surplus value made possible by credit from the production of surplus value which does not depend on credit. Obviously, industrial capital can adopt the quantitative division of profit without expunging its consciousness of surplus value production. The qualitative division by industrial capital must, however, mean that its activity has become qualitatively the same as the activity of commercial capital.

Only because industrial capital too, in emulating the M – C – M′ of commercial capital, effaces its own C′ – M – C, can it accept the qualitative division of profit. Thus, with the completion of commercial capital, *the whole motion of the aggregate-social capital resumes the circuit of money-capital*, blotting out every trace of surplus value production. Profit, which is no longer viewed as the distributional form of surplus value, is broken up into interest, a property income similar to rent, and entrepreneurial reward, a labour income similar to wages.

The truly fetishistic concept of "capital as a property" that commercial capital finally introduces marks, as it were, the end of the long journey of capital. Capital as a whole, if not its individual units, is now freed from all the harassment of use-values and can be at peace with itself. The capitalisation of revenues by the market rate of interest, which builds a fictitious form of capital, can now be explained.

9.3 INTEREST-BEARING CAPITAL AND THE COMPLETION OF THE DIALECTIC OF CAPITAL

9.3.1 The Conversion of Capital into a Commodity

With the development of commercial capital the link between profit and surplus value is finally broken. For the profit that commercial capital earns by trading commodities appears to have no relation at all to the production of surplus value. Even the source of interest is irrevocably mystified in the mind of commercial capital, which, unlike industrial capital, does not see interest as springing from the additional production of surplus value made possible by the assistance of loan-capital, and so comprehends it merely as a transfer of income from the operator of capital to its proprietor. The fact that part of commercial profit is paid as interest to loan-capital cannot, therefore, remain a merely "quantitative" relation.

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If an interest accrues to borrowed capital, then it follows that self-owned capital too should earn a proportionate interest, since it would do so if actually floated in the money market. With this conception, commercial profit is also "qualitatively" divided into a prior claim on interest and the remainder, which is reckoned as a reward for the purely capitalist activity of trading commodities. The quantitative requirement of the borrower to pay an interest to the lender develops into a qualitative rationalisation that the owner of capital should pay an interest even to himself, as if he were the borrower of his own capital. This eminently capitalist-rational ideology, however, cannot fail to be adopted by industrial capital as well.

Industrial capital differs from commercial capital in being the producer of surplus value. Therefore, after delegating the business of selling commodities to commercial capital, industrial capital does indeed appear to have more or less withdrawn from the circulation-sphere and to have become a mere executor of production. This fact, however, by no means absolves industrial capitalists from being "capitalist". After all, they are not themselves the direct producers of surplus value; they only employ labour-power which produces value and surplus value. For labour-power to form and augment value, the industrial capitalists who purchase it must, of course, see to it that that labour-power does not produce socially unnecessary use-values. Being exposed to the ceaseless fluctuations of market prices, these industrial capitalists must always be ready to adjust their output, and, if necessary, even to move from one industry to another in pursuit of surplus profits. Thus, although relieved of the major burden of circulatory operations, industrial capital has not thereby secured complete freedom from the anarchy of commodity production.

The variation of profit-rates, moreover, also sometimes compels capital to move from industry to commerce and from commerce back to industry. Therefore, capital is essentially indifferent as to whether it earns profit by shrewdly trading commodities or by judiciously managing a productive plant. In both cases, profit accrues to a capitalist in proportion to his business acumen. Since capital, whether advanced in industry or in commerce, has its origin in loan-capital and, hence, is automatically entitled to an interest, this latter entitlement must first be deducted from any normal profit. The rest is called *entrepreneurial profit*, and appears to be nothing other than a compensation for the purely capitalist activity of bearing risks, whether in industry or in commerce. The qualitative division of normal profit that commercial capital has introduced thus spreads to industrial capital with little resistance.

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The concept of profit originally arose with that of the cost-price into which capital was converted. Industrial capital too wished to act as a merchant in the capitalist market, by accepting profit as a distributive form of surplus value. This wish was not immediately fulfilled, however, inasmuch as industrial capital remained subject to the restrictions of use-value production. Through the theories of profit and rent, therefore, industrial capital had to subdue the technical variabilities and contingencies inherent in the production of use-values. Only after this was accomplished by the establishment of its teleological relation with landed property could industrial capital finally give birth to loan-capital and commercial capital.

Now that the qualitative division of normal profit into interest and entrepreneurial reward is sanctioned by commercial capital, industrial capital too is enabled to act as a genuine merchant as it adopts the same mercantile ideology which expunges all traces of surplus value in normal profit. At this point, even the capital which is already advanced in commerce or industry can, just like newly formed capital, be deemed to have originated in society's money-capital. The aggregate-social capital, though it is in practice never wholly present in the form of money, is nevertheless viewed as, in essence, consisting of a mass of money-capital, the latter now appearing to be nothing but a mystical, automatically interest-bearing force.

The consequent division of the normal profit of the aggregate-social capital into interest and entrepreneurial reward amounts to reducing society's surplus value to "property incomes", consisting of rent and interest *plus* the "labour incomes" of capitalist entrepreneurs, who may now be regarded as composing a special class of wage-earning workers. Thus, the fetishism of capital is brought to completion. For in this conception of things, capital no longer remains a self-augmenting motion of value; it becomes a mysterious "asset" that spontaneously generates interest for its proprietor.

That part of society's total profit, interpreted in this manner as "interest on capital", is, of course, completely different both quantitatively and qualitatively from the genuine interest that loan-capital actually earns. If the money value of the aggregate-social capital advanced in industry or commerce (including banking) is $1,000 million, and, if it produces and realises the surplus value of $200 million per year, the uniform rate of profit is 20 per cent. If the rate of interest is 10 per cent, and if nine-tenths of the aggregate-social capital advanced is self-owned and the rest loaned, then the portion of total profit interpreted as "interest on capital" is $100 million, whereas the genuine interest actually earned by loan-capital is only $10 million.

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The following two fractions are both equal to 10 per cent, though conceptually they are two entirely different things:

$$\frac{\text{genuine interest (10)}}{\text{loan-capital (100)}} = 10\% = \frac{\text{"interest on capital" (100)}}{\text{aggregate-social capital (1,000)}}$$

Whereas the first fraction explains the rate of interest actually shaped in the money market, the second fraction involves a subjective interpretation of things by capital in light of the rate of interest already formed in the money market. In other words, the second fraction implies the ideological, and not actual, conversion of the aggregate-social capital into loan-capital in reflection of the prior determination of the rate of interest in the money market. Thus, unlike the first fraction, the second distinctly expresses the fetishism of capital consequent upon its reification as a property.

Only when the pure chrematistic, M – C – M′, of commercial capital enfolds the circular motion, C′ – M – C, of industrial capital is it possible subjectively to "monetise" the aggregate-social capital, though in reality it does not wholly exist in the form of money. With this change of perspective, the productive aspect of capital is downplayed and its reified appearance stressed. The method of capitalisation, by which any flow of regular incomes can be converted into fictitious capital, consists of equating the second fraction with the market rate of interest.

If capital viewed as an automatically interest-yielding asset or property is called "interest-bearing capital", we can say that "the relations of capital assume their most externalised and most fetish-like form in interest-bearing capital" (Marx, *Capital*, III, p. 391). For "in interest-bearing capital this automatic fetish, the self-expanding value, money generating money, [is] brought out in [its] pure state and in this form it no longer bears the birthmarks of its origin. The social relation is consummated in the relation of a thing, of money, to itself" (p. 392). The rate of interest, as determined in the money market by the forces of demand and supply, has no mystery. When its shadow is cast on the aggregate-social capital, however, the mysterious conception of a self-expanding asset, or money-generating money, entrenches itself. And, in that conception, all the production-relations of capitalist society so far laid bare evaporate without a trace.

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Capital is reified into a commodity in possession of a definite price. The form of the joint-stock company or corporation realises the *conversion*

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of capital into a commodity (marketable equity). In the pure theory (definition) of capitalism, this form remains an "idea" in the sense that it is an ideally conceived apparatus whereby the conversion of capital into a commodity is effected *in thought*. Capital does not, and cannot, actually develop or institute a joint-stock company in a purely capitalist society. For the use-value conditions that must be presupposed in it do not support the physical presence of this idea of capital.

The incorporation of a firm was originally a method of organising a large enterprise with a scale that exceeded the resources of small individual capitalists. Early in the development of capitalism, joint-stock companies were common in overseas trade, transportation and public utilities. In manufacturing industries, however, they did not emerge until much later, i.e. until the development of capitalism reached its last stage. The advent of the iron-and-steel industry in the imperialist stage required large firms which could be organised only as joint-stock companies.

The consequent centralisation of capital, however, militated against, and eventually even reversed, the tendency of capitalism increasingly to purify itself. The mode of capital accumulation too had to change, and this permitted finance-capital to become the dominant form of capital. It is, however, clearly beyond the scope of the pure theory of capitalism to examine such concrete-historical circumstances. For example, an actual joint-stock company sells its shares in capital (equity) markets, which evolve as adjuncts to money markets. The operation of capital markets presupposes the class of "rentiers" in possession of idle funds which arise independently of the motion of industrial capital. The pure theory cannot, within its scope, explain the economic foundation of such "money capitalists".

The reification of capital, however, is real enough even in a purely capitalist society. For interest-bearing capital appears in it as a sum of money that promises a certain flow of future incomes. In this form capital is already potentially a commodity. It is, therefore, impossible for capital not to think of an ideal joint-stock company as a mechanism for realising its conversion into a commodity. This "idea" of capital, although not actualised in a purely capitalist society, is not wholly illusory. It is rather in the nature of an implicit plan, which can be put into effect as soon as the appropriate use-value conditions materialise. Just as the analysis of a dream sometimes reveals the unconscious state of the individual, so can the analysis of the unfulfilled "idea" of capital divulge its hidden agenda. The pure theory of capitalism must, therefore, examine *the ideal joint-stock company* in the closing part of the logical exposition of capital. For only with this examination is the full nature of capital finally exposed.

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The capital of a joint-stock company is assembled by the issue of shares or stocks, which represent the equity of the company and which claim dividends from its profit. Once the company commences its operation, however, the capital so assembled becomes an autonomous motion of value which implies the social relations of capitalist society. It is, of course, impossible directly to reify, or commodify, such an ongoing motion of value. The commodification of capital is not as simple a matter as the commodification of land which, though not a product of capital, is at least a static object. Since real capital, i.e. capital that undergoes a metamorphosis, cannot be directly reified, it must first be interpreted as money-capital, before it is commodified. The conversion of capital into a commodity, therefore, requires a double procedure.

First, the real capital in motion is fictitiously converted into money-capital as the equity of a company. Then that equity is divided into marketable shares, thus completing the commodification of capital. Indeed, money advanced in the capital of the company is not recovered by the shareholders each time it turns over. The shareholders merely retain the right to dispose of their nominal claims against the company's assets. The physical assets of the company, unlike an area of land which can always be divided and sold off piece by piece, cannot be traded piecemeal (unless it is legally disbanded by the termination of the business). The only way for capital to be converted into a commodity, therefore, is to define the equity of the company first as a fictitious sum of money-capital, and to divide that sum into marketable shares, even though the real capital of the company continues its own autonomous motion.

Suppose that, in inaugurating a company, someone advances $500 and obtains a share of the same nominal value. If the company issues 1,000 such shares, it begins its operation with the paid-in capital of $500,000. The shareholders, however, do not necessarily own the equity of $500 per share. For example, if the company earns $100,000 with the annual profit-rate of 20 per cent, and, if half of the profit is retained, the remaining $50,000 are distributed as dividends. Thus, the annual dividend per share is $50. In this case the market value of the share can vary as $1,000, $500 or $250, depending on whether the rate of interest is 5 per cent, 10 per cent, or 20 per cent. Correspondingly, the fictitious money capital of the company can turn out to be $1,000,000, $500,000, or $250,000, although its real capital, or value in motion, is always worth $500,000.

Only when the market rate of interest happens to coincide with the yield rate of the share (= dividend per share / the acquisition cost of the share) is the value of fictitious capital equal to the value of real

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capital in motion. If the yield rate falls to 5 per cent while the interest rate remains 10 per cent, anyone who advanced \$500 at the inauguration of the firm can sell his share for \$1,000 and realise the *founder's gain* of \$500. Conversely, if the yield rate rises to 20 per cent while the rate of interest is 10 per cent, anyone who advanced \$500 at the inauguration of the firm and who is obliged to sell his share for the market price of \$250 will incur the *founder's loss* of \$250. The founder's gain and loss are in effect capital gain and loss that a person, who purchased a share for its face value at the foundation of the firm, realises when he sells it for the current market price. If the company is successful, the market value of the share tends to exceed its face value and enables the founders to make a considerable capital gain; and this is specifically called the founder's gain (*gründergewinn*).

An important lesson that emerges from the above is that the aggregate-social capital of a purely capitalist society is only fictitiously interpreted as money-capital, even though it never wholly takes the form of loan-capital in reality. That is the reason why the yield rate and the interest rate diverge from each other, and the value of fictitious capital too diverges from that of real capital. With this reservation, however, it may nevertheless be said that the equity market *in the mind of capital* would tend to equalise its yield rate to the rate of interest. For only then does capital complete itself as a commodity with an abstract and uniform use-value which consists of the power to earn interest automatically. Interest-bearing capital is thus free (just as money-lending capital originally was) from the restrictions of material use-values and attendant contingencies.

If a capital market operates side by side with the money market, and if the possessors of idle funds can choose to invest in either market, it may be thought that the interest rate and the yield rate will tend to be equalised, and that the divergence of fictitious capital from real capital cannot persist for long. Whether or not that will, in fact, be the case cannot be answered in the theory of a purely capitalist society. For the theory does not permit the actual operation of a capital market. In a purely capitalist society, idle funds which become available only for a definite period of time are wholly channelled into money markets. Theory, therefore, cannot account for the behavioural pattern of the rentiers, or independent investors in capital markets, who cannot theoretically exist. In reality, i.e. historically, some rentiers are only concerned with regular incomes, while others are highly speculative. Moreover, the equity market is normally quite different from the bond market. Such particulars, which must be studied at the level of the stages-theory, do not belong to the present context.

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The actual evolution of joint-stock companies in the last decades of the nineteenth century effected the conversion of capital into a commodity in quite a different manner. The institution of the joint-stock company, which proved to be a useful method of controlling heavy technology, had not developed during the liberal era except in railways and public utilities. When it finally became the standard form of manufacturing organisation with the ascendancy of the steel industry, it did not dissolve the restrictions of use-values at all. On the contrary, with the centralisation of capital and the promotion of organised monopoly, the proliferation of joint-stock companies relocated the use-value restrictions from the interior of the firm into the capitalist market and thereby atrophied its price mechanism.

Thus, if the use-values that real economic life demands are not suitable for the commodity-economy, even joint-stock companies cannot ensure an ideal environment for capital. Only those sectors in which incorporation is not required, because use-values are still relatively small and producible by dispersed small firms in near perfect competition, can perform the ideal conversion of capital into a commodity. Such a conversion enables capital subjectively to undo the qualitative class distinction between the workers and the capitalists.

The commodity-economy based on the principle of the exchange of equals does not, of course, recognise a class distinction. It is, therefore, perfectly reasonable for commercial capital to interpret entrepreneurial reward as the wages of the capitalist, and to eliminate the contrast between "productive labour which is exploited" and "unproductive labour which exploits". Even capital itself would, however, be only half-convinced of the validity of such an interpretation, if it remained obvious that the wage-earners have in fact no chance at all of acquiring capital. The ideal joint-stock company opens up the possibility for anyone with the minutest savings to purchase a share, and to formally become a part-owner of the equity of a capitalist enterprise.

Even though wage-workers earn no more than the value of their own labour-power on average, their wages fluctuate through business cycles. It, therefore, appears as though they too have at least a temporary chance of becoming shareholders. The fact that they cannot remain "capitalists" for long and that small shareholders have, in any case, no effective control of the company's business decisions can be readily dismissed as "sociological" details. Capitalist economics is satisfied with the idea that individuals choose either productive or unproductive employment because of their comparative fitness or advantage.

If, in this way, even the small competitive capitalist enterprise is

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subjectively incorporated so as to disperse its ownership to numerous shareholders, the capitalist-manager of the firm can no longer be distinguished from an ordinary commercial worker. The capitalist, who is not different from a managerial worker and who is not even the exclusive owner of the enterprise, loses his distinct personal rôle and his special status, and easily becomes reducible to the performer of a "socially useful" function.

Thus, according to Marx:

> The capital, which, in itself, rests on a social mode of production and presupposes a social concentration of means of production and labour-power, is now directly endowed with the form of social capital (capital of directly associated individuals) as distinct from private capital, and its undertakings assume the form of social undertakings as distinct from private undertakings. It is the abolition of capital as private property within the framework of capitalist production itself" (*Capital*, III, p. 436).

By bestowing the fictional form of joint-stock company on private enterprises, capital effaces its own identity. It pretends to operate social rather than private undertakings, even though "social" in this context can only mean capitalist-social and not genuinely social.

It is only in this way that capital comprehends itself. By converting itself into a commodity which has the use-value of merely yielding interest, capital understands, from its own point of view, that it must maintain its motion increasingly, as a *perpetuum mobile*. Since interest-bearing capital is a commodity which generates interest, leaving it idle would mean forgoing interest and letting its use-value perish aimlessly. Even as the self-augmenting motion of value, capital knew this fact. But that knowledge was vague and intuitive, and did not amount to a full comprehension. Only when capital itself realises that it is a motion with no rest, not because it has to produce surplus value, or to seek surplus profit, or even to economise on circulation-costs, *but simply because it is capital*, is the ultimate nature of capital finally exposed.

Capital originally developed out of the commodity in order to release its value from the restrictions of its use-value. Indeed, capital was a form that enabled the abstract-social nature of the commodity to prevail over its material characteristics. The same capital now completes itself as a potentially commmodifiable object, after having fully exposed its own nature, i.e. after having revealed its "thing-in-itself". With the return of capital to the form of the commodity where it

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originated, the dialectic of capital closes its circle. It may be said that capital has now reached its philosophical state, and feels at home with the conviction that it must at no time remain idle.

The form of interest-bearing capital also enables the unity, which has so far remained unaccomplished, of the object (land) and the subject (capital). For the conversion of land into a commodity is ultimately justified by the conversion of capital into a commodity. It was stated at the conclusion of the theory of rent that land must be converted into a commodity. For, in order for capital to accept landed property fully into its fold, the primitive ownership of land must be justified as the ownership of a purchased commodity. The commodification of land requires the capitalisation of its rental revenues. But the adoption of the method of capitalisation must presuppose the view that rental revenues are equivalent to interest revenues, as land is to capital. Such a view is accepted by capital only when it adopts the form of an interest-bearing object, i.e. after the conversion of capital itself into a commodity.

9.3.2 The Class Structure of Capitalist Society

As stated in the concluding section of the theory of rent, the formation of regular rental incomes accruing to landed property demands the conversion of land into a commodity, since the primitive ownership of land, when left unexplained, does not agree with the commodity-economic rationality of capital. The conversion of land into a commodity, however, requires the method of capitalisation which follows from the conversion of capital itself into a commodity. Surely, capital cannot commodify an external object, such as land, unless it has already developed its own internal method of commodifying itself as an interest-yielding asset or property. The theory of interest, which ends with the conversion of capital itself into a commodity, develops such an internal method.

By an extended application of the same method, rental revenues may now be "capitalised" to determine the price of land. In other words, this procedure converts land into a commodity which possesses a capitalistically rational price. At this point, landed property need no longer be viewed as collecting rents at no cost to itself. For landowners too may be deemed to have purchased land as a commodity in the past, in just the same way as capitalists have advanced money in capital. Thus, landowners are entitled to rental revenues in the same way as capital-owners are entitled to interest revenues. In this manner landed

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property is deemed to comply with the commodity-economic rules of the capitalist market.

Since land is a static object, unlike real capital which is in motion, the commodification of land is quite simple, requiring no more than the calculation of a land-price. Thus, for example, a piece of land that yields the annual rent of $6,000 is priced, if the market rate of interest is 3 per cent, as $200,000 = $6,000 / 0.03, and can in principle be traded at or near this price. The price of land, which is thus entirely dependent on rent and the rate of interest, must have a tendency to rise with the secular growth of rental revenues, unless offset by a higher rate of interest. Since the rate of interest is more likely to fall with the falling tendency of the rate of profit, it may be taken that land-prices tend to appreciate over time as capitalism develops.

Although land, being a fictitious commodity, has no stable normal price, it cannot be treated in the same way as an antique which may be priced completely arbitrarily. If a piece of land possesses a special quality, it may of course collect a monopoly rent, the capitalised value of which may also be in the nature of a monopoly price. As already mentioned, however, a monopoly rent is exceptional in a purely capitalist society.

Since both rent and the rate of interest are determined capitalist-rationally, a land-price too should be rational from the point of view of capital. It must be noted, however, that this rationality reflects the one-sidedness of capital. For example, if land purchased for $200,000 yields the annual rent of $6,000, its original cost is recovered in approximately 33 years. Therefore, even if it is originally paid for with "one's own labour", the land becomes an instrument of appropriating a portion of society's surplus value free of charge after 33 years. In just the same way, capital too, no matter how it was originally acquired, becomes a means of appropriating the fruit of the labour of others in the end (Volume 1, Chapter 6, Subsection 6.1.3, c).

The calculation of land-price, however, merely assigns a certain money value to land considered as a property. It is, therefore, not implied that the forces of demand and supply in the market in which land is actually traded should tend to establish its market price at the same money value. The theoretically meaningful point here is that the primitive ownership of land can be capitalist-subjectively translated into the ownership of a purchased commodity. What might happen if land were actually traded is not an issue to be investigated in the pure theory (definition) of capitalism. For, in a purely capitalist society, there can

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be no independent source of money that can be used for the purchase of land.

Even though some capitalists may, in reality, cease to operate capital and purchase land in order to join the aristocracy when they are rich enough, such contingencies are no concern of the present theory. The theory only explains how landed property, which pre-exists capitalist society, can be made acceptable from the point of view of the commodity-economy. The pricing of land serves this one purpose. Therefore, just as in the case of the commodification of capital, the pricing of land too remains ideal, rather than actual, in the pure theory. Neither a real estate market nor a capital (equity) market are actually instituted in a purely capitalist society.

Despite this reservation, however, the commodification of land as such is by no means irrelevant to theory. The conversion, albeit subjective, of land into a commodity reveals an extreme instance of the "cunning" of capital, which consists of extending the application of its own principles to alien elements in order to assimilate them. Interest-bearing capital extends itself and subsumes land, an entity outside the realm of capital, under its rule. Even land is thus made qualitatively homogeneous to capital.

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With the blurring of the distinction between capital and land, capitalist society loses its historical identity, and is no longer capable of containing the triumphant penetration of fetishism into all parts of that society. The capitalist mode of production increasingly appears to lose its historical character and to realise a permanent natural order. Capital, though specifically a commodity-economic form, does not appear to remain so, as it extends itself to envelop all the alien factors that are implicated in its operation. Within its specific historical form, in other words, capital paradoxically cloaks its historical transience. It is this elusiveness of capital that has always misled undialectical economic theory, reducing it to a set of empty formalisations.

The historical character of capital, however, cannot be wholly expunged, so long as it is understood as a profit-seeking chrematistic. For "profit" is not quite supra-historic, even if "interest" may be. Thus, classical political economy, which interpreted capitalist society with the trinity formula: "capital – profit, land – rent, and labour – wages" was not completely ahistorical, notwithstanding its open faith in the permanence of capitalism. The trinity formula, however, could not remain in that form because of the fetishism of capital. It was unavoid-

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able that it should subsequently be revised to: "capital – *interest*, land – rent, and labour – wages" in the hands of vulgar economics. For only then could the historical nature of the capitalist mode of production be completely effaced.

In the revised trinity formula of vulgar economics, "capital, land and labour" are all viewed as representative factors of production, i.e. factors that contribute to the production of the output as use-value. They are all supposed to generate incomes in view of their use-value productivities. This formula, in other words, interprets the social relations that constitute capitalism as technical relations among physical objects. Since, in that case, labour cannot be restricted to productive labour and must include the capitalists' commercial labour as well, wages refer to all incomes earned by human services, i.e. by "work". In contrast, rent and interest represent incomes earned by non-human services flowing from "property".

If the three broad categories of productive factors are disaggregated into a large number (n) of concrete-useful objects, the social output, Y, of "goods and services" (somehow aggregated) may be viewed as technically dependent on combinations of input-factors, $v_1, \ldots, v_n$, by the transformation $Y = f(v_1, \ldots, v_n)$ called the "aggregate production function". If f is viewed linear homogeneous in the neighbourhood of equilibrium, Y is exhausted by the sum of "factor incomes", $v_i(\partial f/\partial v_i)$, $i = 1, \ldots, n$, where $\partial f/\partial v_i$'s stand for the marginal productivities. Thus, the neoclassical school inherits the trinity formula of old vulgar economics unmodified in substance, its innovation being restricted merely to its formal generalisation.

The fetishism of capital whether in the vulgar trinity formula or in the neoclassical aggregate production function cannot, however, be lightly dismissed as a mere fantasy of capital. Capitalism does appear in these forms to the untrained eye, and there is a good dialectical reason for that. It is in the nature of the commodity-economy to reify social relations. For example, if persons **A** and **B** directly exchanged use-values **a** and **b**, that activity would not constitute a commodity-economy. A commodity-economy insists on the exchange of **a** and **b** through the medium of money in an open, impersonal market in which individuals **A** and **B** are no longer recognisable, and in which only the exchange ratio of **a** for **b** remains apparent as a reified, thing-to-thing relation. Thus, the social relations among persons, $R(\mathbf{A}, \mathbf{B}, \ldots)$, are expressed only by the "social" relations among things, $r(\mathbf{a}, \mathbf{b}, \ldots)$, and the former, being submerged underneath the latter, cannot be empirically observed.

It is in the nature of capitalism, a global commodity-economy, not

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to exhibit directly the social relations that constitute it, but rather to reify them and to express them as thing-to-thing, physical (i.e. technical) relations. Indeed, capitalism would not be complete if any of its constituent social relations, whether between workers and capitalists, among capitalists themselves, or between capitalists and landowners, remained directly visible. From this point of view, it becomes apparent why the vulgarisation of economics should coincide with the completion of capitalism itself.

Only when the development of capitalism reaches a certain state of maturity is the fetishism of capital securely established, and that necessitates the revision of the classical trinity formula, a revision that entails both the aggregate production function of neoclassical economics and the system of national income accounts. This point is essential to the full comprehension of the capitalist mode of production as well as to the critique of economics based on it. It was Marx who first saw this point. Because capitalism is a global commodity-economy, it makes use of its historically particular, commodity-economic forms to disclaim its own historical transience, and pretends to materialise a permanent natural order of economic life.

* * *

The class structure of capitalist society too must be evaluated in the same light. A mere reminder that capital exploits labour does not clarify the class relation peculiar to capitalism at all. The exploitation of the direct producer is a common property of all class societies and does not specifically distinguish capitalist society from others. What is specific to capitalism is that the fruit of surplus labour cannot be appropriated by capital through the simple application of extra-economic forces.

In practice, of course, there are many instances of extra-economic coercion even under capitalism. Such instances, however, reveal its imperfection rather than its essence. In principle, capital cannot exploit the direct producers by a method other than the commodity-economic one. As has been shown, capitalist society is a class society in which capital appropriates the result of the direct producer's surplus labour in the form of surplus value, and distributes it as profit, rent and interest. This specifically capitalist relation cannot be simply reduced to the master–servant relation that rules in a pre-capitalist class society.

While being a class society on the one hand, capitalism is also a commodity-economic society on the other. In this latter capacity capitalism would rather tend to dissolve class conflicts in the free market of equal

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opportunities. In this respect, capitalism is a peculiar, perhaps even a schizophrenic, society. While, in reality, it needs the class division to maintain its existence, capitalism does subjectively aspire to the abolition of class conflicts and to the realisation of a universal harmony of interests. It is this fact that is implied by the proposition of historical materialism that capitalist society is the last class-antagonistic society.

Indeed, class relations under capitalism are, in principle, already free from extra-economic coercion. The conversion of labour-power into a commodity subjects the direct producers only to an economic compulsion to work, making it impossible for anyone to appropriate their surplus labour by other than commodity-economic means. Moreover, in the process of sharing surplus value already appropriated, capital sides with landed property in claiming interest as "property income" on the one hand, while joining the working class, on the other, in earning entrepreneurial "labour income". Capital thus splits itself into two selves, the one earning a property income and the other a labour income. There can be no antagonism between the two, but only a realisation (if subjective) of class harmony.

The crucial point here is that capital does not directly undo the basic class relation between the workers and the capitalists, but rather develops an ideology which glosses over it, after converting land into a commodity, and thus establishing a qualitative equivalence of land and capital. With the splitting up of capital into an interest-bearing property on the one hand and managerial labour on the other, bourgeois thought effaces the economic significance of class conflicts in capitalist society, having reduced class distinctions to mere occupational or sociological differences.

It is, therefore, not surprising that the bourgeois ideology which condemns the exercise of extra-economic forces and aspires to a classless commodity-economic society is singularly unable to recognise the true foundation of the class relations that constitute capitalist society, i.e. the conversion of labour-power into a commodity. If indeed the commodity-form of labour-power is abolished, not only will the capital–labour class division of capitalist society disappear, but also capitalist society itself, together with the bourgeois ideology which is its superstructural manifestation.

From the point of view of the dialectic of capital which has exposed the commodity-economic base of capitalist ideology, however, there is no doubt that class society can be abolished if, and only if, the commodity-form of labour-power is discarded, without at the same time restoring an extra-economic coercion of the direct producers. How this

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task is accomplished concretely is a matter of practical reason (political wisdom), and cannot be clarified by the economic theory (definition) of capitalism. Economic theory, however, makes it abundantly clear that a historical society cannot be organised as a commodity-economy without reproducing labour-power as a commodity. It therefore follows that human society can be emancipated from the commodity-economic laws of capitalism if, and only if, labour-power is reconverted into a non-commodity.

If, however, this were accomplished at the cost of reinstating extra-economic coercion in the productive organisation of society, what would follow capitalism (the kingdom of necessity) could not be genuine socialism (the kingdom of freedom). Whatever its political and subjective aspirations, a "socialism" that cannot even guarantee the measure of freedom already achieved by bourgeois democracy could not be genuine. The test of socialism is, therefore, unambiguous. In order to be economically meaningful, it must abolish capitalism without at the same time reviving the extra-economic coercion to work.

The reason why the dialectic of capital reviews the class structure of capitalist society at this point is not to reassert that it is a class society. That fact is already fully accounted for. It is rather to show that capital, in view of its commodity-economic nature, wishes to disavow the existing class relations of capitalism. It is for this reason that the study of capitalist society not only clarifies the economic significance of class structures in earlier social formations, but also tacitly points the way to a classless society. The fact that capitalism exhibits the real economic life of human society under the purely commodity-economic form of operation, the form averse to the division of society into classes, has an important bearing on this matter.

9.3.3 The Self-Conclusiveness of the Dialectic of Capital

Under the capitalist mode of production not only do the means of production and articles of consumption appear in the form of commodities, but labour-power itself, the ultimate source of productivity, is also made available as a commodity. The commodity-economy, therefore, does not form an alien sector appended to the existing mode of production, as was the case in pre-capitalist societies. The entire mode of production in capitalist society is organised on a commodity-economic basis. It is by virtue of this fact that economic life under capitalism exposes itself transparently, i.e. free from extra-economic contingencies, in manners susceptible of objective and scientific analysis. The devel-

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opment of economic theory crucially depends on this fact. For unless capitalism exhibits, albeit under its peculiarly commodity-economic forms, the general norms of economic life common to all societies, economic theory cannot comprehend the working of any real economic process.

Capitalism retains the general (real economic life common to all societies) within the particular (the commodity-economic form), not the other way around. That is to say, capitalism is by no means a universal form of economic organisation which applies to every particular instance of economic life. Such a misconception, which arises only from the fetishism of capital, would ignore the historical uniqueness of capitalist society, and would degrade economic theory to a set of empty formalisations. Yet it is precisely this misconception that is deeply rooted in the tradition of bourgeois economics, according to which supra-historic "individuals" always abide by the general principle of "maximising gains and minimising losses". Bourgeois economics, therefore, insists on interpreting all historically and geographically particular economies, whether monetary or natural, in the light of that single general axiom of optimisation.

Such a presupposition amounts to asserting that economic life, regardless of its social organisation, conforms to the price mechanism of an explicit or implicit market. Thus, the same law of demand and supply is supposed to explain the money rate of interest in capitalist society as well as the rate of time preference of Robinson Crusoe, the production-prices determined in the capitalist market as well as the barter terms of trade agreed upon by chance between colonial settlers and North-American Indians, etc. This futile pursuit of over-generalisation makes it impossible for neoclassical economic theory either to expose the historical peculiarity of the capitalist mode of production or to gain a correct insight into the substantive norms of economic life common to all societies.

Capitalist society, like societies preceding it, fulfils the general norms of economic life with some strain. Although capitalism does not, in principle, resort to extra-economic force to set the direct producers to work, it gains control of the social reproduction-process only by the conversion of labour-power into a commodity. This conversion implies a radical reification of human life, a difficult requirement that capitalism must satisfy in order to exist at all. The difficulty is perhaps best illustrated by the fact that the law of relative surplus population peculiar to capitalism can only be enforced through periodic crises.

Since capitalism cannot constantly introduce technical changes, the reproduction of the use-values that are necessary for society's existence

must undergo cyclical fluctuations. This fact indicates that the subsumption of real economic life by the commodity-economy is never perfect or absolute. The same fact, however, does not imply an automatic breakdown of the capitalist mode of production. For capitalism also possesses the power to regenerate itself, if the present value-relation becomes technically inconsistent with the further growth of the reproduction-process. It is this resilience of the capitalist commodity-economy that justifies the theoretical presumption that a purely capitalist society continues its motion without ever coming to an end. In the absence of that presumption, it would be impossible to establish logically the laws of capitalism in a manner similar to the deterministic laws of nature.

This theoretical hypothesis, however, does not in any way imply a false belief in the permanence of capitalism. The closure of the dialectic which makes the total comprehension of the capitalist mode of production possible shows, on the contrary, its historical limitation, if in abstract and general terms. Not only the whole structure of the dialectic but also the manner of its conclusion makes the historical transience of capitalism apparent. Capitalism develops if, and only if, the productive technology historically available to the economic life of society is suitable for commodity-economic exploitation.

From this fact follows the justification for presupposing ideal use-values, and a technology appropriate to producing them, in the theory of a purely capitalist society. For only with such a presupposition can the contradiction between value and use-value be deemed fully overcome, and the activity of capital wholly released from the restrictions of use-values. Moreover, because use-values presupposed in theory are ideal, capital only conceives of the "idea" of a joint-stock company and does not, in that context, actually bring it into being. The fact that capital, which originates in the form of the commodity, returns to that form only ideally confirms the absence of a purely capitalist society in the real world.

* * *

Thus, even though capitalism in history is always transient, its theory (definition), obtained in the light of the idealisation of use-values, is timeless and valid always. This crucial point must be thoroughly understood.

The logic of capital does not operate *in vacuo*; its operation involves human beings together with their material use-value needs and wants. Real capitalism in history is, therefore, always fraught with contingencies to a greater or lesser extent, and never appears in a pure

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form. It is indeed correctly said that the laws of capital manifest themselves only as tendencies, which are always counteracted by contingent factors that threaten to submerge them. These contingent factors, however, can and must be controlled by the method of the idealisation of use-values. If we shirked this crucial step we would forever deny ourselves access to the exact theory (definition) of capitalism. Without a clear concept of a purely capitalist society the laws of capital would never be adequately grasped. It would then be impossible even to distinguish "tendencies" from "counter tendencies", and the whole debate on capitalism would only degenerate into a muddled confusion.

The idealisation of use-values which gives us the framework of a purely capitalist society is a mental process, but a mental process which parallels, and is assisted by, the actual process of the purification of capitalism in history. A purely capitalist society is not a completely imaginary "castle in the air". For unlike a real castle on earth which is motionless, and hence can be idealised only in the human mind, *capitalism in history tends to idealise itself in reality, outside the imagination of the economist, use-values permitting*. Capitalism in history need not be, and is in fact not, completely free from the restrictions of use-values. Yet it becomes purer the more easily commodifiable the economic life of society is. A capitalism that tends to idealise itself outside the human imagination may be said to be in the process of self-purification.

Capital enters a pre-capitalist society from the outside and transforms it into a capitalist commodity-economy. This process will be successful if the key use-values of that society can and tend to be produced as commodities. Historically, this process began in the seventeenth- and eighteenth-century Britain. By the mid-nineteenth century, the "dis-embedding" of manufacturing from agriculture had proceeded far enough, so that industrial capitalism, established in Britain, began to play the role of "the factory of Europe". At that point, capitalism in history could be said to have been in the process of self-purification, as it manifested the tendency to free itself from the vestiges of pre-capitalist society and to approach an increasingly purified image of capitalism.

Although this fact is widely accepted by historians, it may legitimately be argued that the interpretation of an empirical fact always remains subjective, and hence can never be conclusively established to be true. It is, therefore, important to recall that the same historical process was also the process in which economic theory evolved and perfected itself. Indeed, the dialectic of capital made its first appearance when history actually tended towards capitalism's ideal destination

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in the middle of the nineteenth century. The power of abstraction cannot be exclusively subjective, when the theoretical object tends towards its teleological goal in the way capitalism does. Thus, the dialectic allows only such theoretical abstractions as "copy" the abstractions which occur in reality. The parallel between the completion of the knowledge and the purification of the object of study is the crux of the materialistic dialectic, in which the subject and the object, knowledge and reality, cognition and being merge.

Economic theory, as it developed from William Petty through Adam Smith and David Ricardo to Karl Marx, increasingly sought an adequate definition of capitalism. In the 1860s Marx came close to achieving this goal, but did not quite succeed. For it was still too early for the Owl of Minerva to spread its wings. Marx took the self-purification of capitalism to be an indisputable empirical fact, and sought an economic theory which would reproduce capitalism in its pure form. However, he did not live to see the later (imperialist) stage of development of capitalism, in which the process of self-purification was halted and even to some extent reversed. He was, therefore, not conscious of the methodological need to establish a parallel between the real process of self-purification and the completion of the dialectic. He operated, in other words, in a context which did not require such a methodological reflection in explicit terms. It was Uno who first discovered the crucial parallel between the real self-purification of capitalism and the mental idealisation of use-values, by observing Marx's theoretical achievement in the context of his age, no doubt with the advantage of hindsight.

It is both important and interesting to realise that capitalism purifies itself only when the use-value space is appropriate. The development of capitalism in history undergoes the three distinct stages of mercantilism, liberalism and imperialism. These stages of development are respectively characterised by distinct qualities of real economic life based on different types of use-values: wool, cotton and steel. Wool-type use-values are still too dependent on agriculture: thus their commodification involves many irregularities and contingent factors. Steel-type use-values are too "heavy" to be able to be produced by dispersed and independent firms of a small size in atomistic competition, thus their production entails organised monopolies. In comparison, cotton-type use-values are by far the most easily commodifiable ones. It is, therefore, not by chance that capitalism manifested the tendency of self-purification during the liberal stage of development of capitalism, and not during the other two stages.

The reason why capitalism in history does not consummate its pro-

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cess of self-purification is simply that it is a form of human society. Indeed, if the process were consummated, a purely capitalist society would establish itself in reality, and, from such a society, there would be no way out. For, in such a society, human beings would act only as agents of capital and would seek no other option, as bourgeois economics has always asserted. Such a conclusion would be incompatible with the basic premise of Marxism. In reality, however, cotton-type technologies were superseded by steel-type technologies, which thwarted capitalism's unilateral drive towards self-purification.

The fact that capitalism exploits a given level of technology to its fullest potential implies that sooner or later the evolution of a new generation of more advanced technology becomes inevitable. Economic development under capitalism thus unquestionably accelerates technological evolution. Given this fact, it is, of course, interesting to ask, for example, why cotton-type technology was followed by steel-type technology in history. That, however, is not the kind of question which economic theory is meant to answer. All that can be said, in this connection, is that cotton-type use-values were the closest to those "neutral" use-values which the dialectic of capital must presuppose, and hence that the ontological reference point of economic theory had to be the British cotton industry of the mid-nineteenth century.

This fact, however, also implies the extreme flexibility and versatility of the commodity-economy. The commodity-economy, which is by nature external to real economic life, can within limits adapt to a fairly wide range of use-values. *It is certainly incorrect to believe that capitalism cannot operate unless it is nearly pure.* On the contrary, the true nature of capitalism as a commodity-economy lies in its ability to stretch itself maximally to accommodate alien elements, so long as the commodification of labour-power is securely maintained. If so, the study of capitalism in history cannot be exhausted by the theory of a purely capitalist society alone.

Because of the flexibility of the commodity-economy, capitalism in history, even when it is closest to its ideal image, retains a host of contingent and alien elements. Whether these elements eventually disappear or not, so long as labour-power is reproducible as a commodity, capitalism is fundamentally governed by its inner logic, as exposed by the dialectic of capital. The motion of no particular capitalist society can, however, be understood without also taking into consideration its empirico-historical details which are specifically characterised by the use-values involved in that society's real economic life. The two levels of economic research, the logical and the empirico-historical, must

be mediated by the stages-theory of capitalist development. The role of the stages-theory is to examine the concrete mode of operation of the general laws of capitalism under the three broad types of economic life which are consistent with the commodification of labour-power.

* * *

The dialectic of capital does not explicitly state the necessity of socialism, nor does it ever teach concrete measures for the construction of a socialist society. By exhibiting the inner logic of capitalism in a self-contained system, however, the dialectic implicitly suggests the possibility of abolishing capitalism. The fact that the theory of a purely capitalist society completes itself only if ideal use-values are presupposed implies that, at a particular point in history, an irreconcilable contradiction must arise between the continued operation of commodity-economic principles and the real economic life of society, even if the great flexibility of the commodity-economy (or the cunning of capital) is fully allowed for. Marx called this a contradiction between the production-relations of capitalism and its productive powers.

Since capitalism hinges upon the commodification of labour-power, such a contradiction arises only when labour-power is no longer reproducible as a commodity. If a particular mode of production, having reached its limit, ceases to function effectively, it must be superseded by another mode of production. This abstract thesis of historical materialism must, however, not be applied too mechanically to explain the actual course of history. For a long period of transition may well intervene between two clearly recognisable modes of production.

For example, when the feudal system disintegrated under the influence of commerce, an uncertain regime followed and lingered for centuries before capitalism was definitively introduced. The present as economic history is similar in many respects. Since the collapse of the international gold standard system, the economic life of society is no longer primarily governed by the principles of the self-regulating market. Instead the world economy is integrated by *ad hoc* combinations of two distinct principles: the principle of the market and the principle of the planning. These sometimes complement each other, and yet, at other times, they confront each other antagonistically. Such a regime cannot constitute a world-historic stage of development of capitalism, since it fails to embody the inner logic of capital as described in this book. Yet it can hardly be said to have materialised the first stage of socialism either.

Neither a mere suspension of capital nor its irrevocable demise is enough to introduce a genuine socialism as the "inversion" of capitalism. To believe otherwise would be to accept even the quasi-military

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regimentation of economic life as socialism. Such an economy would simply substitute extra-economic coercion for economic coercion and would therefore fail to achieve the "kingdom of freedom" as the replacement of the "kingdom of necessity". It would not realise the emancipation of human beings which Marx aspired to. History has shown that a so-called proletarian revolution is not, by itself, sufficient to achieve that goal, since labour can continue to be "alienated" under a centrally planned economic system.

The dialectic of capital implicitly criticises the form of economic life which is regulated by the law of value. Commodities can be produced as value for an impersonal market, i.e. for nameless consumers, only if productive labour is expended with indifference to use-values. Therefore, the direct producers under capitalism regard labour as a tedious exertion of their abstract capacity to work, a drudgery, an unfulfilling task to be endured rather than enjoyed, or a necessary evil to be compensated for by the acquisition of the wherewithal to purchase the amenities of life later, outside the workplace. They do not regard labour itself as meaningful and fulfilling contribution to the satisfaction of human needs. It is this fact that explains the sense of alienation amongst the direct producers. As the dialectic has demonstrated, productive labour in capitalist society is bound to be endured, not for its own merits but as means to an end, and the more so the more perfectly the law of value works. It is this human tragedy that socialism is meant to overcome with the undoing of the commodity-form of labour-power.

The conversion of labour-power back into a non-commodity cannot, however, be automatically accomplished by an abolition of the form of wages which predates capitalism. The form of wages may, without harm, survive in socialism, if productive labour is indeed freed from indifference to use-values and turned into what Marx called "life's prime want". This concept, far from representing a utopian pipe dream, is the absolute condition of socialism. For only with the establishment of labour as "life's prime want" can capitalism be superseded, without at the same time restoring the extra-economic compulsion to work. The absence of extra-economic coercion does not suggest a lawless society, but a society in which labour is self-motivated as the prime want of life. If labour is not a source of disutility or a form of punishment, no one can be "coerced" to work either economically or extra-economically.

In socialist society human beings rather than capital are the "subjects" of the labour-and-production process. That is to say, unlike a capitalist society in which human beings work according to the logic

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of capital, socialist society will stand on the norm of self-motivated labour. Even physically painful labour, if voluntarily undertaken for survival or for the enrichment of one's own life, is free from coercion. The development of productive powers, however, increasingly relieves human beings from the toil and pain of physical labour, provided that they themselves are in charge of the labour-and-production process. Socialist society, which achieves the ultimate emancipation of human beings, must, therefore, imply a self-motivated working community in which the production of use-values to meet concrete-specific needs and wants prevails over the blind pursuit of abstract-general wealth.

In the meantime, the advent of the oil-dependent civilisation has profoundly altered the economic life of human society. Oil-based technologies radically save productive labour, while being highly destructive of the environment and resource bases. The production of use-values, which used to consume an inordinate amount of human energy, has by now become a relatively light and painless task. This trend has been reinforced by the so-called micro-electronic revolution and the discovery of new materials. Thus, in developed countries today, only a very small proportion of workers are engaged in genuinely productive labour, the rest being involved in increasingly complex and knowledge-intensive services. In retrospect, it turns out that capitalism was the last stage in human history in which the organisation of society had to be predicated on the production of use-values. The law of value which brought the pursuit of abstract wealth to bear on the production of use-values has achieved the advancement of industrial technology to such an extent that it now surpasses the age of capitalism. The time is clearly overdue for a new society to evolve.

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Select Bibliography

Bortkiewicz, L. von, "Value and Price in the Marxian System", *International Economic Papers*, no. 2, 1952.

Kautsky, Karl, *The Agrarian Question*, vol. 2, Zwan, London, 1988.

Lenin, V.E., *Collected Works*, vol. 13, Foreign Language Publishing House, Moscow, 1962.

Marx, Karl, *Capital, A Critique of Political Economy*, vol. 3, International, New York, 1984.

Theories of Surplus Value, Progress, Moscow, pt 2:, 1968; pt 3: 1971.

Morishima, Michio, *Marx's Economics, A Dual Theory of Value and Growth*, Cambridge University Press, London, 1973.

Sekine, Thomas T., *The Dialectic of Capital*, vol. 2, Toshindo, Tokyo, 1986.

Seton, F., "The Transformation Problem", *Review of Economic Studies*, vol. 20, 1957.

Spiethoff, Arthur, *Die Wirtschaftlichen Wechsellagen*, Mohr, Tübingen, 1955.

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