

Book V, chapter III

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7. The remainder of the present volume will be chiefly occupied with interpreting and limiting this doctrine that the value of a thing tends in the long run to correspond to its cost of production. In particular the notion of equilibrium, which has been treated rather slightly in this chapter, will be studied more carefully in chapters v. and xii. of this Book: and some account of the controversy whether "cost of production" or "utility" governs value will be given in Appendix I. But it may be well to say a word or two here on this last point.

We might as reasonably dispute whether it is the upper or the under blade of a pair of scissors that cuts a piece of paper, as whether value is governed by utility or cost of production. It is true that when one blade is held still, and the cutting is effected by moving the other, we may say with careless brevity that the cutting is done by the second; but the statement is not strictly accurate, and is to be excused only so long as it claims to be merely a popular and not a strictly scientific account of what happens.

In the same way, when a thing already made has to be sold, the price which people will be willing to pay for it will be governed by their desire to have it, together with the amount they can afford to spend on it. Their desire to have it depends partly on the chance that, if they do not buy it, they will be able to get another thing like it at as low a price: this depends on the causes that govern the supply of it, and this again upon cost of production. But it may so happen that the stock to be sold is practically fixed. This, for instance, is the case with a fish market, in which the value of fish for the day is governed almost exclusively by the stock on the slabs in relation to the demand: and if a person chooses to take the stock for granted, and say that the price is governed by demand, his brevity may perhaps be excused so long as he does not claim strict accuracy. So again it may be pardonable, but it is not strictly accurate to say that the varying prices which the same rare book fetches, when sold and resold at Christie's auction room, are governed exclusively by demand.

Taking a case at the opposite extreme, we find some commodities which conform pretty closely to the law of constant return; that is to say, their average cost of production will be very nearly the same whether they are produced in small quantities or in large. In such a case the normal level about which the market price fluctuates will be this definite and fixed (money) cost of production. If the demand happens to be great, the market price will rise for a time above the level; but as a result production will increase and the market price will fall: and conversely, if the demand falls for a time below its ordinary level.

In such a case, if a person chooses to neglect market fluctuations, and to take it for granted that there will anyhow be enough demand for the commodity to insure that some of it, more or less, will find purchasers at a price equal to this cost of production, then he may be excused for ignoring the influence of demand, and speaking of (normal) price as governed by cost of production -- provided only he does not claim scientific accuracy for the wording of his doctrine, and explains the influence of demand in its right place.

Thus we may conclude that, *as a general rule*, the shorter the period which we are considering, the greater must be the share of our attention which is given to the influence of demand on value; and the longer the period, the more important will be the influence of cost of production on value. For the influence of changes in cost of production takes as a rule a longer time to work itself out than does the influence of changes in demand. The actual value at any time, the market value as it is often called, is often more influenced by passing events and by causes whose action is fitful and short lived, than by those which work persistently. But in long periods these fitful and irregular causes in large measure efface one

another's influence; so that in the long run persistent causes dominate value completely. Even the most persistent causes are however liable to change. For the whole structure of production is modified, and the relative costs of production of different things are permanently altered, from one generation to another.

When considering costs from the point of view of the capitalist employer, we of course measure them in money; because his direct concern with the efforts needed for the work of his employees lies in the money payments he must make. His concern with the real costs of their effort and of the training required for it is only indirect, though a monetary assessment of his own labour is necessary for some problems, as will be seen later on. But when considering costs from the social point of view, when inquiring whether the cost of attaining a given result is increasing or diminishing with changing economic conditions, then we are concerned with the real costs of efforts of various qualities, and with the real cost of waiting. If the purchasing power of money, in terms of effort has remained about constant, and if the rate of remuneration for waiting has remained about constant, then the money measure of costs corresponds to the real costs: but such a correspondence is never to be assumed lightly. These considerations will generally suffice for the interpretation of the term Cost in what follows, even where no distinct indication is given in the context.

Book V, chapter IV

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5. Some technical terms relating to costs may be considered here. When investing his capital in providing the means of carrying on an undertaking, the business man looks to being recouped by the price obtained for its various products; and he expects to be able under normal conditions to charge for each of them a sufficient price; that is, one which will not only cover the *special, direct, or prime cost*, but also bear its proper share of the general expenses of the business; and these we may call its general, or *supplementary cost*. These two elements together make its *total cost*.

There are great variations in the usage of the term Prime cost in business. But it is taken here in a narrow sense. Supplementary costs are taken to include standing charges on account of the durable plant in which much of the capital of the business has been invested, and also the salaries of the upper employees: for the charges to which the business is put on account of their salaries cannot generally be adapted quickly to changes in the amount of work there is for them to do. There remains nothing but the (money) cost of the raw material used in making the commodity and the wages of that part of the labour spent on it which is paid by the hour or the piece and the extra wear-and-tear of plant. This is the special cost which a manufacturer has in view, when his works are not fully employed, and he is calculating the lowest price at which it will be worth his while to accept an order, irrespectively of any effect that his action may have in spoiling the market for future orders, and trade being slack at the time. But in fact he must as a rule take account of this effect: the price at which it is just worth his while to produce, even when trade is slack, is in practice generally a good deal above this prime cost, as we shall see later on¹.

¹ Especially in V. ix. "There are many systems of Prime Cost in vogue... we take Prime Cost to mean, as in fact the words imply, only the original or direct cost of production; and while in some trades it may be a matter of convenience to include in the cost of production a proportion of indirect expenses, and a charge for depreciation on plant and buildings, in no case should it comprise interest on capital or profit." (Garecke and Fells, *Factory Accounts*, ch. i.)

6. Supplementary costs must generally be covered by the selling price to some considerable extent in the short run. And they must be completely covered by it in the long run; for, if they are not, production will be checked. Supplementary costs are of many different kinds; and some of them differ only in degree from prime costs. For instance, if an engineering firm is in doubt whether to accept an order at a rather low price for a certain locomotive, the absolute prime costs include the value of the raw material and the wages of the artisans and labourers employed on the locomotive. But there is no clear rule as to the salaried staff: for, if work is slack, they will probably have some time on their hands; and their salaries will therefore commonly be classed among general or supplementary costs. The line of division is however often blurred over. For instance, foremen and other trusted artisans are seldom dismissed merely because of a temporary scarcity of work; and therefore an occasional order may be taken to fill up idle time, even though its price does not cover their salaries and wages. That is they may not be regarded as prime costs in such a case. But, of course the staff in the office can be in some measure adjusted to variations in the work of the firm by leaving vacancies unfilled and even by weeding out inefficient men during slack times; and by getting extra help or putting out some of the work in busy times.

If we pass from such tasks to larger and longer tasks, as for instance the working out a contract to deliver a great number of locomotives gradually over a period of several years, then most of the office work done in connection with that order must be regarded as special for it: for if it had been declined and nothing else taken in its place, the expenses under the head of salaries could have been reduced almost to a proportionate extent.

The case is much stronger when we consider a fairly steady market for any class of staple manufactures extending over a long time. For then the outlay incurred for installing specialized skill and organization, the permanent office staff, and the durable plant of the workshops can all be regarded as part of the costs necessary for the process of production. That outlay will be increased up to a margin at which the branch of manufacture seems in danger of growing too fast for its market.

In the next chapter the argument of Chapter iii. and of this chapter is continued. It is shown in more detail how those costs which most powerfully act on supply and therefore on price, are limited to a narrow and arbitrary group in the case of a single contract for, say, a locomotive; but are much fuller, and correspond much more truly to the broad features of industrial economy in the case of a continuous supply to a fairly steady general market: the influence of cost of production on value does not show itself clearly except in relatively long periods; and it is to be estimated with regard to a whole process of production rather than a particular locomotive, or a particular parcel of goods. And a similar study is made in Chapters viii.-x. of variations in the character of those prime and supplementary costs which consist of charges for interest (or profits) on investments in agents of production, according as the periods of the market under consideration are long or short.

Meanwhile it may be noticed that the distinction between prime and supplementary costs operates in every phase of civilization, though it is not likely to attract much attention except in a capitalistic phase. Robinson Crusoe had to do only with real costs and real satisfactions: and an old-fashioned peasant family, which bought little and sold little, arranged its investments of present "effort and waiting" for future benefits on nearly the same lines. But, if either were doubting whether it was worth while to take a light ladder on a trip to gather wild fruits, the prime costs alone would be weighed against the expected benefits: and yet the ladder would not have been made, unless it had been expected to render sufficient service in the aggregate of many little tasks, to remunerate the cost of making it. In the long run it had to repay its total costs, supplementary as well as prime.

Even the modern employer has to look at his own labour as a real cost in the first instance. He may think that a certain enterprise is likely to yield a surplus of money

incomings over money outgoings (after proper allowances for risks and for discountings of future happenings); but that the surplus will amount to less than the money equivalent of the trouble and worry that the enterprise will cause to himself: and, in that case, he will avoid it².

Book V, Chapter V

(...)

2. The element of time is a chief cause of those difficulties in economic investigations which make it necessary for man with his limited powers to go step by step; breaking up a complex question, studying one bit at a time, and at last combining his partial solutions into a more or less complete solution of the whole riddle. In breaking it up, he segregates those disturbing causes, whose wanderings happen to be inconvenient, for the time in a pound called *Caeteris Paribus*. The study of some group of tendencies is isolated by the assumption *other things being equal*: the existence of other tendencies is not denied, but their disturbing effect is neglected for a time. The more the issue is thus narrowed, the more exactly can it be handled: but also the less closely does it correspond to real life. Each exact and firm handling of a narrow issue, however, helps towards treating broader issues, in which that narrow issue is contained, more exactly than would otherwise have been possible. With each step more things can be let out of the pound; exact discussions can be made less abstract, realistic discussions can be made less inexact than was possible at an earlier stage³.

Our first step towards studying the influences exerted by the element of time on the relations between cost of production and value may well be to consider the famous fiction of the “Stationary state” in which those influences would be but little felt; and to contrast the results which would be found there with those in the modern world.

This state obtains its name from the fact that in it the general conditions of production and consumption, of distribution and exchange remain motionless; but yet it is full of movement; for it is a mode of life. The average age of the population may be stationary; though each individual is growing up from youth towards his prime, or downwards to old age. And the same amount of things per head of the population will have been produced in the same ways by the same classes of people for many generations together; and therefore this supply of the appliances for production will have had full time to be adjusted to the steady demand.

Of course we might assume that in our stationary state every business remained always of the same size, and with the same trade connection. But we need not go so far as that; it will suffice to suppose that firms rise and fall, but that the “representative” firm remains always of about the same size, as does the representative tree of a virgin forest, and that therefore the economies resulting from its own resources are constant: and since the

² The Supplementary costs, which the owner of a factory expects to be able to add to the prime costs of its products, are the source of the quasi-rents which it will yield to him. If they come up to his expectation, then his business so far yields good profits: if they fall much short of it, his business tends to go to the bad. But this statement bears only on long-period problems of value: and in that connection the difference between Prime and Supplementary costs has no special significance. The importance of the distinction between them is confined to short-period problems.

³ As has been explained in the Preface, pp. vi-ix, this volume is concerned mainly with normal conditions; and these are sometimes described as Statical. But in the opinion of the present writer the problem of normal value belongs to economic Dynamics: partly because Statics is really but a branch of Dynamics, and partly because all suggestions as to economic rest, of which the hypothesis of a Stationary state is the chief, are merely provisional, used only to illustrate particular steps in the argument, and to be thrown aside when that is done.

aggregate volume of production is constant, so also are those economies resulting from subsidiary industries in the neighbourhood, etc. [That is, its internal and external economies are both constant. The price, the expectation of which just induced persons to enter the trade, must be sufficient to cover in the long run the cost of building up a trade connection; and a proportionate share of it must be added in to make up the total cost of production.]

In a stationary state then the plain rule would be that cost of production governs value. Each effect would be attributable mainly to one cause; there would not be much complex action and reaction between cause and effect. Each element of cost would be governed by “natural” laws, subject to some control from fixed custom. There would be no reflex influence of demand; no fundamental difference between the immediate and the later effects of economic causes. There would be no distinction between long-period and short-period normal value, at all events if we supposed that in that monotonous world the harvests themselves were uniform: for the representative firm being always of the same size, and always doing the same class of business to the same extent and in the same way, with no slack times, and no specially busy times, its normal expenses by which the normal supply price is governed would be always the same. The demand lists of prices would always be the same, and so would the supply lists; and normal price would never vary.

But nothing of this is true in the world in which we live. Here every economic force is constantly changing its action, under the influence of other forces which are acting around it. Here changes in the volume of production, in its methods, and in its cost are ever mutually modifying one another; they are always affecting and being affected by the character and the extent of demand. Further all these mutual influences take time to work themselves out, and, as a rule, no two influences move at equal pace. In this world therefore every plain and simple doctrine as to the relations between cost of production, demand and value is necessarily false: and the greater the appearance of lucidity which is given to it by skilful exposition, the more mischievous it is. A man is likely to be a better economist if he trusts to his common sense, and practical instincts, than if he professes to study the theory of value and is resolved to find it easy.

3. The Stationary state has just been taken to be one in which population is stationary. But nearly all its distinctive features may be exhibited in a place where population and wealth are both growing, provided they are growing at about the same rate, and there is no scarcity of land: and provided also the methods of production and the conditions of trade change but little; and above all, where the character of man himself is a constant quantity. For in such a state by far the most important conditions of production and consumption, of exchange and distribution will remain of the same quality, and in the same general relations to one another, though they are all increasing in volume⁴.

This relaxation of the rigid bonds of a purely stationary state brings us one step nearer to the actual conditions of life: and by relaxing them still further we get nearer still. We thus approach by gradual steps towards the difficult problem of the interaction of countless economic causes. In the stationary state all the conditions of production and consumption are reduced to rest: but less violent assumptions are made by what is, not quite accurately, called the *statical* method. By that method we fix our minds on some central point: we suppose it for the time to be reduced to a *stationary* state; and we then study in relation to it the forces that affect the things by which it is surrounded, and any tendency there may be to equilibrium of these forces. A number of these partial studies may lead the way towards a solution of problems too difficult to be grasped at one effort⁵.

⁴ See below, V. xii. 6; and compare Keynes, *Scope and Method of Political Economy*, vi. 2.

⁵ Compare the Preface and Appendix H, section 4.

4. We may roughly classify problems connected with fishing industries as those which are affected by very quick changes, such as uncertainties of the weather; or by changes of moderate length, such as the increased demand for fish caused by the scarcity of meat during the year or two following a cattle plague; or lastly, we may consider the great increase during a whole generation of the demand for fish which might result from the rapid growth of a high-strung artisan population making little use of their muscles.

The day to day oscillations of the price of fish resulting from uncertainties of the weather, etc., are governed by practically the same causes in modern England as in the supposed stationary state. The changes in the general economic conditions around us are quick; but they are not quick enough to affect perceptibly the short-period normal level about which the price fluctuates from day to day: and they may be neglected [*impounded in caeteris paribus*] during a study of such fluctuations.

Let us then pass on; and suppose a great increase in the general demand for fish, such for instance as might arise from a disease affecting farm stock, by which meat was made a dear and dangerous food for several years together. We now impound fluctuations due to the weather in *caeteris paribus*, and neglect them provisionally: they are so quick that they speedily obliterate one another, and are therefore not important for problems of this class. And for the opposite reason we neglect variations in the numbers of those who are brought up as seafaring men: for these variations are too slow to produce much effect in the year or two during which the scarcity of meat lasts. Having impounded these two sets for the time, we give our full attention to such influences as the inducements which good fishing wages will offer to sailors to stay in their fishing homes for a year or two, instead of applying for work on a ship. We consider what old fishing boats, and even vessels that were not specially made for fishing, can be adapted and sent to fish for a year or two. The normal price for any given daily supply of fish, which we are now seeking, is the price which will *quickly* call into the fishing trade capital and labour enough to obtain that supply in a day's fishing of average good fortune; the influence which the price of fish will have upon capital and labour available in the fishing trade being governed by rather narrow causes such as these. This new level about which the price oscillates during these years of exceptionally great demand, will obviously be higher than before. Here we see an illustration of the almost universal law that the term Normal being taken to refer to a short period of time *an increase in the amount demanded raises the normal supply price*. This law is almost universal even as regards industries which in long periods follow the tendency to increasing return⁶.

But if we turn to consider the normal supply price with reference to a *long period* of time, we shall find that it is governed by a different set of causes, and with different results. For suppose that the disuse of meat causes a permanent distaste for it, and that an increased demand for fish continues long enough to enable the forces by which its supply is governed to work out their action fully (of course oscillations from day to day and from year to year would continue: but we may leave them on one side). The source of supply in the sea might perhaps show signs of exhaustion, and the fishermen might have to resort to more distant coasts v, and to deeper waters, Nature giving a Diminishing Return to the increased application of capital and labour of a given order of efficiency. On the other hand, those might turn out to be right who think that man is responsible for but a very small part of the destruction of fish that is constantly going on; and in that case a boat starting with equally good appliances and an equally efficient crew would be likely to get nearly as good a haul after the increase in the total volume of the fishing trade as before. In any case the normal cost of equipping a good boat with an efficient crew would certainly not be higher, and probably be a little lower after the trade had settled down to its now increased dimensions than before. For since fishermen

⁶ See V. xi. 1.

require only trained aptitudes, and not any exceptional natural qualities, their number could be increased in less than a generation to almost any extent that was necessary to meet the demand; while the industries connected with building boats, making nets, etc. being now on a larger scale would be organized more thoroughly and economically. If therefore the waters of the sea showed no signs of depletion of fish, an increased supply could be produced at a lower price after a time sufficiently long to enable the normal action of economic causes to work itself out: and, the term Normal being taken to refer to a long period of time, the normal price of fish would decrease with an increase in demand⁷.

Thus we may emphasize the distinction already made between average price and normal price. An average may be taken of the prices of any set of sales extending over a day or a week or a year or any other time: or it may be the average of sales at any time in many markets; or it may be the average of many such averages. But the conditions which are normal to any one set of sales are not likely to be exactly those which are normal to the others: and therefore it is only by accident that an average price will be a normal price; that is, the price which any one set of conditions tends to produce. In a stationary state alone, as we have just seen, the term normal always means the same thing: there, but only there, “average price” and “normal price” are convertible terms⁸.

5. To go over the ground in another way. Market values are governed by the relation of demand to stocks actually in the market; with more or less reference to “future” supplies, and not without some influence of trade combinations.

But the current supply is in itself partly due to the action of producers in the past; and this action has been determined on as the result of a comparison of the prices which they expect to get for their goods with the expenses to which they will be put in producing them. The range of expenses of which they take account depends on whether they are merely considering the extra expenses of certain extra production with their existing plant, or are considering whether to lay down new plant for the purpose. In the case, for instance, of an order for a single locomotive, which was discussed a little while ago⁹, the question of readjusting the plant to demand would hardly arise: the main question would be whether more work could conveniently be got out of the existing plant. But in view of an order for a large number of locomotives to be delivered gradually over a series of years, some extension of plant “specially” made for the Purpose, and therefore truly to be regarded as prime marginal costs would almost certainly be carefully considered.

Whether the new production for which there appears to be a market be large or small, the general rule will be that unless the price is expected to be very low that portion of the supply which can be most easily produced, with but small prime costs, will be produced: that

⁷ Tooke (*History of Prices*, Vol. I. p. 104) tells us: “There are particular articles of which the demand for naval and military purposes forms so large a proportion to the total supply, that no diminution of consumption by individuals can keep pace with the immediate increase of demand by government; and consequently, the breaking out of a war tends to raise the price of such articles to a great relative height. But even of such articles, if the consumption were not on a progressive scale of increase so rapid that the supply, with all the encouragement of a relatively high price, could not keep pace with the demand, the tendency is (supposing no impediment, natural or artificial, to production or importation) to occasion such an increase of quantity, as to reduce the price to nearly the same level as that from which it had advanced. And accordingly it will be observed, by reference to the table of prices, that salt petre, hemp, iron, etc., after advancing very considerably under the influence of a greatly extended demand for military and naval purposes, tended downwards again whenever that demand was not progressively and rapidly increasing.” Thus a continuously progressive increase in demand may raise the supply price of a thing even for several years together; though a steady increase of demand for that thing, at a rate not too great for supply to keep pace with it, would lower price.

⁸ V. iii. 6. The distinction will be yet further discussed in V. xii. and Appendix H. See also Keynes, *Scope and Method of Political Economy*, ch. vii.

⁹ Pp. 360-7.

portion is not likely to be on the margin of production. As the expectations of price improve, an increased part of the production will yield a considerable surplus above prime costs, and the margin of production will be pushed outwards. Every increase in the price expected will, as a rule, induce some people who would not otherwise have produced anything, to produce a little; and those, who have produced something for the lower price, will produce more for the higher price. That part of their production with regard to which such persons are on the margin of doubt as to whether it is worth while for them to produce it at the price, is to be included together with that of the persons who are in doubt whether to produce at all; the two together constitute the marginal production at that price. The producers, who are in doubt whether to produce anything at all, may be said to lie altogether on the margin of production (or if they are agriculturists, on the margin of cultivation). But as a rule they are very few in number, and their action is less important than that of those who would in any case produce something.

The general drift of the term normal supply price is always the same whether the period to which it refers is short or long; but there are great differences in detail. In every case reference is made to a certain given rate of aggregate production; that is, to the production of a certain aggregate amount daily or annually. In every case the price is that the expectation of which is sufficient and only just sufficient to make it worth while for people to set themselves to produce that aggregate amount; in every case the cost of production is marginal; that is, it is the cost of production of those goods which are on the margin of not being produced at all, and which would not be produced if the price to be got for them were expected to be lower. But the causes which determine this margin vary with the length of the period under consideration. For short periods people take the stock of appliances for production as practically fixed; and they are governed by their expectations of demand in considering how actively they shall set themselves to work those appliances. In long periods they set themselves to adjust the flow of these appliances to their expectations of demand for the goods which the appliances help to produce. Let us examine this difference closely.

6. The immediate effect of the expectation of a high price is to cause people to bring into active work all their appliances of production, and to work them full time and perhaps overtime. The supply price is then the money cost of production of that part of the produce which forces the undertaker to hire such inefficient labour (perhaps tired by working overtime) at so high a price, and to put himself and others to so much strain and inconvenience that he is on the margin of doubt whether it is worth his while to do it or not. The immediate effect of the expectation of a low price is to throw many appliances for production out of work, and slacken the work of others; and if the producers had no fear of spoiling their markets, it would be worth their while to produce for a time for any price that covered the prime costs of production and rewarded them for their own trouble.

But, as it is, they generally hold out for a higher price; each man fears to spoil his chance of getting a better price later on from his own customers; or, if he produces for a large and open market, he is more or less in fear of incurring the resentment of other producers, should he sell needlessly at a price that spoils the common market for all. The marginal production in this case is the production of those whom a little further fall of price would cause, either from a regard to their own interest or by formal or informal agreement with other producers, to suspend production for fear of further spoiling the market. The price which, for these reasons, producers are just on the point of refusing, is the true marginal supply price for short periods. It is nearly always above, and generally very much above the special or prime cost for raw materials, labour and wear-and-tear of plant, which is immediately and directly involved by getting a little further use out of appliances which are not fully employed. This point needs further study.

In a trade which uses very expensive plant, the prime cost of goods is but a small part of their total cost; and an order at much less than their normal price may leave a large surplus above their prime cost. But if producers accept such orders in their anxiety to prevent their plant from being idle, they glut the market and tend to prevent prices from reviving. In fact however they seldom pursue this policy constantly and without moderation. If they did, they might ruin many of those in the trade, themselves perhaps among the number; and in that case a revival of demand would find little response in supply, and would raise violently the prices of the goods produced by the trade. Extreme variations of this kind are in the long run beneficial neither to producers nor to consumers; and general opinion is not altogether hostile to that code of trade morality which condemns the action of anyone who “spoils the market” by being too ready to accept a price that does little more than cover the prime cost of his goods, and allows but little on account of his general expenses¹⁰.

For example, if at any time the prime cost, in the narrowest sense of the word, of a bale of cloth is £100; and if another £100 are needed to make the cloth pay its due share of the general expenses of the establishment, including normal profits to its owners, then the practically effective supply price is perhaps not very likely to fall below £150 under ordinary conditions, even for short periods; though of course a few special bargains may be made at lower prices without much affecting the general market.

Thus, although nothing but prime cost enters *necessarily and directly* into the supply price for short periods, it is yet true that supplementary costs also exert some influence indirectly. A producer does not often isolate the cost of each separate small parcel of his output; he is apt to treat a considerable part of it, even in some cases the whole of it, more or less as a unit. He inquires whether it is worth his while to add a certain new line to his present undertakings, whether it is worth while to introduce a new machine and so on. He treats the extra output that would result from the change more or less as a unit beforehand; and afterwards he quotes the lowest prices, which he is willing to accept, with more or less reference to the whole cost of that extra output regarded as a unit.

In other words he regards an increase in his processes of production, rather than an individual parcel of his products, as a unit in most of his transactions. And the analytical economist must follow suit, if he would keep in close touch with actual conditions. These considerations tend to blur the sharpness of outline of the theory of value: but they do not affect its substance¹¹.

To sum up then as regards short periods. The supply of specialized skill and ability, of suitable machinery and other material capital, and of the appropriate industrial organization has not time to be fully adapted to demand; but the producers have to adjust their supply to the demand as best they can with the appliances already at their disposal. On the one hand there is not time materially to increase those appliances if the supply of them is deficient; and on the other, if the supply is excessive, some of them must remain imperfectly employed, since there is not time for the supply to be much reduced by gradual decay, and by conversion

¹⁰ Where there is a strong combination, tacit or overt, producers may sometimes regulate the price for a considerable time together with very little reference to cost of production. And if the leaders in that combination were those who had the best facilities for production, it might be said, in apparent though not in real contradiction to Ricardo's doctrines, that the price was governed by that part of the supply which was most easily produced. But as a fact, those producers whose finances are weakest, and who are bound to go on producing to escape failure, often impose their policy on the rest of the combination: insomuch that it is a common saying, both in America and England, that the weakest members of a combination are frequently its rulers.

¹¹ This general description may suffice for most purposes: but in chapter XII there will be found a more detailed study of that extremely complex notion, a marginal increment in the processes of production by a representative firm; together with a fuller explanation of the necessity of referring our reasonings to the circumstances of a representative firm, especially when we are considering industries which show a tendency to increasing return.

to other uses. Variations in the particular income derived from them do not *for the time* affect perceptibly the supply; and do not directly affect the price of the commodities produced by them. The income is a surplus of total receipts over prime cost; [that is, it has something of the nature of a rent as will be seen more clearly in chapter viii.]. But unless it is sufficient to cover in the long run a fair share of the general costs of the business, production will gradually fall off. In this way a controlling influence over the relatively quick movements of supply price during short periods is exercised by causes in the background which range over a long period; and the fear of "spoiling the market" often makes those causes act more promptly than they otherwise would.

7. In long periods on the other hand all investments of capital and effort in providing the material plant and the organization of a business, and in acquiring trade knowledge and specialized ability, have time to be adjusted to the incomes which are expected to be earned by them: and the estimates of those incomes therefore directly govern supply, and are the true long-period normal supply price of the commodities produced.

A great part of the capital invested in a business is generally spent on building up its internal organization and its external trade connections. If the business does not prosper all that capital is lost, even though its material plant may realize a considerable part of its original cost. And anyone proposing to start a new business in any trade must reckon for the chance of this loss. If himself a man of normal capacity for that class of work, he may look forward ere long to his business being a representative one, in the sense in which we have used this term, with its fair share of the economies of production on a large scale. If the net earnings of such a representative business seem likely to be greater than he could get by similar investments in other trades to which he has access, he will choose this trade. Thus that investment of capital in a trade, on which the price of the commodity produced by it depends in the long run, is governed by estimates on the one hand of the outgoings required to build up and to work a representative firm, and on the other of the incomings, spread over a long period of time, to be got by such a price.

At any particular moment some businesses will be rising and others falling: but when we are taking a broad view of the causes which govern normal supply price, we need not trouble ourselves with these eddies on the surface of the great tide. Any particular increase of production may be due to some new manufacturer who is struggling against difficulties, working with insufficient capital, and enduring great privations in the hope that he may gradually build up a good business. Or it may be due to some wealthy firm which by enlarging its premises is enabled to attain new economies, and thus obtain a larger output at a lower proportionate cost: and, as this additional output will be small relatively to the aggregate volume of production in the trade, it will not much lower the price; so that the firm will reap great gains from its successful adaptation to its surroundings. But while these variations are occurring in the fortunes of individual businesses, there may be a steady tendency of the long-period normal supply price to diminish, as a direct consequence of an increase in the aggregate volume of production.

8. Of course there is no hard and sharp line of division between "long" and "short" periods. Nature has drawn no such lines in the economic conditions of actual life; and in dealing with practical problems they are not wanted. Just as we contrast civilized with uncivilized races, and establish many general propositions about either group, though no hard and fast division can be drawn between the two; so we contrast long and short periods without attempting any rigid demarcation between them. If it is necessary for the purposes of any particular argument to divide one case sharply from the other, it can be done by a special interpretation clause: but the occasions on which this is necessary are neither frequent nor important.

Four classes stand out. In each, price is governed by the relations between demand and supply. As regards *market* prices, Supply is taken to mean the stock of the commodity in question which is on hand, or at all events "in sight." As regards *normal* prices, when the term Normal is taken to relate to *short* periods of a few months or a year, supply means broadly what can be produced for the price in question with the existing stock of plant, personal and impersonal, in the given time. As regards *normal* prices, when the term Normal is to refer to *long* periods of several years, Supply means what can be produced by plant, which itself can be remuneratively produced and applied within the given time; while lastly, there are very gradual or *Secular* movements of normal price, caused by the gradual growth of knowledge, of population and of capital, and the changing conditions of demand and supply from one generation to another¹².

The remainder of the present volume is chiefly concerned with the third of the above classes: that is, with the normal relations of wages, profits, prices, etc., for rather long periods. But occasionally account has to be taken of changes that extend over very many years; and one chapter, Book VI, ch. XII, is given up to "The Influence of Progress on Value," that is, to the study of *secular* changes of value.

¹² Compare the first section of this chapter. Of course the periods required to adapt the several factors of production to the demand may be very different; the number of skilled compositors, for instance, cannot be increased nearly as fast as the supply of type and printing presses. And this cause alone would prevent any rigid division being made between long and short periods. But in fact a theoretically perfect long period must give time enough to enable not only the factors of production of the commodity to be adjusted to the demand, but also the factors of production of those factors of production to be adjusted and so on; and this, when carried to its logical consequences, will be found to involve the supposition of a stationary state of industry, in which the requirements of a future age can be anticipated an indefinite time beforehand. Some such assumption is indeed unconsciously implied in many popular renderings of Ricardo's theory of value, if not in his own versions of it; and it is to this cause more than any other that we must attribute that simplicity and sharpness of outline, from which the economic doctrines in fashion in the first half of this century derived some of their seductive charm, as well as most of whatever tendency they may have to lead to false practical conclusions.

Relatively short and long period problems go generally on similar lines. In both use is made of that paramount device, the partial or total isolation for special study of some set of relations. In both opportunity is gained for analysing and comparing similar episodes, and making them throw light upon one another; and for ordering and co-ordinating facts which are suggestive in their similarities, and are still more suggestive in the differences that peer out through their similarities. But there is a broad distinction between the two cases. In the relatively short-period problem no great violence is needed for the assumption that the forces not specially under consideration may be taken for the time to be inactive. But violence is required for keeping broad forces in the pound of *Caeteris Paribus* during, say, a whole generation, on the ground that they have only an indirect bearing on the question in hand. For even indirect influences may produce great effects in the course of a generation, if they happen to act cumulatively; and it is not safe to ignore them even provisionally in a practical problem without special study. Thus the uses of the statical method in problems relating to very long periods are dangerous; care and forethought and self-restraint are needed at every step. The difficulties and risks of the task reach their highest point in connection with industries which conform to the law of Increasing Return; and it is just in connection with those industries that the most alluring applications of the method are to be found. We must postpone these questions to chapter xii. and Appendix H.

But an answer may be given here to the objection that since "the economic world is subject to continual changes, and is becoming more complex,... the longer the run the more hopeless the rectification": so that to speak of that position which value tends to reach in the long run is to treat "variables as constants." (Devas, *Political Economy*, Book iv. ch. v.) It is true that we do treat variables *provisionally* as constants. But it is also true that this is the only method by which science has ever made any great progress in dealing with complex and changeful matter, whether in the physical or moral world. See above V. v. 2.