The Subversion of Classical Analysis: Alfred Marshall’s Early Writing on Value

With the publication of Alfred Marshall’s Early Writings (1867-90) (1975), it is now possible, with greater confidence, to place his ideas in the historical perspective of the development of economic doctrines; in particular, the Early Writings shed further light on the vexed and debated question as to whether Marshall should be counted amongst the progenitors of the marginalist school. The enigma surrounding this question had been magnified by his own elusiveness and reticence — his constant attempts to suppress overt manifestations of his originality, dressing up his ideas in traditional garb and stressing continuity with the Smith–Ricardo–Mill tradition, on the one hand; while, on the other, giving numerous hints in private correspondence² as well as in print³ that many ‘Jevonian’ ideas which were claimed as a revolutionary break with the past were but ‘familiar truths’ to him, already propounded in his lectures and early unpublished work.

Marshall’s friends and disciples⁴ claimed with confidence that he had already advanced considerably towards the new marginalist theory in the 1870s, concurrently with Jevons and Walras. But there appears to be a sharp division of opinion, even among his followers,⁵ as to whether his ideas are essentially a continuation and advancement of the Ricardo–Mill tradition or whether he was an eclectic, compromising between classical ideas and those of the new utilitarian school; Marshall himself protested against the latter view.⁶ The Early Writings provide some firmer evidence on which to assess and reinterpret these issues. Our purpose here, however, is not to probe into the question of priority of ideas or into a comparison of Marshall and Jevons or Walras in regard to their ideas on price theory, although these may enter incidentally into our discussion. We are interested mainly in tracing Marshall’s ideas to the more immediate source in Mill; we shall indicate how a silent revolution in the direction of the marginalist supply-and-demand theory was brought about in the course of adopting, extending and transforming some ideas in Mill. As Mill himself had departed considerably from Ricardo,
Marshall was thus moving even farther away from the Ricardian source. While the *Early Writings* cover a wide ground (value, distribution, money, international trade, etc.), our focus here will be on the piece on value (hereafter the 'Essay'; the text occurring on pp. 125–64 of Marshall, 1975, Vol. I). The 'Essay' is important in so far as Marshall himself claims that it was his first systematic account of value and that it continued to provide the basic core of his later ideas on the subject.

In Section I the theoretical background will be presented, as well as the elements in the Mill–Thornton controversy which appear to have stimulated Marshall's formulations. In Section II, we focus on the seminal ideas contained in the 'Essay', with some comments about their later developments in Marshall's mature writings. The concluding Section III will briefly discuss Marshall's contradictory posture, as a follower of the classical tradition as well as the progenitor of the new marginalist school. While his roots in Mill are clearly discernible, the departures from Ricardo are radical and entirely systematic, so that however much he himself disliked such a role, Marshall effectively joins those who 'shunted the car of economic science' away from Ricardian lines.

I

1 The Background

Explaining his initiation into political economy, Marshall wrote to Colson (in 1908 or 1909):

Briefly – I read Mill's Political Economy in 1866 or 67 while I was teaching advanced mathematics; and as I thought much more easily in mathematics at that time than in English, I tried to translate him into mathematics before forming an opinion as to the validity of his work. I found much amiss in his analysis, and especially in two matters. He did not seem to have assimilated the notion of gradual growth by imperceptible increments; and he did not seem to have a sufficient responsibility...for keeping the number of his equations equal to the number of his variables, neither more nor less. (Marshall, 1933, p. 221)

In a letter to J. B. Clark at around the same time, he wrote:

...my main position as to the theory of value and distribution was practically completed in the years 1867–70, when I translated Mill's version of Ricardo's or Smith's doctrines into mathematics; [so] that, when Jevons' book appeared, I knew at once how far I agreed with him and how far I did not. (Pigou, 1925, p. 416, italics added).

In an account of himself contributed to a German compilation on leading economists, Marshall wrote: 'While still giving private lessons
in mathematics [in 1867] he translated as many as possible of Ricardo's reasonings into mathematics; and he endeavoured to make them more general' (Pigou, 1925, p. 20, italics added).

What the Early Writings on value bring out clearly is the link with Mill and, at most, with Mill's version of Ricardo, but hardly any Ricardian ideas appear to have a directly dominant influence. In particular, the deviationist beginnings in Mill, paving the way towards the acceptance and proliferation of the supply-and-demand approach, act as the thin end of the wedge. Thornton's attack (Thornton, 1870) on Mill's rather ambivalent formulation of that approach in fact exposed the weak links in Mill — although Thornton's own arguments were confused and not weighty. The debate appears to have helped Marshall to spot the weaknesses clearly and from them to reconstruct, extend and reinforce the supply-and-demand argument into a more comprehensive statement. We shall, in the following, note those elements in Mill's exposition of value and those aspects of the debate with Thornton that appear to have provided the basis for Marshall's virtual transformation of the classical ideas.

2 Mill on Value in Principles of Political Economy

While apparently adhering to the Smith–Ricardo distinction between 'natural price' and 'market price' (the former explained in terms of the conditions of production as the 'ultimate regulator of value' and the latter viewed as arising out of deviations around natural prices brought about by temporary and accidental fluctuations in conditions of demand and supply), Mill introduced a number of novelties — some explicitly, but some imperceptibly — that were to amount to fundamental deviations from Ricardian ideas. He himself appears to have been unaware of the extent to which his inroads had weakened the classical structure when he pronounced (1871, [1929] p. 436): 'Happily, there is nothing in the laws of value which remains, for the present or any future writer to clear up', a statement for which Jevons (1911, p. v) was rightly to reprimand him.

Those deviationist ideas in Mill which are directly relevant to Marshall's 'Essay' are discussed in the following paragraphs.

Mill began his discussion on value, in the classical tradition, by referring to the celebrated paradox between use-value and exchange value (1871 [1929], pp. 436–7). He accepted De Quincey's criticism (De Quincey, 1844 [1863], pp. 266–7) of Adam Smith's statement of the paradox and, in so doing, paved the way for an altogether different notion of value-in-use which, as we shall see, Marshall adopted in the 'Essay' and was fundamental to his notion of consumer's rent. De Quincey, while accepting Smith's observation that things with a high value-in-use often have little or no value-in-exchange (since that which can be obtained without labour will command no price, although useful), refuted the possibility that things which have high exchange value may
have little use-value. His argument was that 'political economy had nothing to do with the comparative estimates of different uses in the judgement of a philosopher or moralist'. De Quincey in fact redefined use-value ('teleologic value') to mean 'the capacity of a thing to satisfy a desire or serve a purpose' and argued that value-in-use was the 'extreme limit' of value-in-exchange, in the sense that the latter might fall short of, but could not exceed, the former. Were it to do so, he argued, it would presuppose that persons will give, to possess a thing, more than the utmost value which they themselves put upon it as a means of gratifying their inclinations.

This was a different notion of use-value than that accepted by Smith and Ricardo, for whom use-value was a necessary condition for a commodity to possess in order to be an object of exchange, but referred to the physical properties socially known to belong to a commodity, and not dependent upon the individual's estimation of its capacity to gratify subjective inclinations, measured in quantitative terms. In fact, use-value and exchange value were incomparable in so far as the former covered the qualitative aspect and the latter was a quantitative notion. In De Quincey and Mill, the two notions had become quantitatively comparable (one acting as an extreme limit upon another) and this was only a step towards the later resolution of the paradox in terms of 'total' and 'marginal' utility.

De Quincey, in fact, indirectly proposed the measure of use-value in terms of the price an individual would be prepared to pay ('Let the thing (measured by its uses) be, for your purposes, worth ten guineas, so that you would rather give ten guineas than lose it'); Mill approved of this notion of use-value as 'the intrinsic worth of an article in your individual estimate for your individual purposes' and its measure. As we shall see, this notion and its measure were fundamental to Marshall's demand side of price determination.

3 Mill's Three 'Classes' of Commodities

In his endeavour to systematize the law of value, Mill had proposed three distinct classes of commodities, with their own respective laws of value. The first were scarce commodities, meaning those which faced absolute limitations on supply (scarce paintings, etc. Ricardo had excluded such exceptional cases.) The second included commodities which were reproducible without limit (with which Ricardo's discussion of natural prices was concerned). The third class, defined as 'intermediate between the two preceding and rather more complex' and 'the importance of which in political economy is extremely great', referred to those 'commodities which can be multiplied to an indefinite extent by labour and expenditure, but not by a fixed amount of labour and expenditure. Only a limited quantity can be produced at a given cost; if more is wanted, it must be produced at a greater cost' (Mill, 1871 [1929], p. 445, italics added). This class was typified by agricultural commodities
and raw produce. It must be emphasized that the 'increasing difficulty in production' in Ricardo had been focused on in the context of the explanation of rent and not as a special class of commodities with a distinctly separate law of value of its own.

Mill had not only classified commodities into distinct classes, but had also attributed to them distinct laws of value. The law of value for the first class of scarce commodities was based on the equalization of supply and demand. He was to introduce firmer notions of price-dependent changes in demand and supply: while supply was defined as the quantity offered for sale at a given time and place, demand was symmetrically defined as quantity demanded and Mill had added further:

the quantity demanded is not a fixed quantity, even at the same time and place; it varies according to the value;... The demand, therefore, partly depends on the value... the idea of a ratio, as between demand and supply, is out of place... The proper mathematical analogy is that of an equation. Demand and supply... will be made equal. If unequal, at any moment, competition equalises them, and the manner in which this is done is by an adjustment of the value. (ibid. pp. 446–8)

In explaining this adjustment as a law of value, Mill was conscious that he was breaking new ground, for he wrote that he could not recall anyone, except possibly 'the eminently clear thinker and skilful expositor, J. B. Say', having resolved the question similarly.

Ricardo's response and opposition to Say's and Malthus's reliance on supply-and-demand determination were extensively recorded in his comments (Ricardo, 1951a, pp. 382–5, 119–20, 164–5; 1951b, pp. 224–5), so that one can safely reject the interpretation that Mill was merely stating an accepted position. (Incidentally, in the course of this discussion, Mill defined 'effectual demand' as the 'wish to possess combined with purchasing power', clarifying only in a footnote that the Smithian concept referred to the demand of those who are willing and able to give for the commodity its 'natural price'. Mill apparently did not realize that he had altered the sense of the term in the process of generalizing it, by dropping the reference to 'natural price'.)

Although the first class of commodities was called 'exceptional' (following Ricardo), Mill had stretched the principle of exception over a large group of cases, to cover most commodities which required time for supply to accommodate demand. In addition, there was one specific case to which the law of equalization of supply and demand was deemed to apply invariably - 'the commodity labour' (Mill, 1871 [1929], p. 450). He had adopted the rigid form of the wages-fund doctrine, and it was this view that was to come under fire from Thornton (see below).

Value for the second, much larger, class of commodities which admit of indefinite multiplication was governed by the cost of production. The 'necessary price' included the cost of production together with 'the ordinary profit'. In the 'ultimate analysis of cost of production' Mill had included, not only the remuneration for all the labour required, but also,
following Senior,7 'the abstinences of all the persons who had advanced the wages'. Mill argued that profits were not made up exclusively of the surplus remaining to the capitalist after the deductions for his outlay, but formed a part of the outlay itself; the basis for such an argument being that the capitalist advanced wages and materials and that the latter already incorporated the profits due to their producers. Profits as well as wages, therefore, were not only constituent elements of the cost of production but also determinants of value. The latter position was a significant departure from Ricardo. True, Ricardo, too, included profits in the cost of production; but, so defined, he considered cost of production as 'synonymous' with value or 'only another name for value' (see Ricardo, 1951a, p. 47 n and 1951b, pp. 34–5, 101). In other words, Ricardo saw in it a definition, not a theory of the determination of value.

Marshall, in his Appendix I (Marshall, 1961, pp. 813–21), was to interpret Ricardo's definition of the cost of production, to include profits, as a cost-of-production explanation of value.8 (See also below.) Ricardo's repeated emphasis on profits depending solely on wages can easily be understood when it is recognized that, in the simultaneous schema of value determination, once the methods of production (in terms of labour embodied and its time-pattern) and the wage were given, the rate of profits and prices would be simultaneously determined. The wage and the rate of profits could not both be determinants of value. Marshall was to use Mill's concept of labour and abstinence to define the 'real costs' of production and to render them quantitatively into 'expenses of production', as the 'supply price' (see Pigou, 1925, p. 127; Marshall, 1961, p. 339).

It is the third class of commodities, marked by the coexistence of 'several costs of production' and by costs which vary with changes in supply, that provided the basis for the later marginalist conception of a supply function. The law of value in their case was stated by Mill thus: The value is determined by the cost of that portion of the supply which is produced and brought to market at the greatest expense. (Mill, 1871 [1929], p. 471). The so-called 'law of diminishing returns' was to interest Jevons9 and Marshall and to play a significant role in the analytical development of marginalism, through its generalization to situations other than that of explaining rent; 'The law of diminishing marginal utility' was to be its counterpart in the theory of consumption, while it led to a more general notion of diminishing returns to a variable factor in the theory of production (see Bharadwaj, 1978). The Early Writings of Marshall reveal his great interest in the rent doctrine; as he himself remarked, 'improvements in cultivation decided me to adopt curves as an engine' (Marshall, 1975, I, pp. 40–1, p. 41, n. 12). In this third law of value, the functional link between costs and scale of output was clearly evident and provided the ground for a generalized 'supply function'.

It is interesting to note that Mill extended this class of commodities to include a number of situations in industry where extra profits analogous to rents could occur, due to the possession of superior skills and talents, patents, etc. This idea developed in Marshall into 'quasi-rents'
and 'producer's surplus'. Rent became 'not a thing by itself, but ... the leading species of a large genus' (Marshall, 1961, p. viii).

4 Thornton's Attack on Supply-and-Demand Determination of Price

Thornton, in his book On Labour, was provoked to take issue with the wages-fund doctrine and with the more general idea 'that [the] price of all things, labour included, depends upon the proportion between supply and demand' (1870, p. 43). Under the wages-fund doctrine, argued Thornton, at any given instant a sum of wealth is available as a fixed quantity for the payment of wages and the only means for increasing wages is by restricting the supply of labour, leading to 'a millhorse circle':

Labour can be rendered connubially discrete only by having their standard of living raised. But their standard of living cannot be raised without a permanent rise in the price of labour, and the price of labour cannot be permanently raised, unless the multiplication of labourers be checked. (p. 43)

The supply-and-demand theory underlying the doctrine, Thornton contested, was not only imperfect, but intrinsically unsound; he intended to establish this by logic and by examples.

Thornton's first complaint was that no consistent and satisfactory definitions of demand, supply, or price had been offered. He himself suggested 'for the first time' that demand, like supply, had to be represented as a function of price. Further, he defined prices as 'selling price'. In attacking the supply-and-demand explanation, Thornton was not reverting to the classical explanation of 'natural price'. In fact, he questioned the conceptual soundness of differentiating between 'market price', temporarily regulated by supply and demand, and 'natural price', 'ultimately regulated by cost of production'; his argument being that 'for an individual sale there can be no separable first and last' (1870, p. 45). He completely failed here to comprehend the role of a theoretical abstraction, but his emphatic assertion that 'the selling price cannot depend upon supply and demand at one time and upon cost of production subsequently' appears to have suggested to Marshall the need to develop an integrated framework.

Thornton's criticism of the supply-and-demand explanation of price was based mainly on the fact that most commodities on sale have a 'reserve price', so that the price appears to be inflexible in relation to changes in demand and supply. When goods are offered unreservedly for sale, he further argued that, while prices may tend to be lowered whenever supply exceeds demand, they are not usually raised when the converse situation holds. The resulting price, in either situation, need not be one equating demand and supply. Thornton illustrated his arguments with rather restrictive examples, such as fish of a certain quantity
fetching different prices in the same market, depending on whether it was sold in a Dutch auction or a British auction; or of markets where, at the seller's quoted price, there could be more buyers willing to buy but not prepared to pay a higher price. While Thornton's examples were somewhat artificially constructed, they presented certain situations occasioned by restrictions on supply or by inflexibility of demand, thus suggesting to Marshall the possibility of generalizing these cases within the framework of supply-and-demand theory, as he appears to have done in the 'Essay'.

Thornton's own suggestions for an alternative approach were confessedly inconclusive and vague. According to him the price settles down between two limits: the upper limit is the utility, real or supposed, of the commodity to the consumer; the lower its utility to the dealer. The price is so settled by the dealer's calculation of the possibilities, the object of every dealer being to obtain the highest aggregate price 'within the period during which it will suit him to keep part of his stock unsold'. (p.76). Each dealer estimates his 'reserve price' by assessing the actual state and future prospects of the market (the important data being the quantities in hand, the additional quantities that may be brought in, the rival's strategy, the state of present and future demand). In particular, the seller allows for the possible cost of tying up finance in unsold stocks in terms of interest earnings thereby forgone. Competition among sellers implies that the lowest reserve price will prevail. It is interesting to observe that in the 'Essay' Marshall started off with a situation of 'barter', where, as in Thornton, the exchange value is supposed to be within the limits set by value-in-use for the two transacting parties. He also referred to the seller's calculations of the prospective prices, as did Thornton, but then went on to describe the varying market situations that influence the estimated prospective prices.

Thornton's critique of the wages-fund, however, was far more successful. He argued that the wages-fund was itself an indeterminate quantity. The argument was built up by considering each individual employer's allocation to the wages-fund, which emerged as a residual after deducting (a) family and personal expenses, and (b) expenditure on maintenance and investment in fixed assets, from the aggregate funds at his disposal. Since both these deductions were variable, so, too, was the residual. Moreover, the residual funds might not all be dispensed as wage payments. If the individual employer's allocation to wage payments was thus 'indeterminate', the aggregate wage fund would be similarly 'indeterminate'.

The alternative explanation of wage determination which Thornton offered rested on two particular features of labour: namely, that it will not 'keep' (i.e., the sale cannot be indefinitely postponed) and that labour is habitually 'united with poverty'.

Whereas what determines the price of tangible commodities is almost always the competition of dealers, the price of labour may be determined by the competition of customers. This is owing to the
fact that labour is almost always offered for sale without reservation of price. (1870, p. 93)

The labour of uncombined labourers is thus sold at a disadvantage. Here he echoed Adam Smith's picturesque phrases concerning the uneven struggle between 'masters' and 'workers', the former forearmed not only with economic power but with judicial and political support.

Thornton's attack on the wages-fund elicited from Mill a full recantation (Mill, 1869). While he viewed Thornton's discussions on supply and demand as 'additions' rather than 'corrections' of the received doctrine, he considered his examples to be only restrictive special cases, allowing for multiple equilibrium prices or their absence. Thornton's own arguments were rather confusing and weak, but in that crucial period of transition in theories he appears to have acted, as Whitaker puts it (Marshall, 1975, I p. 121), as a gadfly. His criticisms pointed out the necessity for accurate characterization of supply-and-demand relations and their properties. In the 'Essay' as well as in his later article, 'Mr Mill's theory of value' (Pigou, 1925, pp. 119-34), Marshall's references to Thornton were highly complimentary. In the early writing on wages (not considered in detail here: Marshall, 1975, pp. 178-204), he adopted Thornton's treatment of the individual employer's wage fund and sought a simultaneous-equation solution to wage determination by treating the individual capitalist's consumption expenditure, as well as expenditure on fixed assets, as functions of the rate of profit. (Marshall did not as yet have a principle of substitution.) It is interesting to note, however, that once Marshall had worked out his comprehensive theory of supply and demand in Principles, his estimation of Thornton was severely diminished. He wrote in the first edition of Principles (1961, II, pp. 818-9), commenting on Mill's wages-fund doctrine,

But it was the treatise On Labour by Thornton ... that impressed Mill most, and indeed it seems to have so over-weighted his judgement that when publishing his recantation of his old doctrine he looked to himself blame for confusions of thought, of which it is not certain that he had been guilty ...

Having reconstructed and transformed Mill's thought, Marshall, as Whitaker remarks (Marshall, 1975, I, p. 48, n. 38), was probably reading his own ideas retrospectively into Mill.

II

The 'Essay on value' appears to have been written around 1870,10 probably before Jevons's Principles of Political Economy appeared in 1871. The immediate stimulus appears to have been provided by the ongoing debate on the adequacy of the supply-and-demand-based determination of value. That this remarkable, compact
'Essay' provided a fulcrum for Marshall's more mature writings is evident from his letter to J. N. Keynes in 1888, written while he was preparing the Principles for publication. The letter was evidently sent along with the manuscript of the 'Essay':

The inclosed was part of the first systematic account of my views on value... In them I have divided markets according to lengths of periods A, B, C, D... and make the supply curve a horizontal straight line for A, necessarily inclined positively for B and C, and of all sorts of shapes for D... Substantially I believe the account given in these papers to be right ...

Marshall went on to explain in the letter that, for fear of overcomplexity, he had not used the curves in his later writings and wondered whether he ought not to introduce the substance of them in Principles (which he did; see below).

5 Seminal Ideas in the Essay

On Use-value and Exchange Value

The 'Essay' opens with a discussion of the Smithian paradox between value-in-use and value-in-exchange. Marshall writes: 'Adam Smith regarded the "value in use" of any particular object as depending upon its utility. He thereby makes himself the judge of what is useful to other people and introduces unnecessary confusion' (Marshall, 1975, I, p. 125). This objection reminds us of De Quincey's standpoint on use-value (see above). At this stage of the development of his ideas, Marshall appeared somewhat averse to the use of 'utility'; he instead proceeded to define the value-in-use of a thing to a person as "the value of the things which must be given him in order that he may be induced to give it up, or which he will give rather than not obtain it" (1975, I, p. 125). By so defining it, Marshall was already moving on to a measure of use-value in terms of the price that the individual is willing to pay for a certain unit of a commodity rather than forgo its possession.

Marshall built up the connection between use-value and exchange value by using the case of simple barter, when the exchange ratio settles somewhere between the limits of the use-values (as defined above) of the articles to the parties desiring exchange. In a more general case, a buyer (a seller) is defined as one who wishes to obtain (part with) a certain commodity in exchange for money or a command over commodities in general; demand and supply are then defined in relational terms as continuous functions of the price, and the equilibrium price is defined at the intersection of these curves, where demand and supply are equated. The treatment is purely formal and graphical at this point. Marshall went on to derive the stability conditions on equilibrium, namely, that the supply curve should lie below the demand curve to the left of the point of intersection.
As to what lies behind the seller's willingness to supply the amount at a particular price, Marshall argued on somewhat similar lines as Thornton: 'In general terms he will accept an offer if he thinks that if he refuses this he will not be able to get a better one' (Marshall, 1975, I, p. 133). The cost of waiting, that is, of tying up finances in holding on to stocks, was calculated at the interest payable on an equivalent cash loan. The seller would also adjust the future or prospective price for the probability of its occurrence, since it was uncertain.

*Types of Market Situations: Periodization*

Where Marshall departed from Thornton was in his probing further into the following question: 'What are the data which buyers and sellers have to ascertain in order to decide on the probability of their obtaining better offers by waiting?' (p. 133). Or, in other words, what determines the general conditions of demand and supply in the market? As they depend on 'the circumstances of the particular market at a particular time', Marshall introduced different types of market situations, called A, B, C and D. 'The circumstances which determine the supply and demand of a commodity are widely different for different cases, the differences depending mainly on the length of the period of time to which the investigation applies' (p. 134).

In A, the time period is very short; the whole amount purchased is a very small proportion of the amount on sale and the commodity is offered at a price fixed exogenously in some larger market. In this situation, familiar in retail trade (and characteristic of some of Thornton's examples), the supply curve is taken to be almost horizontal at a fixed price. Marshall considered class A as unimportant.

In class B, the dealers take into account only the amount already in existence during the time period, which is not long enough for fresh supplies to be produced. The price varies from time to time as buyers and sellers become aware of fresh circumstances affecting the supply-and-demand situation. Although supply price (Marshall does not use this term, but calls it, the 'value-in-use to the seller') is not necessarily calculated with reference to cost of production, it does generally cover costs, including profits. Thus both A and B are short-period situations, where supplies do not adjust completely to alterations in demand.

In contrast, situations C and D are characterized as those corresponding to 'natural prices', referring to 'periods sufficiently long for any additional amount required to be produced as the demand alters and for all casual variations to be neglected' (p. 139, n. 11). In class C

no change in the modes of production is contemplated but the periods are sufficiently long to enable the supply to be regulated so as to meet the demand. Thus taking average results, the value in use to the sellers, the price at which they are willing to sell when any given amount of the commodity is sold in a given time, is the cost of production, including profits, at which this amount can be permanently sold. (pp. 137–8)
Importantly, Marshall states, as a general hypothesis, that an increase in the amount produced can only be effected at an increase in price, so that the supply curve rises towards the right.

Class D is characterized by changes in ‘the modes of production’. The phrase has a limited connotation here, for Marshall was careful to exclude all major social changes in ‘habits and skills of the people and in their command over mechanical resources’. What is noteworthy is that the rather vague phrases hold the concrete analytical consequence that ‘only such changes in the methods of production as could be associated with a change in the scale of output were to be considered; class D being essentially distinguished from class C by the possibility of a downward-sloping supply curve in the former and consequently of the existence of multiple equilibria. The analytical classification of supply conditions according to ‘returns to scale’, with its tripartite division of ‘increasing’, ‘constant’ and ‘diminishing’, is heralded by this linking up of variations in costs to those in the scale of output.

Marshall then proceeded to question whether there was any limit on the analytically permissible forms of these curves. The propositions he suggested in the ‘Essay’ were repeated in his *Pure Theory of Domestic Values* (1879 [1930]): namely, that the supply curve cannot cut the same vertical line more than once but can do so on a horizontal line, implying that, for each quantum of supply (plotted along the abscissa), there is only one supply price and that the demand curve cannot cut the vertical or the horizontal line more than once, so that, at each price, there is a uniquely determined demand (indicated along the abscissa). A number of graphical exercises illustrating various types of equilibrium situations (stable, unstable, neutral) and their implications in terms of equilibrium price were discussed. What held Marshall’s interest was the case of D markets, where, with the downward-sloping supply curve, multiple equilibria are suggested as possible. He posed the problem concerning the interpretation of the existence of such multiple equilibria and of the transition from one stable equilibrium to another (at a lower price and larger output) – a problem that was to recur repeatedly in his later writings. (We shall return to this later.) The graphical apparatus was also extended by Marshall to apply to cases of joint demand and composite supply.

**Striking Features of the ‘Essay’**

What are the striking features of the ‘Essay’? We comment on them in the following:

(1) As Shove speculated, Marshall appears ‘to have begun with the objective demand and supply schedules, the phenomena of the market place and worked back from them to their psychological basis, not (as was the case with Jevons) the other way about’. Marshall’s major concern was the graphical or mathematical properties of these functions and their simultaneous determination of price. His letter to Colson, quoted at the beginning of Section I, in which he found fault with Mill for not realizing the importance of the principle of continuity and the
conditions for solvability of his system, reveals his formal preoccupation with these. In the 'Essay', in fact, Marshall showed very little concern about working out what lies behind the demand schedules. The basis of the demand curve in utility or 'satisfaction' was not developed. In this, possibly Cournot's influence on the 'form' of his thought, to which he himself testified (see Pigou, 1925, p. 100), is discernible. Although much more concern is revealed in his building up of the supply side of the argument, here too, the real cost basis is not explicitly elaborated upon. (However, in the early writings on distribution, the analysis of cost of production did develop in that direction.) The concern in the 'Essay' is primarily to construe a functional relation between the scale of output and the 'supply price'. (The latter is referred to in the 'Essay' as 'value in use to the producer'.) Throughout Marshall's work, even in his mature writings, we find a relatively greater concern about the validity of the supply relation, while the demand relation, in its algebraic form, was taken more as a matter of fact.  

(2) Marshall implicitly assumed in the 'Essay' that each consumer buys a certain fixed quantity of the commodity, so that variations in demand are associated with those in the number of buyers. (See Marshall, 1975, I, p. 122.) It was assumed that at least as many buyers would be willing to purchase the commodity at a lower price as at a slightly higher one. The notion of marginal utility or marginal cost did not appear in that form but was hinted at when Marshall spoke of the 'value in use to those buyers who are the last induced to buy the commodity' and the 'value-in-use' to the last of those who produce for sale, or 'the cost of production of that portion which is produced under greatest difficulty'. It is interesting to see that while the demand curve was invariably shown as downward sloping, in some diagrams (ibid., p. 138, fig. 6), it was drawn concave to the origin. The properties of an individual demand curve required for consistency with marginalist theory were yet to be fully developed.

(3) Marshall spoke of the 'supply price' as value-in-use to the producer of that portion of supply. The notion of quasi-rents was hinted at when he referred to some producers obtaining extra profits due to natural or artificial advantages, analogous to rents. As noted above, Mill had already developed this notion, in an incipient form.

(4) In classifying markets, Marshall took a major step ahead of Mill who, as we have seen, had categorized commodities into classes according to the law of value applicable to each. In Marshall the classification was now in terms of market situations, the law of value based on the balancing of supply-and-demand forces being generalized, gaining universality. (In the Early Writings the law was yet to be comprehensively developed to incorporate distribution or the explanation of 'factor prices'.) The market situations were differentiated on the basis of the time taken for the forces of supply and demand to adjust themselves. In the 'Essay', Marshall's emphasis still remained on the adjustment of supply to demand, the latter element not having been sufficiently analysed and the full symmetry between the two (supply and demand)
yet to be constructed, as it was to be in *Principles*, with the provision of diminishing marginal utility on the demand side to match up with the laws of returns on the supply side and the principle of substitution playing its all-pervasive role in consumption as well as production.

While the basis of classification of markets was altered (see Marshall, 1975, pp. 72–3), and rendered analytically more consistent with the generalized application of the supply-and-demand view in the mature writings of Marshall, the principle of classification – the ‘time element’ – persisted throughout. In *Principles*, class B was characterized as ‘temporary equilibrium of demand and supply’, while the short-period and long-period normal supply curves (comparable to class C and class D markets, respectively) were based on a different distinction from that between C and D markets. In the former (the short-period normal supply curve), the short period implied the fixity of ‘stocks of productive appliances and skilled labour’, etc., while the long period involved full adjustment of stocks of all kinds, sustained by a steady flow of replacements; in the ‘Essay’, D markets were distinguished from C markets mainly on the basis of the downward-sloping supply curve in the former. The prominence given to the D market situation (later described as the ‘increasing returns’ situation) was to be progressively diluted in later works, as the logical difficulties in fitting them into the equilibrium analysis became evident (see below).

The various market situations were brought into analytical ‘continuity’, the philosophical principle Marshall staunchly advocated in the *Preface* in the *Principles*. Marshall did not accept the sharp line of division between ‘normal values’ and ‘current’, ‘market’ or ‘occasional’ values.

... there is no impassable gulf between these two; they shade into one another by continuous gradations... For the element of Time, which is the centre of the chief difficulty of almost every economic problem, is itself absolutely continuous: Nature knows no absolute partition of time into long periods and short. (Marshall, 1961, p. vii)

This analytical continuity was afforded by the device of impounding ‘diverse causes’ into a *ceteris paribus* clause, from which they would be released, step by step, as the investigation proceeded.

The general drift of the term normal supply price is always the same whether the period to which it refers is short or long;...In every case reference is made to a certain given rate of aggregate production...In every case the price is that the expectation of which is sufficient and only just sufficient to make it worthwhile for people to set themselves to produce that aggregate amount; in every case the cost of production is marginal;...But the causes which determine this margin vary with the length of the period under consideration. (ibid., p. 373–4)

According to this principle, four classes of situations were identified:
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 another. (ibid. p. 378–9)

In so applying the principle of continuity to a generalization of the supply-and-demand determination of prices, Marshall had moved on to a different theory of prices; while retaining the distinction between 'market prices' and 'normal prices', he altered their explanatory basis. His distinction rested merely on periodization of the adjustment process. He had reached this formalization by stages: in *Economics of Industry* written with Mary Marshall (1881; later withdrawn as evidently Marshall was not satisfied with his formative and still not cohesive ideas), the distinction between normal values and market values is different, and closer to the classical notion. It is made on the basis of the qualitatively different character of the forces acting on the two:

Normal results are those which competition would bring about in the long run. The periods to which they relate must be sufficiently long to give time for the active forces of competition to overcome the passive resistance of ignorance, prejudice, custom, etc. They must be sufficiently long to enable us to neglect temporary fluctuations of supply and demand ...(Marshall and Marshall, 1881, p. vii)

Market prices were considered applicable in cases where there were combinations of buyers and sellers, a prevalence of ignorance, inertia, etc., but 'the Normal action of economic forces is hindered, or even overridden, but never destroyed by friction, by combination or by the passing events which exercise a restless influence on Market values' (ibid, p.vi). Market prices thus were not systematically analysable, affected as they were by diverse, transient factors. In the *Principles*, however, the distinction appeared as a matter of gradation.

It must, however, be emphasized that, even while proposing the same theoretical apparatus to explain market and normal values, Marshall considered long-period normal values to be the relevant ones on which to rest the general theoretical propositions. In 1902, in a letter to Edgeworth, he wrote: 'You know I never apply curves or mathematics to market values. For I don't think they help much, and market values are, I think, either
absolutely abstract or terribly concrete and full of ever-varying (though individually vital) side-issues' (Pigou, 1925, p. 435). It was possibly because of the same hesitation, voiced in the letter to Keynes quoted above, that the explicit and detailed discussion of A, B, C and D markets was not pursued in later writings, although the major results were introduced, particularly in the *Pure Theory* (Marshall, 1879 [1930]).

(5) In the ‘Essay’, the notion of returns to scale was not yet formalized, although its rudiments were present. It is interesting to note that Marshall was already concerned with the problem of the downward-sloping supply curve. He saw it here mainly as a problem of multiple equilibria. This was to receive much more prominence in *Pure Theory*. Elsewhere (Bharadwaj, 1972 and 1984; Chapters 7 and 13 in the present volume), we have discussed the nature of the challenge to Marshall’s theory posed by increasing returns and his not-so-successful attempts to give logically consistent answers within his framework.

Some hints regarding the basis for future discussion and the proposed solutions by which attempts were to be made to reconcile the downward-sloping supply curve (or the increasing returns' situation) with the equilibrium framework were present in the ‘Essay’. In an attempt to explain how such multiple equilibria could occur and how a transition from one stable equilibrium situation to another (with larger output and lower unit costs) was possible, Marshall pointed to sudden changes in circumstances of demand (luxuries becoming part of ordinary demand); accidental disturbances having pushed the market into the new equilibrium situation, it stabilizes at the new level of price. Such reasoning also appeared in the *Pure Theory* and *Principles* (Appendix H). However, Marshall realized in these later works that this might introduce the notion of irreversibilities, so that the economies once created could not be withdrawn when output was reduced and the supply curve would have to be redrawn in its backward movement. This (discussed in Bharadwaj, Chapter 7 below) would have jeopardized the theoretical foundation of the supply curve (based on an *ex ante* notion of supplies forthcoming at hypothetical, alternative prices) relevant to the determination of equilibrium; the ‘redrawing’ of the supply curve which Marshall suggested would turn it into a ‘historical’, descriptive one.

In the ‘Essay’, irreversibilities were not referred to. However, Marshall did envisage the Cournot-type situation, in which competition itself would be endangered by a single producer monopolizing the market.

If capital moved perfectly freely and there were no practical limit to the proportion of the whole trade connection which a firm can obtain this result [transition to a new stable equilibrium at lower unit costs] might often be brought about through the displacement of small manufactures by one or a few large ones. (Marshall, 1975, I, p. 151)

It is well known that Marshall was not very happy with this implication, arrived at logically by Cournot, and objected to it for being too
mechanical' a deduction. In the 'Essay' he visualized practical difficulties in such a formation of large-scale manufactures, which however may be occasionally overcome...in those trades in which the final manufacture is not dependent for some of its stages on subsidiary trades in which increased economy of labour is not readily induced without an increase of the total amount demanded' (ibid., p. 151). Here, one can see, in embryo, the notion of 'external economies', made possible by the development of subsidiary trades and skills, which was developed in Pure Theory as a generic cause for increasing returns. Sraffa (1925 and 1926) was to point out later that such an explanation would logically contradict Marshall's framework of partial equilibrium, in which the supply curve was a relation between the supply price and the scale of output within the individual industry.

Marshall also hinted in the 'Essay' that the answer to the problem of multiple equilibria might be found in the case of patented articles or articles 'from a particular firm of established reputation', where the price might settle between the two equilibria. The idea was not developed, but could have been the precursor of Marshall's later suggestion that competition may still survive in the face of increasing returns in the form of monopolistic competition.

(6) The utilitarian basis of the demand side was not worked out in the 'Essay'. The word 'utility' itself was used only once in relation to Adam Smith, and not approvingly. In Pure Theory, too, Marshall was to rely on 'satisfaction'. The initial reluctance to use 'utility' appears to be due to its narrow Benthamite, ethical connotation, which Marshall resisted. As Shove (1942, p. 306) pointed out: 'From the first he insisted that to say that the strength of motives at work in the business world is measurable does not imply any assumption as to their character or "quality", still less to their ethical value.' Marshall elaborated his position in 'The Present Position of Economics': the motives could be manifold (altruism, desire for distinction, for wealth) and need not always spring from 'the desire for pleasure or the avoidance of pain' (Figou, 1925, pp. 152-73). Motives became relevant to and entered into economics through their 'measurability', making quantitative analysis possible:

The outward form of economic theory has been shaped by its connection with material wealth. But it is becoming clear that the true philosophic raison d'être of the theory is that it supplies a machinery to aid us in reasoning about those motives of human action which are measurable. (ibid., p. 158)

In Marshall, 'the play of measurable motives for and against one another, balancing one another and being substituted for one another' became the engine of economic analysis. This measurability of motives in terms of the price which individuals are prepared to pay, rather than forgo a certain satisfaction, provided the basis for the notion of consumer's surplus. On the same principle of measurability, Marshall translated
the 'real costs' (the efforts and sacrifices incurred by labour and by capitalists 'in waiting') into 'expenses of production', and by doing so hoped to resolve all the difficulties involved in aggregating/comparing heterogeneous kinds of subjectively incurred efforts and sacrifices.

In 'Mr Mill's theory of value' (1876), Marshall attributed the idea of 'measurable motives' to Adam Smith, stating that 'A point of view was conquered for us by Adam Smith, from which a commodity is regarded as the embodiment of measurable efforts and sacrifices' (Pigou, 1925, p. 126). Evidently the reference is to the 'toil and trouble' which Adam Smith spoke of. No doubt Mill had advanced further towards 'real costs', acquiescing in Senior's idea of abstinence. However far-stretched this attribution to Smith, the 'real costs' idea was, as Shove put it, quite definitely 'un-Ricardian'. To quote Shove (1942, p. 306):

For Ricardo, labour is not a 'disutility' but the productive force available to the commodity, the stuff, so to speak, by means of which commodities are made and the cost of a thing is the quantity of this force or stuff, together with the quantity of capital, absorbed on its production, not the effort and sacrifice entailed in providing it. And though in his view the minimum rate of profit was the necessary compensation for the 'trouble and risk' ... undertaken by the investor, both he and Mill habitually conceive of the second element in cost also (the capital employed) in objective terms—as the quantity or value of the wages advanced and the length of time for which advance is made, not as a subjective discommodity or sacrifice. (See, for a further discussion, p. 152 below)

The idea of 'measurable motives' does not appear to be central to classical theory, as suggested by Marshall. Here his departure was definitive and it was only in the Principles that he would express himself more openly regarding the utilitarian foundation; directly, on the demand side, but indirectly, through 'expenses of production as measuring real costs', on the supply side.

III

6 Marshall's Claim of Continuity with Ricardo-Mill

From the 'Essay on value' and other early writings (not all covered by our discussion) it appears likely that when Jevons's book appeared Marshall had already developed substantive ideas on the supply-and-demand approach, although the demand side (and especially its basis in utility) had not been worked out comprehensively or clearly; and the 'marginal' principle was not stated as explicitly as in Jevons.

Starting with propositions from Mill's Principles and impelled by the Mill-Thornton controversy, Marshall had attempted to systematize
the supply-and-demand approach by moving towards an analytical
symmetry between the two equilibrating forces. His strong reaction to
Jevons's *Theory*, reflected in his review of that work (Figou, 1925, pp.
93-9), appears to have been provoked (apart probably from feelings of
incipient rivalry) by the latter's emphasis on the utilitarian motivational
basis and the one-sided over emphasis on utility as an explanation of
value. Marshall expressed his position in a letter to Pierson (in 1891),
maintaining that his own *Principles*

was written to express one idea; & one only. That idea is that
whereas Ricardo and company maintain that value is determined by
cost of production, & Malthus, McLeod, Jevons & (in a measure)
the Austrians that it is determined by utility, each was right in what
he affirmed but wrong in what he denied. They none of them, paid,
I think, sufficient attention to the element of *time*. That I believe holds
the key of all the paradoxes which this long controversy has raised.
When Ricardo spoke of Cost of production as determining value he
had in mind periods as to which cost of production is the dominant
force: when Jevons emphasised utility, he had in mind shorter periods.
The attempt to work all existing knowledge on the subject of value
into one continuous & harmonious whole, by means of a complex
study of the element of *Time*, permeates every Book, almost every page
of my volume. It is the backbone of all that, from a scientific point
of view, I care to say. (Marshall, 1975, pp. 97-8)

Yet Marshall expressed irritation at being thought of as one who
'compromised between' or 'reconciled' divergent schools of thought
(see his letter to J. B. Clark in Figou, 1925, p. 418). Indeed, Shove
 staunchly upheld the view that 'so far as its strictly analytical content
is concerned the *Principles* is in direct line of descent through Mill
from Ricardo and through Ricardo from Adam Smith. It is of the true
Ricardian stock, neither a cross-bred nor sport' (Shove, 1942, p. 295).
While refuting the idea that the analytical backbone of the *Principles*
is
either a conflation of Ricardian notions with the use of the 'marginal
utility' school or an 'attempt to substitute for Ricardian doctrine a
new system of ideas arrived by a different line of approach', Shove
conceded that the process of completion and generalization involved a
transformation more thoroughgoing than Marshall himself was disposed
to admit (p. 295).

On the basis of the 'Essay on value' (as well as those on wages,
profits and rent), the links with Mill are amply evident. Marshall was
himself to comment in 'Mr Mill's theory of value' that 'Readers...may
find in Mill's economic doctrines much exposition that requires to be
supplemented, and many abrupt lines of thought which require to be
continued' (Figou, 1925, p. 121). This, indeed, is what he appears to
have done - to have brought rigour and consistency to Mill's ideas,
affording them a 'mathematical form'. However, it was precisely the
beginnings in Mill of considerable deviations from Ricardo's theory of
value and distribution (See Chapter 3 in the present volume) that called for and received at Marshall’s hands such extension and refinement; so that Marshall’s deliberations on value and distribution departed systematically from the questions Ricardo posed and the framework of analysis he employed. Apart from the fragment on rent, Marshall appears to have shared little common ground with Ricardo in these Early Writings. In the theory of distribution, which concerned Ricardo most, there were hardly any traces of Ricardian reasoning.

In fact, Marshall’s early pronouncements regarding the origin of his ideas stressed his allegiance to Mill. It appears as though it was almost as a reaction to Jevons’s strongly worded, virulent attack on Ricardo (‘the able but wrong headed man, David Ricardo ... who shunted the car of economic science on to a wrong line’, 1911, p. li) that Marshall linked himself more firmly with Ricardo (‘my youthful loyalty to him [Ricardo] boiled over when I read Jevons’ Theory’, Figou, 1925, p. 100). Indeed, he regarded Ricardo’s genius and ability as far above those of Mill (ibid., pp. 99–100, 162; also Marshall, 1975, I, p. 50, n. 48).

However, what Shove regarded as extensions and generalizations of Ricardo in Principles (the introduction of the demand side, the functional relation between costs and output, the supply- and-demand determination of wages and profits) are radical departures from the Ricardian standpoint. A careful reading of Ricardo’s Notes on Malthus (Ricardo, 1951b) clearly shows that he had forcefully rejected similar propositions (much less rigorously stated) emanating from Malthus. It is also now possible for us to see, after Piero Sraffa’s masterly commentaries on Ricardo’s Works and his subsequent reconstruction and extension of the classical schema (Sraffa, 1960), how, for Ricardo’s theory of value and distribution, the so-called ‘law of diminishing returns’ and the Malthusian theory of population were more of a fifth wheel. Shove’s position can no longer be validated when one remembers that these were indeed the basis for discovering ‘marginalism’ in Ricardo and provided fertile ground for later extensions into neoclassical theory (arguing, for example, as Marshall did, that demand functions had to be introduced in the classical theory for logical completeness).

Marshall’s Reading of Ricardo and Mill

Marshall himself conveyed the impression that his task was mainly one of clarification, explanation and generalization: he frequently maintained that Smith, Ricardo and Mill were often ‘not conscious of the full drift of their reasoning’; and that Ricardo’s unclear exposition was particularly conducive to much interpretation and mischief (‘His expression is as confused as his thought is profound’, Marshall, 1961, p. 813). In Appendix I of his Principles, on Ricardo’s theory of value, Marshall transferred his own views onto Ricardo by undertaking to interpret him generously: he read Ricardo’s difference between riches and value as corresponding to that between total and marginal utility, and suggested that, although Ricardo was aware that commodities fell into three classes according to how they obeyed the law of diminishing,
constant or increasing returns, he ignored the distinction, concentrating on the limited case of constant returns. However, as Sraffa (1925 and 1926) has argued, there is no presumption in classical theory regarding any sort of functional relation between outputs and costs essential for the theory and hence the notion of returns to scale is essentially irrelevant to the Ricardian theory.

Marshall interpreted Ricardo's proposition, that relative values are dependent on the relative time distribution of labour embodied, as supporting his own inclusion of 'waiting' as an independent element in the determination of value. As the quotation from Shove cited above clearly brings out, Ricardo's dated labour was a concept far removed from Marshall's subjective real costs in terms of efforts and sacrifices. Ricardo no doubt admitted that the determination of relative values on the basis of relative quantities of labour embodied was modified, in that they were also influenced by 'the element of time' – the latter used by Ricardo as a summary expression to connote differences among commodities in their conditions of production (i.e., in the proportions between fixed and circulating capital, in the durability of fixed capital and in the time elapsing before the commodities were brought to the market). While referring to these differing proportions of the constituent elements of capital, Ricardo did not, however, consider quantity of capital as an independent 'cause' of value.

It would seem that Ricardo was aware of the difference in approach between an explanation in terms of 'dated' labour and one treating labour and time as two independent causes of value. In his letter to McCulloch, dated 13 June 1820 (Ricardo, 1952b, p. 194), much quoted, as Sraffa observes (Ricardo, 1951a, p.xxxix), as illustrative of Ricardo's weakening over the labour theory of value, he wrote:

I sometimes think that if I were to write the chapter on value again which is in my book, I should acknowledge that the relative value of commodities was regulated by two causes instead of by one, namely, by the relative quantity of labour necessary to produce the commodities in question, and by the rate of profit for the time that the capital remained dormant, and until the commodities were brought to market. Perhaps I should find the difficulties nearly as great in this view of the subject as in that which I have adopted.

As Sraffa shows, providing further evidence (Ricardo, 1951a, pp. xxxix–xl), this weakening was 'no more than a passing mood'; Ricardo certainly did not veer round in the direction which he momentarily regarded as an alternative, possibly because the difficulties in that course, as he surmised, were no less. His views on value evidently remained substantially unaltered in the third edition of Principles, published in 1821.

Marshall also criticized Ricardo's carelessness with regard to the element of time, referring to his own distinction between short-period and long-period normal values. We have already seen above, how, in the
process of introducing continuity in terms of different market situations, he had moved on to a different theoretical explanation of price and hence a different basis for the distinction.

_Crossing the Divide_

While Marshall was initially averse to accepting the Jevonian utility-based approach, his attitude towards the new theories softened over time and in the _Principles_ he incorporated a number of such ideas, especially on the demand side of his value explanation. In extending and generalizing Mill's propositions, he entered a new theoretical domain. When he claimed that the new theories of Jevons and Walras were familiar truths, he was conscious of the novelty of his own ideas and the basic similarities he shared with these other, self-conscious innovators in developing a new framework, depending on a theory of equilibrium between demand and supply. On the other hand, his stubborn emphasis on the continuity of doctrines goaded him to preface his _Principles_ with the remark:

> Some of the best work of the present generation has indeed appeared at first sight to be antagonistic to that of earlier writers; but when it has had time to settle down into its proper place, and its rough edges have been worn away, it has been found to involve no real breach of continuity in the development of the science. The new doctrines have supplemented the older, have extended, developed and sometimes corrected them and often have given them a different tone by a new distribution of emphasis; but very seldom have subverted them.


However the old doctrines were indeed subverted and Marshall's theorizing played a major role in abandoning the old and in heralding and establishing the new. The phenomenon of exchange, cast in the generalized theoretical schema of supply and demand, was extended to cover the entire range of problems – of production, consumption and distribution – and subjective valuations of individuals, regarded as optimizing agents, permeated economic theory, with the 'measurable motives' providing the organon of analysis. This, indeed, was a total change of regime.

_Notes: Chapter 6_

This essay was first published in the _Cambridge Journal of Economics_, vol. 2, no. 3 (September 1978), pp. 253–71. I came across the manuscript on value in the Marshall Papers at the Marshall Library, Cambridge, in early 1969 and recognized it as being the one referred to by Marshall in his letter to J. M. Keynes (quoted on p. 143 above) and reported 'not extant' by C. W. Guillebaud in his comment on that letter in the Variorium edition of Marshall's _Principles_ (1960, Vol. II, p. 365). I
postponed the publication of comments on the manuscript on being informed by Professor E. A. G. Robinson that the Whitaker edition of the early writings of Marshall was in progress. I should like to thank the referees of the Journal, Pierangelo Garegnani, the late Ronald L. Meek and Ian Steedman for helpful comments.


3 Marshall hinted in his review of Jevons’s Theory of Political Economy (Pigou, 1925, pp. 93–100) that many of his ideas were ‘familiar truths’ and stated, in Principles of Economics, that he had borrowed the term ‘marginal’ from von Thünen before he adopted Jevons’s term ‘final’, only to revert to the original term (Preface, 1st edition). Marshall maintained that he was mainly influenced by von Thünen as to his ideas and Cournot as to the form of thought (see Pigou, 1925, pp. 99–100).

4 Pantleconi asserted that Marshall had been teaching marginal utility at Cambridge before he had read Jevons’s Theory. Foxwell, Marshall’s student during 1869–71, claimed priority for Marshall in his letters to Jevons; J. M. Keynes’s famous memoir in Pigou (1925) attributed the rather ungenerous review of Jevons’s Theory by Marshall to the latter’s possible annoyance and disappointment at Jevons’s work taking the novelty from his own ideas. For a detailed coverage, see Howey (1960), pp. 76–92.

5 See, for contending views, Shove (1942) and L. L. Price’s review article on Marshall’s Principles, quoted in Howey (1960), pp. 89–90.

6 Writing to J. B. Clark (Pigou, 1925, p. 418), Marshall protested: ‘One thing alone in American criticism irritates me, though it be not unkindly meant. It is the suggestion that I try to “compromise between” or “reconcile” divergent schools of thought.’

7 ‘As the wages of the labourer are the remuneration of labour, so the profits of the capitalist are properly, according to Mr Senior’s well-chosen expression, the remuneration of abstinence. They are what he gains by forbearing to consume his capital for his own uses, and allowing it to be consumed by productive labourers for their uses. For this forbearance he requires a recompense’ (Mill, 1871 [1829], p. 405).

8 For a criticism of Marshall’s interpretation, see Ashley (1891).

9 Jevons wrote in the Preface to the first edition of his Theory of Political Economy (included in the fourth edition): ‘There are many portions of Economical doctrine which appear to me as scientific in form as they are consonant with facts. I would especially mention the Theories of Population and Rent, the latter a theory of distinctly mathematical character, which seems to give a clue to the correct mode of treating the whole science’ (Jevons, 1911, p. vi, italics added).

10 See, for a discussion on the question of the dating of the MSS, Marshall (1975), pp. 117–18.


12 Shove begins this remark ‘Though one cannot speak with confidence, one may hazard the guess ...’ (Shove, 1942, p. 307).
Marshall considered 'the conditions of normal supply' as 'less definite' than of demand (1961, p. 342). He was aware of the difficulties created particularly by the possibility of increasing returns (see Bharadwaj, 1972, Chapter 7 in the present volume). Pigou (1953, pp. 22-4) found puzzling a similar position, namely, Marshall's reluctance to extend the notion of elasticity of supply except as regards very short periods, and regarded it as 'an unnecessary scruple'. Pigou wondered why Marshall, who was aware of similar difficulties arising on the demand side, due to the difficulty of keeping conditions constant within the ceteris paribus clause in the long period, should have felt particular scruples about extending the elasticity concept to the long-period supply curve. He noted, however, that 'Marshall has not been followed by later writers. On the contrary, the notion of elasticity has spread itself, not merely to supply, but in a number of other directions also' (p. 24). Marshall had expressed reservations concerning Pigou's use of the long-period supply curve in the latter's Wealth and Welfare. His doubts, if pursued in depth, would have called into question the logical basis of the supply-and-demand theory (see Bharadwaj, 1972, Chapter 7 in the present volume).

Schumpeter emphatically refused to include J. S. Mill in 'Ricardo's school'. He observed that 'the economics of the Principles are no longer Ricardian. This is obscured by filial respect and also, independently of this, by J. S. Mill's own belief that he was only qualifying Ricardian doctrine. But this belief was erroneous. His qualifications affect essentials of theory and, still more, of course, of social outlook. Ricardianism meant no doubt more to him than it did to Marshall. But Mill's and Marshall's cases are similar in that, for reasons of their own, commendable or not, they stressed Ricardian influences unduly at the expense of others. From Marshall's Principles, Ricardianism can be removed without being missed at all. From Mill's Principles, it could be dropped without being missed very greatly' (1961, p. 529). On Mill's deviations from Ricardo, see also Dobb (1973), pp. 121-36. See also Meek (1950), p. 62.

References: Chapter 6


Dobb, M. H. (1973), Theories of Value and Distribution since Adam Smith (Cambridge: Cambridge University Press).


