CHAPTER IV

THE OPERATION OF THE SYSTEM

In view of the theoretical considerations discussed in the preceding chapter, we should expect Marshall's empirical analysis of the institutions concerned with production and distribution to be cast largely in historical, or more properly, in developmental terms. Nothing else would be consistent with his definition of the theoretical components of the central model of normal price. In fact, Marshall did not think of his first great work, the *Principles* as being in any sense separate and distinct from an analysis of the history and operation of the industrial order, which would involve a more careful and detailed discussion of the institutions shaping that industrial order.[1]

The changes through which the corpus of Marshall's work had gone by the time of his death in 1924 throw an interesting light upon both his character and his approach to these problems. The final plan, which was completed except for the last volume which Marshall was writing at the very end, was to treat the realm of economics in terms of *Principles*, *Industry and Trade*, *Money Credit and Commerce*, and the unpublished volume on *Progress; Its Economic Conditions*.[2] His work, then, must be looked upon as more of a |146| unified whole than the work of most other writers, who generally reflect in each subsequent publication the various changes in the development of their ideas. This observation is especially true when the history of publication extends over a number of decades. For Marshall the general rule did not hold true. Most of his creative endeavor had been completed by the turn of the century; and his subsequent writing, particularly after the publication of the *Principles*, was largely a piecing together of notes and extensive comments which had been accumulated at a much earlier date.[3] The unity and consistency of thought, even at the cost of extensive repetition, are seen most clearly in a comparison of the *Principles* with *Industry and Trade*; for the historical and institutional research and the personal observation embodied in *Industry and Trade* form the basis for

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[1] Memorials, pp. 60 ff.

[2] Ibid., p. 65.

[3] *Ibid*., pp. 62 ff., *passim*.

the theoretical generalizations of the *Principles*. In the later volume, he dealt directly with entrepreneurial activities as they were observed. In the earlier volume, the concern was primarily with the generalized principles of entrepreneurial activities as they affect, for example, the supply and demand apparatus developed to deal with the market problem.

Throughout Marshall's work it is impossible to separate the *a priori* elements from the *a posteriori* findings. In part this is due to the peculiar style he employed in ordering his general statements with careful attention to under-emphasis amid extensive |147| reference to empirical data. But this stylistic peculiarity also reflects his method of hypothesizing, testing, amending the hypothesis, renewed testing, further amendment, and so on, until no distinction remains between the data used for qualification and the data used for substantiation. To be sure, the role of formal theory is underemphasized throughout *Industry and Trade*, but it is almost impossible to understand fully the underlying unity of its historical and institutional material without constant reference to the general theoretical framework of the *Principles*.

It has been indicated in the preceding chapter that one of the most important conclusions to be drawn from the theoretical analysis of the *Principles* is that, as a general rule, increasing returns will predominate in those areas of production which are adaptable to factory organization and in which the land factor does not play an important part. The testing of this principle and the examination of the results which can be expected from it are the primary concern of *Industry and Trade*. The three parts of that work deal, first, with the national peculiarities of industrial development; second, with technical aspects of development leading to an expansion of the market and the individual firm but leaving the relative size of the firm intact; and third, with those markets in which the growth tendencies are internal to the firm with the resulting increase in concentration of production in the hands of fewer firms. |148|

Marshall was not primarily interested in the analysis of market characteristics simply as an end in itself or as a way of throwing light upon problems of businesses and businessmen as such; he was interested in the effect of particular market structures on social problems—particularly upon the problem of poverty. Or to state the matter somewhat differently, he was concerned with the manner in which the organization of the market might affect the economic condition of society and the moral well-being of the individual. As he said:

> Accordingly the present volume is in the main occupied with the influences which still make for sectional and class selfishness: with the limited tendencies of self-interest to direct each individual's action on those lines, in which it will be most beneficial to others; and with the still surviving tendencies of associated action by capitalists and other business men, as well as by employees, to regulate output, and action generally, by a desire for sectional rather than national advantage.[4]

Here Marshall explicitly furnished the key to the difficulty of post-Marshallian economists in interpreting his analysis of the effects on economic well-being of various kinds of market structures: he did not contrast competitive market organization with non-competitive or monopolistic organization with an implicit equation of competitive with beneficial and non-competitive with |149| non-beneficial. The contrast is between "constructive" competition and combination on the one hand and "destructive" competition and combination on the other.[5]

A clearer perspective on Marshall's analysis of competition can be gained in a comparison with the later development at the hands of the post-Marshallian theorists. The exigencies of a timeless theoretical analysis have as a by-product the extreme

[4] *Industry and Trade*, p. viii.

[5] E.g., *ibid*., pp. 653-4. In this connection we should call attention to the fact that Marshall felt that a necessary corollary to the System of Economic Freedom was the fact that individuals could, if they so desired, give up a degree of that individual freedom of action for whatsoever purpose they might want. It is one of the paradoxes inherent in the notion of freedom that individuals cannot be said to be wholly free if safeguards must be set up to prevent them from moving in a direction away from freedom; for to the extent that such safeguards are imposed, the area of freedom will be restricted. As Marshall says in the *Principles*: "Of course this deliberate and free choice may lead to a certain departure from individual freedom when co-operation or combination seems to offer the best route to the desired end" (p. 10). He then points out that an examination of this issue will be one of the principal tasks of a subsequent volume on *Industry and Trade*. The relationship between freedom of choice for the individual and the possibility of that freedom of choice leading to destructive situations will be considered in some detail in the next Chapter (*idem*).

refinement of the requirements for competition in order that equilibrium results may be unequivocal. In this regard, the distinction drawn by Chamberlin between pure and perfect competition has become economic currency. Professor Chamberlin takes pure competition to be a situation in which there are a large number of buyers and sellers in a given market so that the activity of no one buyer or seller can affect the course of the market; he further presumes a total |150| absence of spatial or product differentiation.[6] There are a number of necessary concomitants to these basic requirements such as freedom of entry and exit, product homogeneity, market homogeneity and other elements, all of which are derived from the requirements of large numbers and a lack of product or spatial differentiation. "Pure" competition Chamberlin distinguishes from "perfect" competition, which has much more rigorous logical requirements:

> . . . for the latter [perfect competition] may be interpreted to involve perfection in many other respects than in the absence of monopoly. It may imply, for instance, an absence, of friction in the sense of an ideal fluidity or mobility of factors such that adjustments to changing conditions which actually involve time are accomplished instantaneously in theory. It may imply perfect knowledge of the future and the consequent absence of uncertainty. It may involve such further "perfection" as the particular theorist finds convenient and useful to his problem.[7]

Joan Robinson, whom Chamberlin has singled out as his academic *bete noire*, prefers to define a competitive market structure as one in which the demand for the output of an individual seller is perfectly elastic.[8] When a competitive market structure is so defined, "purity" in the Chamberlinian sense is implied insofar as no firm can raise its price and still sell its product; nor |151| is there any motivation for lowering its price, for the entire output can be disposed of at the going market price. This definition of competition is made necessary because of the abstracting from considerations involving functional time. Post-Marshallian writers assumed, for example, that a knowledge of future conditions of

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[6] E. H. Chamberlin, *The Theory of Monopolistic Competition*, (6th ed.; Cambridge: Harvard University Press, 1950), pp. 6 ff.

[7] Ibid., p. 6.

[8] Joan Robinson, "What is Perfect Competition," *Quarterly Journal of Economics*, Vol. MX, November 1943, p. 104.

supply or demand (implied by the assumption of foresight) does not require a period of experimentation; or that factors move without delay from one place to another, and so forth.[9] |152|

Marshall's earliest treatment of "free competition" indicated that the definition was given considerable thought; and although variations in statement occur subsequently, there is no change from the spirit of the early definition. In the 1881 preface to the second edition of the *Economics of Industry*, Marshall pointed out that, due to an oversight, no definition of free competition had been included in the text of the first edition—an error which he proceeded to rectify:

> A man competes freely when he is pursuing a course, which without entering into any combination with others he has deliberately selected as that which is likely to be of the greatest material advantage to himself and his family. He is not supposed to be selfish: in fact the normal supply of all grades of industry, except perhaps the lowest, depends on the unselfish sacrifice by parents of their own pleasures for the

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[9] The analysis of the attainment of welfare maxima when the conditions of competition are met—an analysis which has been worked out in painful detail since Pigou's formalization of many of Marshall's *obiter dicta* on the matter—is not directly relevant here; but it might be noted that the positive conclusion most generally drawn in the present context from welfare analysis as now constituted is that the welfare potential of a non-competitive market situation is less than the welfare potential of a competitive one. In addition to the positive conclusion, one important criterion, which has its origins in the difficulties imposed by a rejection of the possibility of interpersonal comparison of utilities, is usually suggested; that is, the principle of compensation. In effect it requires that, before any conclusion can be drawn as to whether the welfare potential of situation B is better than situation A, it must be possible to say that no one in situation A is any worse off than they were before, while someone in situation B is better off. There is some confusion as to whether the individual in B should be potentially or actually better off. The search for real-life issues where the principle of compensation might serve as the basis for some policy decision would seem to be too frustrating and tiresome to undertake in a relatively short lifetime.

On a theoretical level, this lack of significant and unambiguous results might be ascribed in large measure to the prevalent acceptance of the Robinsonian kind of definitions and the admission of the economic and political *status quo* as a necessary corollary to the acceptance of the assumption, in the case of most writers, that an interpersonal comparison of utilities is not possible. The ideological implications of these nugatory results, as contrasted to the theoretical implications, are far-ranging: They indicate a closer connection between the structure of contemporary economic theory and the forms of political and economic control in those countries where the positing of a theoretical structure of welfare economics is responsible to the data, than many economists are willing to accept. A. C. Pigou, *Economics of Welfare*, (1st ed., London: Macmillan and Co., 1920). For an elegant statement of the analysis as of 1950 *vide* I. D. M. Little, *A Critique of Welfare Economics*, (Oxford: Clarendon Press, 1950).

> benefit of their children. But he is supposed to be consulting his own material advantage and that of his family to the comparative neglect of the welfare of others. . . Normal results in economics are therefore those which would be brought about in the long run by this active principle, if it had time to overcome—as it necessarily would in sufficient time—custom, inertness, ignorance, and all the other passive elements which make up economic friction.[10]

The term competition in the general sense of the "competitive system" has been ambiguous in technical as well as in popular usage. The positive and normative connotations are hopelessly mixed. At times it is applied to a system in which the theoretical requirements |153| for competition are thought to be approximated; at times it is used to distinguish one political system of control from another; and it is frequently used as an appellative for a particular stage of historical development. Marshall used the term in the third sense: he had in mind the social and economic developments in Western Europe and the United States. His use of the term is generally to be taken in the same sense as the more formal "System of Economic Freedom," though the latter was most often used to characterize broader social and economic relationships while the former usually referred to the market organization characteristic of the System of Economic Freedom.

The only variation in the earlier definition of economic freedom was an increasing emphasis on the cooperative elements:

> They [the characteristics of economic freedom] are, as we shall presently see, a certain independence and habit of choosing one's own course for oneself, a self-reliance; a deliberation and yet a promptness of choice and judgment, and a habit of forecasting the future and of shaping one's course with reference to distant aims. They may and often do cause people to compete with one another; but on the other hand they may tend, and just now indeed they are tending, in the direction of co-operation and combination of all kinds good and evil. But these tendencies towards collective ownership and collective action are quite different from those of earlier time, because they are the result not of custom, not of any passive drifting into association with one's neighbours, but of free choice by each individual of that line of conduct which after careful deliberation seems to him the best suited for attaining his ends, whether they are selfish or unselfish. |154|

[10] *Economics of Industry*, p. vi. In subsequent discussion, normal is not limited to competitive, even when competitive is used in the narrowest sense. Cf. *supra* pp. 84 ff.

> The term "competition" has gathered about it evil savour, and has come to imply a certain selfishness and indifference to the wellbeing of others. Now it is true that there is less deliberate selfishness in early than in modern forms of industry; but there is also less deliberate unselfishness. It is deliberateness, and not selfishness, that is the characteristic of the modern age.[11]

Marshall, then, felt that the System of Economic Freedom implies that if the individual thinks that his interests or the interests of the community are best served when he acts in cooperation with others, then such cooperation is entirely consistent with the System of Economic Freedom; even more, to the extent that cooperation is eschewed where it is to the best interest of the community, the ends of the System of Economic Freedom will be subverted.

Marshall was not concerned with either monopoly *qua* monopoly or with competition *qua* competition but rather with an analysis of those tendencies which might lead to market results not conducive to economic progress. In an important and striking passage, Marshall described the purpose of his analysis of the various economic institutions and their history:

> Increasingly throughout our coming study we shall be concerned to inquire how far industrial progress is dependent on individual and how far on collective action: how far it depends on ceaseless initiative; and how far on broad ideas and knowledge, which when once acquired pass speedily into common ownership; and become part of the collective wealth, in the first instance of the |155| countries to which the industries specially affected belong, and ultimately of the whole world. We must consider how the embodiment of a new knowledge or a new idea in a new or improved industrial implement or method is likely to require the control of a large capital. We must examine the limitation which this condition imposes on the utilization of the world's stores of creative faculty in the development of the material sources of well-being. We must inquire how far the gains, which accrue to a giant business as the apparent results of its fine initiative and its prudent courage in taking financial risks, are really its own; how far such gains are increasing the dominance of large capitals, and lastly how far the tendencies thus resulting are desirable, and how far they are inevitable.[12]

[11] *Principles*, pp. 5-6.

[12] *Industry and Trade*, pp. 174-5.

Thus, as Marshall emphasized, there is another important issue; viz., how far concentration would be self-perpetuating for no other reason than the fact that the possession of a large capital would give a competitive advantage over other firms which might possess qualities more desirable for the proper operation of the System of Economic Freedom.

As already indicated, the contrast in Marshall's writings as they pertain to the organization of the Market is between beneficial forms of organization, whether competitive or cooperative, and non-beneficial forms of market organization, whether competitive or cooperative. The distinction is not as neatly operational as one which simply sets competitive market structures against noncompetitive market structures in contrasting beneficial with less beneficial. Marshall was quite conscious of the *formal* inadequacy |156| of the distinction which he preferred and by implication held that such inadequacies were a result of the primitiveness of the techniques available for formal manipulation, which had not kept pace with the understanding of the complexity of the data. In the Presidential Address already mentioned, Marshall, with the sanguineness customary in his discussions of the intellectual progress of his profession, pointed out that a significant new awareness was being felt by economists:

> The change may, perhaps, best be regarded as a passing onward from that early stage in the development of a scientific method, in which the operations of Nature are represented as conveniently simplified for the purpose of enabling them to be described in short and easy sentences, to that higher stage in which they are studied more carefully, and represented more nearly as they are, even at the expense of some loss of simplicity and definiteness, and even apparent lucidity.[13]

Marshall was here discussing the distinction between protection and free trade in foreign commerce and the distinction between competition and combination in domestic trade. The reason for his attack on this dichotomy was that he felt in an attempt to arrive at definitions capable of formal manipulation, too much of empirical content is sacrificed, leading to the danger that results will be too far removed from a possible application to the real world. |157|

[13] *Memorials*, p. 257.

The lack of usefulness of the *formal* definition of competition in analyzing observable market results was apparently thought to be unimportant by the post-Marshallian writers. It is only recently that some attention has been given to devising a theoretical structure of somewhat greater usefulness than that implied by the timeless equilibrium models. This attempt has more recently been associated with J. M. Clark’s use of “workable competition.”[14]

Clark argues that, in dealing with market behavior and organization, there are a number of elements which must be present before perfectly competitive results will obtain. These elements, which may be derived from the more general definition of competition by Robinson and Chamberlin, include considerations as to the product homogeneity, number of producers, methods of pricing and selling, state of market knowledge, location, fluctuation of output, cost, and productive capacity.[15] If any of these elements do not meet the requirements of perfect competition, then the market may or may not be competitive depending upon certain imponderable factors. Clark then suggests that some of the factors determining final market decisions may involve the immediate effect of production or marketing policies on net earnings, long run considerations as to the future volume of |158| sales, and other elements having to do with the supposed reactions to firm policies by customers or competitors.[16]

Even more recently the criteria for workable competition have been defined in terms of the best attainable results in the market:

> . . . competition is workable if productive efficiency reasonably approaches the best attainable, if industry output is not much restricted below and does not much exceed a level generally consistent with good allocation of resources, if an excessive proportion of resources is not devoted to sales promotion effort, if the income share going to profit is not substantially higher than required but high enough to reward investment and to induce socially desirable innovation, if opportunities for such innovations are not grossly neglected and if prices respond

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[14] J. M. Clark, “Towards A Concept of Workable Competition,” *American Economic Review*, Vol. XXX, June 1940.

[15] *Ibid*., p. 244.

[16] *Ibid*., pp. 253-4.

> to cyclical changes in a way which does not demonstrably intensify the cyclical problem.[17]

Thus, if the results which are expected from a competitively organized market are more or less achieved, regardless of what the organization of the market may be, then we may treat the market as being workably competitive.

A third alternative approach has been suggested by J. W. Markham. His orientation is towards the policy problem within the framework of existing political mandates: |159|

> . . . an industry may be judged to be workably competitive when after the structural characteristics of its market and the dynamic forces that shaped them have been thoroughly examined, there is no clearly indicated change that can be effected through public policy measures that would result in greater social gains than social losses.[18]

In summary, then, for Clark the emphasis is upon the reaction of the entrepreneur to those factors which are not explicitly included in the analytical structure because of their indefiniteness. The implication is that the entrepreneur, depending upon his various predispositions, will be the decisive factor in the final market solution. In Bain's analysis, the emphasis is upon those elements of structure which determine the degree to which the competitive norms are approximated. And, finally, Markham emphasizes the possibility of affecting the status of the market through public action, with the implication that if nothing can be done to improve the competitive situation in the market then that market is workably competitive. The implications of each of these criteria are different as they affect state policy and as they apply to the presumed role of the entrepreneur.

The modern analysis of this problem has its origins, first, in a dissatisfaction with the definition of competition derived from the timeless theoretical model because of its lack of usefulness in empirical work; and second, in a desire to avoid implying in the |160|

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[17] Joe S. Bain, "Workable Competition in Oligopoly: Theoretical Considerations and Some Empirical Evidence," *American Economic Review: Papers and Proceedings*, Vol. XL, June 1950, p. 361.

[18] Jessie W. Markham, "An Alternative Approach to the Concept of Workable Competition," *American Economic Review*, Vol. XL, June 1950, p. 361.

context of modern welfare economics that most of the market structures characteristic of the contemporary economy do not meet the optimum welfare requirements. However, for Marshall, the treatment of the problem was related to his analysis of the evolution of the System of Economic Freedom, and he emphasized the cooperative elements of the System as being of greater importance in explaining productive activities than the competitive elements.[19] Competition of the kind involving the "racing of one person against another"[20] was necessary, he thought, only because men have not attained a level of moral development which would permit everyone to act with complete faith towards his fellow man.[21] But man, Marshall felt, had made progress towards the realization of his higher moral potentialities; and the measure of this progress was to be found in the increasing dominance of those cooperative elements in the System of Economic Freedom.

For Marshall, the principle of substitution was the mechanism by which both cooperation and competition were brought about. In dealing with the preliminary particular equilibrium analysis, he utilized the now familiar marginal approach; but when dealing with the system as a whole, Marshall's argument was cast in terms of substitution. In the summary of the *Principles*, Marshall restated |161| the idea in a fashion which has important implications for our purposes:

> We may call to mind the double relation in which the various agents of production stand to one another. On the one hand they are often rivals for employment; any one that is more efficient than another in proportion to its cost tending to be substituted for it, and thus limiting the demand price for the other. And on the other hand they all constitute the field of employment for each other: there is no field of employment for any one, except insofar as it is provided by the others: the national dividend which is the joint product of all, and which increases with the supply of each of them is also the sole source of demand for each of them.[22]

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[19] E.g., *Principles*, p. 5.

[20] *Idem*.

[21] *Ibid*., pp. 8-9.

[22] *Ibid*., p. 665.

Thus, the underlying requirement for the proper operation of the System of Economic Freedom is to be found in the unrestricted operation of the principle of substitution in a manner consistent with the long run requirements of progress. Any form of market organization, whether it be predominately monopolistic or predominately competitive, as long as it is possible for free substitution of resources consistent with the long run requirements of progress to occur, is workably competitive, or, in Marshallian terminology, is constructive or beneficial. The principal use Marshall made of the beneficial competition category was in his empirical analysis of progress; the data relating to the competitive process always fit into the "boxes" of destructive or beneficial competition. |162|

It will be recalled that the more general conditions for progress are found in the relationship between the nature of man, his command over resources, and custom. Progress accordingly will not occur unless a balance is maintained among these three elements (cf. *supra* pp. 42 ff.). And it is the principle of substitution which provides the mechanism by which change occurs in these three aspects of culture. It is in the application of the principle of substitution that Marshall's essentially organic approach became most evident, for he stated explicitly that ". . . the law of substitution . . . is nothing more than a special and limited application of the law of the survival of the fittest. . . ."[23]

Marshall, however, did not concur with the excesses of the Social Darwinists who felt that survival alone was proof of fitness and that fitness was the highest quality to be achieved at any one time:

> Darwin's "law of the survival of the fittest" is often misunderstood; Nature being supposed to secure, through competition, that those shall survive who are fittest to benefit the world. But the law really is that those races are most likely to survive who are best fitted to thrive in their environment: that is, to turn to their own account those opportunities which the world offers to them. A race of wolves that has well organized plans for hunting in packs is likely to survive and spread;

[23] *Ibid*., p. 597.

> because those plans enable it to catch its prey, not because they confer a benefit on the world.[24] |163|

Thus, the simple ability to reckon fully with one's environment does not necessarily result in progress without a strengthening of the moral qualities of the individual, permitting closer cooperation among all elements of society.

As for the third element in determining the degree of progress, custom, Marshall felt that the substitution of customs more conducive to both moral and industrial or commercial development must be continuing or else custom would impede the development of techniques and the achievement of higher standards of moral conduct. But at the same time, moral and technical progress cannot be expected without a body of tradition amenable to change. Marshall's treatment of custom at this point is another example of his rule, *natura non facit saltum*:

> Had each [individual attempting a change] put his individual fancies into practice without restraint, few would have followed his erratic movements: there would have been no *corpus* or body of general thought, in which they could have been merged; and, in the absence of written record, they might probably have perished without leaving direct successors. But custom supplied a permanent body of general design, on which each fresh mind might try to make some variation for the sake of economy of effort, of increased utility, or more pleasing effect. And custom under favourable conditions was able to make utility, economy and artistic delicacy work harmoniously together in improving the *standard* commodity of common life.[25]

Marshall further felt that, especially in the Western World, it was unlikely that custom would be unduly rigid or that it would |164| militate strongly for a static economy except over rather short periods. Thus the effects of custom upon improvements in techniques and morality would generally be beneficial, or at least neutral; and in those cases in which custom tended to be too rigid to permit improvements in technique, the spirit of the custom would be controverted though the form might remain unchanged.

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[24] E.g., *Industry and Trade,* p. 200.

[25] *Principles,* pp. 197-8. Also *supra* pp. 44 f.

Under only the most rigid conditions of social and economic control would customs which were not conducive to improvements in techniques endure in the long ran.[26]

It is impossible to deal with industrial progress as separate from the other elements involved in Marshall's treatment of the notion, though in a limited sense he at times referred to progress as involving the production of commodities and services at a lower real cost.[27] But the lowering of the real costs of production is only a part of a simultaneous process involving changes in the basic characteristics of individuals and in custom. In opening his discussion of the characteristics of the labor market, Marshall said:

> We have next to consider the conditions on which depend health and strength, physical, mental and moral. They are the basis of industrial efficiency, on which the production of material wealth lies in the fact that, |165| when wisely used, it increases the health and strength, physical, mental and moral of the human race.[28]

It is precisely at this point that the analysis approaches its most general form: That is, where cost changes are dealt with *vis-a-vis* the more general patterns of social behavior. It is not the purpose of this analysis to deal with Marshall as a sociologist except insofar as we must for the sake of clarity in exposition; for neither Marshall nor nature has drawn any distinct lines between sociology and economics. Marshall usually left his discussion of primarily sociological matters on the level of high abstraction, although he explored the *formal* relationship between economic and sociological categories. It cannot be said that his structure in its most general form is complete in the same sense as his economic analysis is complete. Nor was Marshall ever satisfied with the fact that he had impounded so much of the sociological data in *ceteris paribus*. He continued to insist that, because the shape of the relationships could not be defined with any degree of exactness without an historical and institutional analysis of the data, the strictly economic

[26] *Ibid*., pp. 726-8.

[27] *Ibid*., p. 597.

[28] *Ibid*., p. 193.

conclusions must always be taken as tentative; and final judgments must await more complete findings as to the sociological elements.

But to return to the main line of the argument—when dealing with technical progress which, especially in modern Western history, |166| Marshall felt, constituted the *dynamic* element in progress, there are three determinants:

> The field of employment which any place offers for labour and capital depend, firstly, on its natural resources, secondly, on the power of turning them to good account, derived from its progress of knowledge and of social and industrial organization; and thirdly, on the access that it has to markets in which it can sell those things of which it has a superfluity.[29]

We should, of course, take "the power of turning them to good account" to refer to the state of the arts or the command over nature at any given time.

Now it is clear that industrial progress, in the strictest sense, can be measured for the individual firm by the amount by which real cost of production can be lowered. But Marshall was interested in particular equilibrium analysis only as a stepping stone towards the analysis of the economy as a whole; and a concern with the impact of a given production policy for the economy as a whole underlies his development of the national dividend concept. Pigou in a review of the fifth edition of the *Principles* pointed out the importance of the new emphasis in Marshall's treatment:

> The conception of the National Dividend is not an academic toy, but a practical instrument of great power designed for service in the concrete solution of social problems.[30] |167|

and furthers:

> The dividend constitutes the kernel of economic theory because—along with those moral and other aspects of practical problems which Prof. Marshall would be the last to neglect—it is the centre of sound philanthropic endeavour.[31]

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[29] *Ibid*., p. 668.

[30] A. C. Pigou, "Marshall's Principles of Economics," *Economic Journal*, Vol. XVII, December 1907, p. 534.

[31] *Ibid* p. 535.

Marshall was, it goes almost without saying, fully cognizant of the weakness and untrustworthiness of the national dividend concept for exact measurement of industrial progress.[32] But then, as has been pointed out a number of times, Marshall was never unduly concerned with exactness for the sake of exactness; rather his concern was always with establishing broad, general tendencies. For this purpose, he felt that the national dividend was a useful concept in dealing with technological advance in the long run.[33]

The principal qualification[34] Marshall made of the national dividend as a measure of economic progress or industrial efficiency was based on his dictum that ". . . a pounds worth of satisfaction to an ordinary poor man is a much greater thing than a pounds worth of satisfaction to an ordinary rich man. . ."[35] |168| In the earlier stages of theoretical analysis, for example in the treatment of the consumer's surplus, Marshall impounded individual differences of utilities in *ceteris paribus*; but in the general statement of the problem of progress he insisted that the pound be emptied come what may, and the problems involved in differences in incomes constituted his central concern. In one of those revealing fragments of Marshall's writings collected by Pigou for inclusion in the *Memorials* the issue is strongly expressed:

> . . . when wealth is very unevenly distributed, some have more of it than they can turn to any very great account in promoting their own well-being. . . . That is to say the wealth is distributed in a manner less conducive to the well-being of mankind than it would be if the rich were somewhat less rich, and the poor were somewhat less poor: and real wealth would be greatly increased, even though there were not change in the aggregate of bricks and houses and clothes and other material things,

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[32] *Principles,* p. 80.

[33] *Ibid*., pp. 671 ff.; Marshall here traces economic progress in England in terms of its effects on the national dividend.

[34] There are a number of other qualifications which will be of more or less importance depending upon the time period involved having to do especially with changes in tastes and prices. On a more technical level the construction of the index and the ambiguity inherent in index numbers should be considered. But then, Marshall was only concerned with broad tendencies.

[35] *Principles,* p. 130.

> if only it were possible to effect that change without danger to freedom and to social order. . .[36]

Thus the national dividend is only a partial measure of progress. With any given national dividend, welfare can be increased and *a fortiori* progress would occur with a redistribution of income favoring those with smaller incomes.

Therefore, as a result of Marshall's lack of interest in schemes for the redistribution of wealth, progress was looked upon as the improving of industrial organization or, and the |169| result would be the same, *increasing the prevalence of beneficial competition*. In this connection it must not be forgotten that Marshall insisted that any contribution to progress must be judged by the effect upon individuals and their customs and habits or dangerous public policy proposals might well result. Marshall believed that economists could not speak with *final judgment* on the effects of purely economic elements upon the nature and customs of mankind, but they should at least know what those effects are most likely to be.

The social and economic desirability of a given market structure, then, is determined by its contribution to progress. But the laws of production as they refer to the nature of returns, whether increasing or decreasing, are determined by the technological, historical and locational factors governing cost and physical productivity (cf. quotation from *Principles*, *supra* p. 167). The general conclusion as to returns, it will be recalled, was that in markets where increased output results in decreased cost because of action taken by the individual firm, there will be a tendency for the ratio of output to the number of firms to increase. But where output can only be increased at an increasing cost, or at a decreasing cost for reasons *not* due to the independent decisions of firms, there will be a tendency for the ratio of the number of firms to output to decrease. However, he expected increasing returns to predominate in commercial and manufacturing industries where fixed factors did |170| not play an important part, thus leading to increased concentration in the hands of fewer firms in those areas of the economy.

[36] *Memorials*, p. 366

The clearest and most unequivocal statement of the thesis of increasing concentration occurs in the *Economics of Industry* where Marshall makes it clear that the major concern is with the moral problem, i.e., the effects of concentration upon the social structure, for Marshall, consistent with his Evangelical preconceptions, treated class relations as a moral rather than as an economic problem. Speaking specifically of British experience, he said:

> Her land laws, her poor laws, and her political and social arrangements generally have tended to draw a sharp line between the rich and the poor; so that nearly her whole capital has been accumulated in comparatively few hands; and her rich mines of coal and iron have given prominence to those industries in which, as we shall see, production on a large scale is at the greatest advantage, in which large capitals have the best chance of becoming larger, while small capitals are in great risk of becoming smaller.[37]

But even where factor scarcity was not a significant consideration and increasing returns could therefore be expected to prevail, Marshall felt that smaller firms were at a disadvantage even in the absence of tendencies towards combination. The analysis in the Principles of the disadvantage of smaller firms follows the classical model.[38] In brief, the small firm will likely lose out |171| because of the higher cost of the more efficient units of capital, an inability to bear the risk of experimentation, a lack of funds to make innovations, the tendency to be excluded from patented devices because of inability to exchange patent holdings, an inability to take advantage of the economies of large scale purchasing and selling and advertising, and finally, the inability to properly use managerial potentialities to their fullest extent.[39]

Looking at the matter from the opposite point of view, it is possible to distinguish five different types of economies which contribute to increasing the size of firms.[40] First, economies arising out of the most efficient utilization of machinery, which Marshall

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[37] *Economics of Industry*, p. 48.

[38] There is no clear distinction in the *Principles* as between plant and firm. However, some recognition of the distinction occurs in the later *Industry and Trade*; e.g., pp. 173-4.

[39] *Principles,* pp. 278-290, *passim*.

[40] *Idem*.

found to be the most important cause of the expansion of firms; second, economies of purchasing and selling, which Marshall thought were largely responsible for the new trend of increased size in the distributive trades although, up to the turn of the Century, they had resisted the tendency towards increased size and concentration; third, economies arising from a more efficient utilization of labor, particularly those aspects of increased labor efficiency associated with so-called scientific management; fourth, those economies resulting from a more efficient utilization of by-products; these last economies, though of decreasing importance, were not usually available to smaller firms with less extensive |172| and adaptable facilities; and fifth, economies accruing to the larger firms because of their easier access to credit for purposes of expansion.[41]

Marshall also emphasized the financial advantages which large firms had over the smaller ones. This advantage is of especial importance when great financial power has been accumulated in the hands of individuals. In reference to the American experience during the "Robber Baron" period, Marshall, in words which would sound familiar in a different political context, remarked;

> But no banking reform can remove some of the dangers which are inherent in the power of very rich men, who have not retired into the quietude which is preferred by most of the wealthy families of old countries, but are still eager for the excitements of the chase in the hunting ground of Wall Street.[42]

As has been mentioned, Marshall felt that the growth of the machine manufacturing process with its potential for taking advantage of the economies of large scale production was unique to the System of Economic Freedom. But as the increasing utilization of the economies arising from these factors continues, and as businesses continue to grow larger, and as the competition among these larger units becomes more intense and more deadly with greater sums at stake, businesses may find it to their best interest to hasten the combination process: |173|

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[41] E.g., *Industry and Trade*, pp. 337 ff.

[42] *Ibid*., p. 345.

> In the modern age human nature remains very much as it was in former times: but intellectual habits and methods have changed fast and progressively. The old associations of neighbourhood and a common occupation have still considerable force: but now developments of critical and analytical faculties have caused men increasingly to submit their instinctive tendencies to the cold arbitrament of numerical estimates. The gains and the losses, in money and in ease, which are likely to result from any plan of combined action, with its attendant discipline and curtailments of individual freedom are weighed against one another; and, if the balance of advantage seems to lie with organized regulation of marketing, a cartel or other association is set up for the purpose. Its immediate and overt aim is to maintain prices in particular markets against inconvenient competition. . . .[43]

Marshall generally emphasized the personal element at work in situations where the tendency towards combination predominates. It is always the individual business man who weighs the possibilities and comes to decisions in terms of his own value judgments, which may or may not conform with those of society. These value judgments are total ones relating both to economic decisions and to beliefs as to the "better life." For example, in again speaking of the American experience, Marshall said:

> This predominance in American business of a few scores of wealthy men, themselves largely under the influence of a small number of powerful individuals or groups, has modified the attitude of trusts and other great businesses to one another; and has tended on the whole towards increased quiescence and serenity in the broad course of industry and trade. For a disturbance in any part of the whole field is likely to injure |174| interests in which some of the chief leaders are concerned; and such men are often disciplined by age and the multitude of their large concerns for entering on arduous campaigns.[44]

But the net effect of these gains in stability and industrial serenity is in doubt; for, Marshall thought, they may be purchased at the cost of a grave weakening of the sources of industrial progress.[45]

If it were only from technological causes that the trend towards increased size resulted, there might be a potential limit to the growth of large scale enterprise; but the marketing of a product, especially as production tends to become more specialized,

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[43] *Ibid*., p. 400.

[44] *Ibid*., p. 541.

[45] E.g., *Ibid*., p. 542.

becomes of greater importance when measured by value added. It is here, Marshall felt, that ". . . the advantages of larger capitals in competition with capitals of smaller size are constantly increasing. . ."[46]

Though the industry may be dominated by large-sized firms, there is no reason to expect that they will always act to maximize their potential monopoly profit even if the monopolists are not influenced by their belief in a higher social duty. Marshall's analysis was characteristic at this point; for he feels that in any given market it is impossible except in the most extreme cases to separate the competitive from the monopolistic elements: |175|

> . . . though monopoly and free competition are ideally wide apart, yet in practice they shade into one another by imperceptible degrees: that there is an element of monopoly in nearly all competitive business: and that nearly all the monopolies, that are of any practical importance in the present age, hold much of their power by uncertain tenure; so that they would lose it ere long, if they ignored the possibilities of competition, direct and indirect.[47]

Thus firms which are in a position to exercise a degree of monopoly power are forced to lower prices and increase output, and *a fortiori* to increase the social gains accruing in any market, because of the threat of potential competition and because of considerations affecting the future course of demand for the product. But if the long run tendency is towards increased concentration, these elements will have only a meliorative effect.

There are a number of additional factors which may temporarily offset the tendency towards increased concentration. These factors, which enable the smaller firm to compete as efficiently as the larger firm, can be lumped together as external economies. That is, the growth of the industry itself will give the smaller firms some of the advantages, such as credit facilities, trade information, transportation and marketing facilities, and so on. They arise out of the general condition of the market rather than from the action of any of the individual firms seeking to maximize their profit.[48] |176|

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[46] *Ibid*., p. 249.

[47] Ibid., p 397.

[48] E.g., *ibid*., p. 284.

Marshall, however, tended to minimize the importance of external economies in the long run, although they may, he believed, give some degree of stability to the relative size of firms during shorter periods. In a discussion which again reflected the underlying historical orientation of his treatment of the temporal process, Marshall suggested that the rise of large scale industry could be described as the transition in importance from external economies to internal economies:

> For long ages industrial leadership depended mainly on the number and extent of centres of specialized skill in which these external economies abounded: a relatively small importance attached to those *internal* economies which any single business could attain by the elaboration of its own plant, and to the subtle division of labour between its own employees. But with the growth of capital, the development of machinery, and the improvement of the means of communication, the importance of internal economies has increased steadily and fast. . . .[49]

There is another factor which may be important enough in some instances to reverse the trend towards increasing concentration; that is, if the entrepreneur upon whom the business depends for the necessary decisions and judgments, fails in his task, the process of concentration might be stayed; and if he fails greatly, the firm might be destroyed. In perhaps the most famous passage in all of Marshall's writings, he compared the rise and fall of firms within an industry to the growth and decline of trees within a forest: |177|

> But here we may read a lesson from the young trees of the forest as they struggle upwards through the benumbing shade of their older rivals. Many succumb on the way, and a few only survive; those few become stronger with every year, they get a larger share of light and air with every increase of their height, and at last in their turn they tower above their neighbours, and seem as though they would grow on forever, and forever become stronger as they grow. But they do not. One tree will last longer in full vigour and attain a greater size than another; but sooner or later age tells on them all. Though the taller ones have a better access to light and air than their rivals, they gradually lose vitality; and one after another they give place to others, which, though of less material strength, have on their side the vigour of youth.

[49] *Ibid*., p. 167.

> And as with the growth of trees, so was it with the growth of businesses as a general rule before the great recent development of vast joint-stock companies, which often stagnate, but do not readily die.[50]

The analogy is a captivating one, and it may have been its literary quality that misled Dennis Robertson into believing that it was possible for individual firms, the trees, to grow in size and importance without affecting the structure of the industry, the forest.[51] But he overlooked the important qualification upon which Marshall placed increasing emphasis throughout the course of his lifetime, that is, the joint stock company. For, Marshall would have held, the joint stock company is unlike the other trees of the forest: There is no potential limitation to its size; its roots and branches may grow and spread until the forest is but the one tree. |178|

Marshall probably would have insisted upon the validity of the analogy only insofar as the life of the firm was parallel with the life of the entrepreneur, so that the history of the firm would reflect the moral development of the entrepreneur. Nor did Marshall separate the problem of business morality from economics proper; not only did considerations having to do with economic relationships such as production profoundly influence the character of individuals, but also the individuals themselves were responsible for determining the rate of progress and thus the organization of industry and commerce.

The character of the individual was not, of course, economically determined, for the concept of economic determination implies a dangerous naivete in dealing with causality, particularly in the social context. The Evangelical beliefs as to the nature of the individual and his inherent responsibilities were the cornerstone of Marshall's world-outlook. It is impossible to treat the individual as other than an independent element in the economic milieu, even though he may have been in large measure shaped by his environment. Or, to put the matter somewhat differently, the range of decision making was established by the environment whereas the choice within that range depended upon

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[50] Principles, pp. 315-6.

[51] "Increasing Return and the Representative Firm: A Symposium," *op. cit.*, p. 88 f.

the nature of the individual. But these considerations form an important part of the subject matter of the next chapter and are introduced at this point only as a preliminary explanation of the strategic role of the entrepreneur. |179|

If the individual had the necessary qualities of a successful entrepreneur, he might be able to enjoy a considerable success in competing with an economically better endowed firm. Marshall's description of the hypothetical history of an increasing return enterprise reflected his faith in continually improving opportunities for the individual as well as concern with the danger inherent in a situation where so many are dependent upon the decisions made by one strategically placed individual:

> A new man, working his way up in such a trade [one enjoying internal economies] has to set his energy and flexibility, his industry and care for small details, against the broader economies of his rivals with their larger capital, their higher specialization of machinery and labour, and their larger trade connection. If then he can double his production, and sell at anything like his old rate, he will have more than doubled his profits. This will raise his credit with bankers and other shrewd lenders; and will enable him to increase his business further, and to attain yet further economies, and yet higher profits: and this again will increase his business and so on. It seems at first that no point is marked out at which he need stop. And it is true that, if, as his business increased, his faculties adapted themselves to his larger sphere, as they had done to his smaller; if he retained his originality, and versatility and power of initiation, has perseverance, his tact and his good luck for very many years together; he might then gather into his hands the whole volume of production in his branch of trade for his district. And if his goods were not very difficult of transport, nor of marketing, he might extend this district very wide, and attain something like a limited monopoly; that is, of a monopoly limited by the consideration that a very high price would bring rival producers into the field.
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> *But long before this end is reached his progress is likely to be arrested by the decay, if not of his faculties, yet, of his liking for energetic work* [italics mine].[52] |180|

The last point is an important one, for it explains why Marshall was more sanguine about the possibility of avoiding a monopolization of increasing return industries than might have been otherwise expected. That is, after the entrepreneur has attained a fair degree of success, he would typically become less interested in ventures involving any

[52] *Principles,* pp. 285-6.

great degree of risk and his very caution would cause his business to begin its relative decline. Even when one individual is able to maintain his business in a thriving condition during his lifetime, it is unlikely that this ability will be passed on to the next generation which inherits the management of the affairs of the business.[53]

However, to the extent that the joint stock company predominated, the effect of changes in the moral character of individuals upon the development of the firm would be more indirect. The life of the joint stock company will differ from the life of a firm depending for its existence upon a single entrepreneur in two significant ways: First, it is difficult, Marshall argued, to persuade the large corporation to undertake measures to increase the efficiency of management or to adopt bold new programs;[54] and second, there is a tendency for the large corporation to undertake expansions because of the ease with which it finds funds available for investment, even in areas where it cannot operate as efficiently as smaller firms.[55] |181|

It is at this point that Marshall develops an interesting thesis concerning the rise of the professional manager class. The increasing importance of professional managers has been made possible only by the growth of individual morality, so that the owner of a business feels secure in trusting his property in the hands of some one else. But the interests of the manager are different from those of the entrepreneur. Hence, the result will be to lessen the effectiveness of many of those qualities of enterprise and initiative which Marshall felt to be among the most socially desirable concomitants of the System of Economic Freedom:

> And indeed this tendency to an increase in the size of businesses introduces an ever-growing discord into industry. The owner of a business, when contemplating any change, is led by his own interest to weigh the whole gain that it would probably bring to the business against the whole loss; but the private interest of the salaried manager or official draws him in quite another direction. For the trouble of a new experiment will come largely on him. If it fails, he will have to bear much of the blame; and, if it succeeds, only a very small part of the consequent gain will

[53] *Ibid*., pp. 299-300.

[54] *Industry and Trade,* p. 318.

[55] *Ibid*., p. 322.

> accrue to him. So the path of least resistance, of greatest comfort and least risk to himself is generally that of not striving for improvement suggested by others, until its success is established beyond question.[56]

Paradoxically, it was the growth of a business bureaucracy which led to the result of continuing the expansion of the corporation into more and more fields of endeavor where it could operate with relatively less efficiency: |182|

> If the officials can get a free hand in the matter, they enter into the new branch of production with a large capital at their backs. They have no difficulty in absorbing most of the best knowledge that is floating about on the subject. The new department is equipped with the most recent appliances; with the most effective, economical, and labour saving machines. It goes along bravely, wind and stream being with it. It can show a saving on the prices at which the company used to buy the goods now made by it, even after allowing good salaries for those concerned in it. Perhaps some managers with special knowledge of its work will be imported: but many of those engaged in it will be drafted in from other departments, at somewhat increased salaries for themselves; and at the same time making vacancies in their awn departments which are filled by juniors. There is a move upwards, and an increase of salaries all along the line, and everyone is pleased. So the movement grows; while a true balance of its advantages and disadvantages is perhaps never made out.[57]

Even here Marshall found reason to be sanguine about the possibilities of the future: To some extent, the continued rapid growth of communication and knowledge would make economically unsound business arrangements a little less likely to survive, though defended by an entrenched business bureaucracy.

Marshall's conviction became stronger (after the beginning of the Twentieth Century) that there was a general tendency toward increased size and increased concentration in industry. But this was a question as to the proper evaluation of the data. The more important question was whether existence of associations or combinations would make possible a more rapid rate of increased production than in a strictly competitive society without adversely affecting |183| the moral qualities of the individual. Marshall, as we have seen, felt that very little could be said on an *a priori* basis as to the

[56] *Memorials*, p. 307.

[57] *Industry and Trade*, p. 322.

social desirability of any given market structure.[58] He regarded a market structure as beneficial when it did not impede the unrestricted operation of the principle of substitution. But the operation of the principle of substitution must always be effectuated by the decisions of individuals, and in the market place this means the entrepreneur, or the manager:

Nevertheless business undertakers are to a certain extent a class apart.

> For while it is through their conscious agency that the principle of substitution chiefly works in balancing one factor of production against another; with regard to them it has no other agency than the indirect influence of their awn competition. So it works blindly, or rather wastefully; it forces many to succumb who might have done excellent, work if they had been favoured at first; and, in conjunction with the tendency to increasing return, it strengthens those who are strong, and hands over the businesses of the weak to those who have already obtained a partial monopoly.[59]

Thus it is the manner in which the entrepreneur competes which will, in the last analysis, determine the social desirability of any given |184| market structure. And it is the character of the entrepreneur which determines the entire course of industrial and mercantile development in the evolution of Marshall's System of Economic Freedom. Although there are many reasons why the entrepreneur should make decisions in conformity with the requirements of progress, there is no mechanism in the organization of the market which will compel him to do so:

> Thus there are many reasons why a trust should not make use of its semi-monopolistic power to put its price much above the level at which an independent business could produce if not hampered by the pressure of a great giant . . . .

[58] There is an important exception to this general statement; consistent with his concern for the possible effect of various kinds of economic activity on the moral character of individuals, Marshall felt that in the smaller businesses there is a greater range for the development of the individual: ". . . for small businesses are on the whole the best educators of the initiative and versatility, which are the chief sources of industrial progress." (*Industry and Trade*, p. 249). Marshall never tires of contrasting the enterprise of the small corporation which is rising to the top of the industry with the "*vis inertia*" or the large corporation. E.g., *ibid*., p. 325.

[59] *Principles,* p. 663.

> *But this consideration may have little weight with bold enterprising men who value success for the proof of power which it gives almost as much as for the wealth it brings* [italics min].[60]

And even more strongly:

> No doubt it is as true, now as ever, that the chief work of progress is done by a relatively small number of men, whose faculty for the work can be tested only by their work. . . .[61]

Marshall was profoundly impressed with the great American capitalists of the post-Civil War period—impressed by their daring and boldness and ability in "massive undertakings;" and he was struck with the phenomenon of their sudden concern with building |185| libraries and with the attempts to conduct their businesses in a somewhat less piratical and flamboyant fashion, which began to be apparent after the turn of the Century. Marshall never thought that this change in behavior was caused by the exigencies of the market. Rather it was caused, he believed, by a growing awareness of their social and historical stature. However, the results of this growing social awareness could be reversed by any of the great capitalists involved:

> A man may have used fierce, and possibly even somewhat unscrupulous, methods of combat, while still uncertain of success; and yet, when he has fully attained great wealth and power may perhaps use these chiefly as a means by which he can earn the respect of others and of himself. Instances of this, while not rare in old countries, are specially conspicuous in America: and they appear to be contributory causes of the tendency of some trusts, which have had troubled courses in early days, to take on a milder character, and to act with more careful regard to the interest of the public, when they have once attained almost irresistible power. *But unfortunately the peaceful position thus attained depends in great measure on the personal and other conditions, which are liable to change* [italics mine].[62]

Thus, Marshall thought that the problem of business morality was inseparable from economics proper; for not only did considerations having to do with primarily economic relationships profoundly influence the character of individuals but the individuals them-

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[60] *Industry and Trade*, p. 526.

[61] *Ibid*., p. 5.

[62] *Ibid*., p. 527.

selves were, in the final analysis, responsible for determining the organization of industry and hence the rate of progress. |186|

The task of determining Marshall's conclusions as to the desirability of the market structures which are likely to predominate in the course of the evolution of the System of Economic Freedom is one of extraordinary difficulty. In no case was there only one causal element at work, nor was the tendency ever entirely in one direction. Thus, in the instance of the principal problem we have been dealing with in this chapter, whether, given the tendency towards a relative increase in firm size (and about this Marshall seemed to have less reservations than about most matters) the more desirable market structures will predominate over the less desirable ones, no straightforward answer can be given. For Marshall believed that there were many elements making for those forms of industrial organization consistent with the criteria of progress; on the other hand, there were important elements tending in the opposite direction. The final determination of the direction of the System of Economic Freedom rests with the entrepreneur and the degree to which he may come to realize the implications of his actions for the society, and the amount of moral restraint which he may be brought to exercise.

At this point, it might aid in the clarity of exposition to summarize the various relationships which have been developed in this chapter. These relationships define Marshall's systematic analysis of the rate of progress and constitute the most general statement of the operation of the System of Economic Freedom. |187|

(1) The key to Marshall's general analysis we might call the sociological equation: That is, *the moral character of the individual is functionally related to his income.* As mentioned above (*supra* p. 179), this does not imply any degree of "economic determinism" in the strict sense. It simply implies that without a certain level of income it will be impossible to develop the moral qualities essential for the proper operation of the System of Economic Freedom. There are other factors shaping men's character, but the income factor is the one most able to effect changes and, therefore, from the point of view of economic progress, must be taken as the strategic one for analysis. On the

opening page of the later editions of the *Principles*, Marshall states the relationship explicitly:

> For man's character has been moulded by his every-day work, and the material resources which he thereby procures, more than by any other influence unless it be that of his religious ideal; and the two great forming agencies of world's history have been the religious and the economic.[63]

The relationship is a cumulative one, for the proper uses of wealth result in an improvement in the moral character of the individual so that the likelihood of further proper use of wealth will be increased: |188|

> We have next to consider the conditions on which depend health and strength, physical, mental and moral. They are the basis of industrial efficiency, on which the production of material wealth depends; while conversely the chief importance of material wealth lies in the fact that, when wisely used, it increases the health and strength, physical, mental and moral of the human race.[64]

One of the greatest faults of the Classical Economists, Marshall felt, was that they failed to take into account the sociological equation in their speculations and thus were led into important errors particularly when dealing with relations among the industrial classes:

> The chief fault, then, in the English economists at the beginning of the century was not that they ignored history and statistics; but that Ricardo and his followers neglected a large group of facts, and a method of studying facts which we now see to be of primary importance.
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> *They regarded man as, so to speak, a constant quantity, and gave themselves little trouble to study his variations* [italics mine].[65]

(2) The sociological equation implies that there is an optimum distribution of wealth. That optimum is one which will permit the attainment by the greatest number of people of characteristics conducive to progress without at the same time destroying other important qualities: |189|

> The drift of economic science during many generations has been with increasing force towards the belief that there is no real necessity, and therefore no moral

[63] *Principles*, p. 1.

[64] Ibid., p. 193; also p. 689.

[65] Memorials, pp. 154-5.

> justification for extreme poverty side by side with great wealth. The inequalities of wealth though less than they are often represented to be, are a serious flaw in our economic organization. Any diminution of them which can be attained by means that would not sap the springs of free initiative and strength of character, and would not therefore materially check the growth of the national dividend, would seem to be a clear social gain.[66]

Hence, in Marshall's treatment of income distribution, a balance must be struck between the requirement that income be sufficient to provide for the leisure necessary for the attainment of the higher objectives of moral character[67] and the requirement that the qualities of frugality and initiative, which Marshall felt to be the *sine qua non* of economic freedom, should not be endangered. For if wealth were distributed with too great an equality, and if this equality were enforced by the mandates of the State, then there would be no incentives for saving and accumulation and diligent hard work as the individual would not receive a reward constituting sufficient motivation for such behavior. But if wealth were distributed so that large numbers of individuals need devote all their time to the task of keeping alive the spark of life, the result would be even more to be feared. The Evangelical moralist in Marshall seldom spoke as clearly: |190|

> Man ought to work in order to live: his life, physical, moral, and mental, should be strengthened and made full by his work. But what if his inner life be almost crushed by his work? Is there not then suggested a terrible truth by the term working man, when applied to the unskilled labourer—a man whose occupation tends in greater or less degree to make him live for little save for that work that is a burden to bear?[68]

(3) The rate of increase of wealth is determined by the rate of saving. But the amount that will be saved is in turn determined by the motives for saving which are themselves derivative of the attitudes of individuals towards the future—attitudes which are shaped by such moral characteristics as family affection, a desire to avoid ostentatious

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[66] *Principles*, pp. 713-4.

[67] *Ibid*., p. 694; and *Memorials*, p. 172.

[68] *Memorials*, p. 108.

consumption, high esteem of frugality, and so on.[69] These moral characteristics are themselves largely dependent upon the quantity of wealth and its distribution. Thus, the distribution of income which determines the amount of savings is in turn related to the increased rate of income creation.[70] |191|

(4) From (3) and the sociological equation, the more specific conditions for optimum distribution of wealth may be derived: Wealth, according to Marshall, should be distributed in a fashion consistent with the maximization of the rate of progress so as to

[69] *Principles*, pp. 227 ff.

[70] A detailed examination of Marshall's treatment of the relationship between savings and investment is not germain to the present study. However, for purposes of clarifying the statement above it might be pointed out that Marshall took as only one of the incentives for savings the rate of interest. Now even if the rate of interest were zero, there would still be a volume of savings, the amount of which would depend upon motives not connected with the possibility of future gain. As Marshall pointed out:

"We have seen that the accumulation of wealth is governed by a great variety of causes: by custom, by habits of self control and of realizing the future, and above all by the power of family affection: security is a necessary condition for it, and the progress of knowledge and intelligence furthers it in many ways. But though saving in general is affected by many causes other than the rate of interest: and though the saving of many people is but little affected by the rate of interest; while a few, who have determined to secure an income of a certain fixed amount for themselves or their family will save less with a high rate than with a low rate of interest; yet a strong balance of evidence seems to rest with the opinion that a rise in the rate of interest, or demand-price of saving, tends to increase the volume of saving.

"*Thus then interest, being the price paid for the use of capital in any market, tends towards an equilibrium level such that the aggregate demand for capital in that market, at that rate of interest, is equal to the aggregate stock forthcoming there at that rate* [italics mine]." *Principles*, pp. 533-4. Thus the rate of interest is equal to the price sufficient to bring forth a supply of capital into the market; and the rate of interest is also equal to that price at which the amount supplied will exactly be taken off the market. The explanation clearly satisfies the strictly logical requirements. Marshall in this explanation abstracts from the problem of the trade cycle. (For his celebrated statement of the trade cycle in terms of a collapse of confidence or a failure of anticipations *vide Principles*, pp. 710 ff.). And insofar as there is a price of capital below which no reduction in forthcoming supply can be effected because of the bedrock level of motivation, a fairly constant rate of capital expansion must be expected to fulfill the requirements of the "normal" condition; this is consistent with Marshall's outlook as to the future of the System of Economic Freedom. It is questionable that Marshall ever developed a satisfactory theory of the interest rate in his analysis of the trade cycle, for he never amends the equilibrium definition of the interest rate to take into account changes in the capital demand functions. Thus, if this be true, in the case of the trade cycle, his explanation is logically deficient.

obtain the optimum amount of (a) those qualities conducive to the higher life and (b) those qualities conducive to the accumulation of real wealth. |192|

It is, of course, impossible to assign numerical values to the relationships involved; and it is conceivable that an optimum distribution of income so defined might involve capital decumulation and extremely low levels of income where the socially desirable virtues envisioned a level and quality of economic behavior inconsistent with an expanding level of material welfare. For example, in a Vedantic culture with its premium on asceticism and its other-life orientation, extremely low levels of income by Western standards would be consistent with the optimum distribution of wealth. But the moral behavior with which Marshall was concerned was conducive to economic progress in the context of the System of Economic Freedom. It is, therefore, inconceivable in this context that the establishment of the most desirable conditions of morality could ever be achieved along with the maintenance of a continuing low level of accumulation.[71]

(5) In the System of Economic Freedom devoted to market oriented production of wealth and with a high degree of specialization, the limit to the accumulation of wealth is furnished by the productivity of industrial and commercial organization.

(6) The productivity of an industry will be determined in terms of costs and output by the prevailing nature of returns in that industry. And the characteristics of return most commonly found in the System of Economic Freedom were those leading to |193| increasing size and concentration. (5) and (6) constitute the technological equations of Marshall's system, and in conjunction with (1), the sociological equation, are the core of his general analysis. (5) and (6) turn on his analysis of long run normal price, and (1) is derived largely from his preconceptions as to the Evangelical nature of morality.

(7) In addition to the income effects of monopolistic pricing, increasing concentration of production implies increasing concentration of the ownership of the claims to income at least on the part of the owners of capital and land. Thus, the ownership of the claims to income are determined by the technological equation in

[71] Assuming, of course, that the Malthusian spectre lurks in the distant rather than the immediate future.

conjunction with the historical situation. *And there is no mechanism which would automatically assure that income would be distributed in a manner consistent with the requirements for the optimal distribution of wealth.* As Marshall said:

> It is true that capitalistic aggregations, approximating to the mechanical routine of a socialistic bureaucracy, have so far been most prominent where economic progress has been most rapid; but so also have the pallid faces caused by a scarcity of fresh air and sunlight. Sources of individual or social decay are sometimes most dangerous, when they are associated with great achievements, and rich benefits.[72]

(8) The possibility of maintaining a distribution of wealth consistent with the highest rate of progress is, therefore, dependent upon a *deus ex machina*, the entrepreneur. It is only |194| if he acts in a fashion consistent with the highest aims of society, that the System of Economic Freedom will be successful in eliminating poverty and permitting each individual to reach the finest moral expression of which he is capable. |195|

[72] *Industry and Trade*, p. 175.