Chapter XII.

Of Some Peculiar Cases Of Value.

§ 1. Values of commodities which have a joint cost of production.

The general laws of value, in all the more important cases of the interchange of commodities in the same country, have now been investigated. We examined, first, the case of monopoly, in which the value is determined by either a natural or an artificial limitation of quantity, that is, by demand and supply: secondly, the case of free competition, when the article can be produced in indefinite quantity at the same cost; in which case the permanent value is determined by the cost of production, and only the fluctuations by supply and demand: thirdly, a mixed case, that of the articles which can be produced in indefinite quantity, but not at the same cost; in which case the permanent value is determined by the greatest cost which it is necessary to incur in order to obtain the required supply: and, lastly, we have found that money itself is a commodity of the third class; that its value, in a state of freedom, is governed by the same laws as the values of other commodities of its class; and that prices, therefore, follow the same laws as values.

From this it appears that demand and supply govern the fluctuations of values and prices in all cases, and the permanent values and prices of all things of which the supply is determined by any agency other than that of free competition: but that, under the *régime* of competition, things are, on the average, exchanged for each other at such values, and sold at such prices, as afford equal expectation of advantage to all classes of producers; which can only be when things exchange for one another in the ratio of their cost of production.

Here, again, is a distinct recognition of the true meaning of cost of production, and its ruling influence within a competing group, which has been seen in its full significance by Mr. Cairnes.

It sometimes happens [however] that two different commodities have what may be termed a joint cost of production. They are both products of the same operation, or set of operations, and the outlay is incurred for the sake of both together, not part for one and part for the other. The same outlay would have to be incurred for either of the two, if the other were not wanted or used at all. There are not a few instances of commodities thus associated in their production. For example, coke and coal-gas are both produced from the same material, and by the same operation. In a more partial sense, mutton and wool are an example; beef, hides, and tallow; calves and dairy produce; chickens and eggs. Cost of production can have nothing to do with deciding the value of the associated commodities relatively to each other. It only decides their joint value. Cost of production does not determine their prices, but the sum of their prices. A principle is wanting to apportion the expenses of production between the two.

Since cost of production here fails us, we must revert to a law of value anterior to cost of production, and more fundamental, the law of demand and supply. The law is, that the demand for a commodity varies with its value, and that the value adjusts itself so that the demand shall be equal to the supply. This supplies the principle of repartition which we are in quest of.

Suppose that a certain quantity of gas is produced and sold at a certain price, and that the residuum of coke is offered at a price which, together with that of the gas, repays the expenses with the ordinary rate of profit. Suppose, too, that, at the price put upon the gas and coke respectively, the whole of the gas finds an easy market, without either surplus or deficiency, but that purchasers can not be found for all the coke corresponding to it. The coke will be offered at a lower price in order to force a market. But this lower price, together with the price of the gas, will not be remunerating; the manufacture, as a whole, will not pay its expenses with the ordinary profit, and will not, on these terms, continue to be carried on. The gas, therefore, must be sold at a higher price, to make up for the deficiency on the coke. The demand consequently contracting, the production will be somewhat reduced; and prices will become stationary when, by the joint effect of the rise of gas and the fall of coke, so much less of the first is sold, and so much more of the second,

that there is now a market for all the coke which results from the existing extent of the gas-manufacture.

Or suppose the reverse case; that more coke is wanted at the present prices than can be supplied by the operations required by the existing demand for gas. Coke, being now in deficiency, will rise in price. The whole operation will yield more than the usual rate of profit, and additional capital will be attracted to the manufacture. The unsatisfied demand for coke will be supplied; but this can not be done without increasing the supply of gas too; and, as the existing demand was fully supplied already, an increased quantity can only find a market by lowering the price. Equilibrium will be attained when the demand for each article fits so well with the demand for the other, that the quantity required of each is exactly as much as is generated in producing the quantity required of the other.

When, therefore, two or more commodities have a joint cost of production, their natural values relatively to each other are those which will create a demand for each, in the ratio of the quantities in which they are sent forth by the productive process.

§ 2. Values of the different kinds of agricultural produce.

Another case of value which merits attention is that of the different kinds of agricultural produce. The case would present nothing peculiar, if different agricultural products were either grown indiscriminately and with equal advantage on the same soils, or wholly on different soils. The difficulty arises from two things: first, that most soils are fitter for one kind of produce than another, without being absolutely unfit for any; and, secondly, the rotation of crops.

For simplicity, we will confine our supposition to two kinds of agricultural produce; for instance, wheat and oats. If all soils were equally adapted for wheat and for oats, both would be grown indiscriminately on all soils, and their relative cost of production, being the same everywhere, would govern their relative value. If the same labor which grows three quarters of wheat on any given soil would always grow on that soil five quarters of oats, the three and the five quarters would be of the same value. The fact is, that both wheat and oats can be grown on almost any soil which is capable of producing either.

It is evident that each grain will be cultivated in preference on the soils which are better adapted for it than for the other; and, if the demand is supplied from these alone, the values of the two grains will have no reference to one another. But when the demand for both is such as to require that each should be grown not only on the soils peculiarly fitted for it, but on the medium soils which, without being specifically adapted to either, are about equally suited for both, the cost of production on those medium soils will determine the relative value of the two grains; while the rent of the soils specifically adapted to each will be regulated by their productive power, considered with reference to that one [grain] alone to which they are peculiarly applicable. Thus far the question presents no difficulty, to any one to whom the general principles of value are familiar.

[Illustration: Agricultural Produce.]

This may be easily shown by a diagram, in which A represents the grade of land best adapted for oats; B, C, D, respectively, lands of diminishing productiveness for oats, until E is reached, which is, perhaps, equally good for oats or wheat; *a*, *b*, *c*, *d*, and E likewise represent the wheat-lands, the best beginning with *a*. The rent of A, or B, is determined by a comparison with whatever grade of land planted in oats is cultivated at the least return, as E, for example. So, if all the wheat-lands are cultivated, land *a*, or *b*, is compared with E, but in regard to the capacity of E to produce wheat.

It may happen, however, that the demand for one of the two, as for example wheat, may so outstrip the demand for the other, as not only to occupy the soils specially suited for wheat, but to engross entirely those equally suitable to both, and even encroach upon those which are better adapted to oats. To create an inducement for this unequal apportionment of the cultivation, wheat must be relatively dearer, and oats

cheaper, than according to the cost of their production on the medium land. Their relative value must be in proportion to the cost on that quality of land, whatever it may be, on which the comparative demand for the two grains requires that both of them should be grown. If, from the state of the demand, the two cultivations meet on land more favorable to one than to the other, that one will be cheaper and the other dearer, in relation to each other and to things in general, than if the proportional demand were as we at first supposed.

As in the diagram just mentioned, if the demand for wheat forces its cultivation downward not only on to land E, suited to either indifferently, but, still farther on, to lands still less adapted for wheat (although good land for oats), wheat may be pushed down one stem of the V and up the other to D, or even to C. Then the value of wheat will be regulated by the cost of production on C, and the rent will be determined by a comparison between the productiveness of a, b, etc. (running downward through E), with C. The price of wheat will be high relatively to oats, which are now cultivated only on lands, A, B, better suited to growing oats, and whose cost of production on C is much less than on D or E.

Here, then, we obtain a fresh illustration, in a somewhat different manner, of the operation of demand, not as an occasional disturber of value, but as a permanent regulator of it, conjoined with, or supplementary to, cost of production.