LIST OF BOOKS AND ARTICLES FREQUENTLY QUOTED WITH EDITIONS USED

M. Blaug: Ricardian Economics, A Historical Study. Yale (1958)

J. E. Cairnes: Some Leading Principles of Political Economy. New York (1874)

E. Cannan: Theories of Production and Distribution, 1776-1884. London (1893)

S.G. Checkland: Economic Opinion in England as Jevons found it (M.S. Vol. 19 1951)

W. S. Jevons: Theory of Political Economy. 3rd edition (1888) London

H. G. Johnson: Demand for Commodities is not Demand for Labour. (E.J. Vol.LIX No.236 Dec.1949)

N. Kaldor: A Model of Economic Growth (E.J. Vol. LXVII Dec. 1957)

Alternative Theories of Distribution (R.E.S. Vol. XXIII No. 2)

W. A. Lewis: Unlimited Labour: Further Notes (M.S. Vol. XXVI No. 1 Jan. 1958)

J.R. McCulloch: Principles of Political Economy 2nd edition Edinburgh and London (1825)

T. R. Malthus: Principles of Political Economy. London (1820)

A. Marshall: Principles of Economics. 8th edition new impression.

Memorials of Alfred Marshall (ed.A.C.Pigou)

J. S. Mill: Essays on Some Unsettled Questions of Political Economy 3rd edition (1877) London.

Autobiography. World Classics ed.Oxford(1955).

Principles of Political Economy (Except where otherwise indicated the edition used is that of Sir. W. J. Ashley: New Impression (1921) London)

Dissertations and Discussions (4 vols.) London (1875)

G. O'Brien(ed): J. S. Mill and J. E. Cairnes (Economica N.S.10 1943).

A. C. Pigou: Mill and the Wages Fund (E.J. Vol. LIX No.234 June 1949)

D. Ricardo: Works and Correspondence (ed. P.Sraffa) Vols. I-X Cambridge (1951)

L. Robbins: The Theory of Economic Policy. London (1952)

J.A.Schumpeter: History of Economic Analysis. London (1955)

A. Smith: An Inquiry into the Nature and Causes of the Wealth of Nations (ed. E. Cannan) 2 Vols. 5th edition London 1930.

F. W. Taussig: Wages and Capital. London School of Economics Reprint No.13 (1935)

W. Thornton: On Labour. London 2nd ed. (1870)

ABBREVIATIONS ADOPTED

Full Title	Abbreviation
J. S. Mill: "Essays on Some Unsettled Questions of Political Economy"	"Unsettled Questions"
: "Principles of Political Economy with Some of Their Applications to Social Philosophy"	"Principles" (Quotations are from the Ashley ed. and are indicated merely by the page number.)
: "Dissertations and Discussions"	D.D.
D. Ricardo: "Works and Correspondence of David Ricardo" (ed. P.Sraffa)	"Works" (Reference to the volume are given in Roman numerals, the page number following).
A. Smith: "An Inquiry into the Nature and Causes of the Wealth of Nations"	"Wealth of Nations" (References as with Ricardo).
The Economic Journal	E.J.
The Manchester School	M.S.
The Review of Economic Studies	R.E.S.
The Westminster Review	W.R.

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JOHN STUART MILL'S THEORY OF CAPITAL, INTEREST AND EMPLOYMENT

A B S T R A C T

This study is an attempt to trace a particular theme of analysis throughout John Stuart Mill's economic theory and to discover what light such a procedure sheds on our knowledge of Mill's work and on our understanding of his historical role. The main concern of the study is with Mill's system of analysis as such, and not, except incidentally, with the history of the ideas which found expression in his work.

After a preliminary examination of Mill's position in the evolution of economic theory, a first step is taken towards establishing what were the properties and assumptions of the model of the economic system adopted by Mill in his major work in the field, the Principles of Political Economy (1848). The assumptions necessary for a consistent model are outlined and the argument then proceeds with a detailed discussion of Mill's four fundamental propositions on capital. These theorems are taken to be the principal foundation on which the remainder of Mill's analysis of production, distribution and capital accumulation is based. An attempt is made to show that these theorems are to be considered as an interdependent group which have relevance only for the system in which they stand.

The discussion then moves on to the problems of interest and investment as they arise in Mill's system. An account is

provided of Mill's earlier views on interest theory as they appear in the fourth of his Essays on Some Unsettled Questions of Political Economy (1844); and a comparison is made between his earlier notions and those expressed in the pre-1865 editions of the Principles. The next major issue to be examined is that of the concept of the wages-fund. It is found that comparatively little was said by Mill on the question of wages, prior to 1848, and there seem to be strong grounds for believing that Mill used the wages-fund concept, not in the usual way but as an expository device with a limited utility for analysis. This conclusion is borne out by Mill's consideration of wage-differentials and the influence of trades-unions bargaining activities. Still on the wages question, but taking into account Mill's views on employment, the argument goes on with a breakdown of the aggregate demand function for labour. The demand for productive labour and the demand for unproductive labour receive individual attention. An examination of the supply function of labour in the classical system follows, and the problems of wages and employment in the imperfectly competitive economy conceived by Mill are discussed.

Part I of the study concludes with a consideration of Mill's theory of capital accumulation and a comparison is drawn between the classical and modern conceptions of the theory of economic growth. Mill's growth model, although fundamentally similar to that of David Ricardo, has some remarkable points of difference, particularly with reference to the advent of the

stationary state, and due attention is paid to these differences

The purpose of Part I is to establish the structure of Mill's system of economic analysis regarded especially from the central standpoint of the function of capital in the economic processes. Part II is concerned to illustrate in what ways the system as outlined by Mill was inherently unsatisfactory, and how the system was becoming outmoded as a result of the changing nature of the British economy in the mid-nineteenth century. In the process of demonstration, the activities of the latter-day classical writers are examined and it is concluded that much of their work at this time was inspired by a realisation of the failure of the orthodox system to adapt itself to changing environments.

The approach adopted by the new 'marginalist' school of economists is contrasted with that of the classical writers and an inquiry is carried out into how far the neo-classical writers were aware of the fundamental changes in the framework of analysis that had been made. A tentative suggestion is made as to the proper criteria for distinction between classical and neo-classical systems of analysis.

Finally, on the basis of the evidence presented, a revised estimate of Mill's contribution to economic analysis is presented; and an attempt is made to justify the view which would regard Mill, judged by his performance in the Principles, as the

pivot between the classical and neo-classical systems of analysis, drawing to a logical conclusion the development of the former and opening up and giving direction to the new system.

JOHN STUART MILL'S THEORY OF CAPITAL, INTEREST AND EMPLOYMENT

P A R T I

MILL'S ECONOMIC ANALYSIS REVISITED

(MT 1959)

CHAPTER I : INTRODUCTION AND PLAN

I. The Objects of the Study

This is to be an historical study in economic analysis. It concerns primarily John Stuart Mill's management of the classical system of analysis as it emerges from his Principles of Political Economy with Some of Their Applications to Social Philosophy, the first edition of which was published in 1848. The principal aims of the study are two. In the first place it will attempt to provide an account of Mill's economic analysis from the point of view of a central theme that originates in his conception of capital and can be traced out in his treatment of related topics, such as interest and profits, wages and employment, and the long run process of capital accumulation. The second objective is to harness that interpretation of Mill's theoretical system to an explanation of his position in the development of economic analysis in England and to show in what way, if any, Mill's work can be said to provide a link between classical and neo-classical economics.

The main source for this study is Mill's Principles, a work which is generally admitted to have an important place in the history of economics but which has, for too long, been dismissed as little more than a presentation of the original Ricardian model in a garb of semi-historical, semi-sociological commentaries which adds little to the understanding of classical economics. My own opinion of Mill's economic analysis will emerge at a much later stage. For the present I am only

concerned to point out that Mill's work in the theoretical field has been unduly neglected or, when noticed, interpreted in a stereo-typed fashion which fails even to make the attempt to understand the nature of his contribution and the measure of his analytical performance.

It is at once conceded that in recent years much has been done to discredit the once rampant view of Mill's economics which placed Mill as an unoriginal and uninteresting economist. Professors Viner, Schumpeter, Robbins and Stigler[1] have all, in their own ways, provided much more charitable and objective accounts of parts of Mill's work. Schumpeter, indeed, went so far as to review in some detail Mill's analytical economics in the context of the classical system. Still, however, a considerable lacuna remains to be filled. Whereas it is now recognised that Mill's work in the fields of international trade theory, and economic policy was valuable, and that Mill was in fact an economist of much originality in the sense that he introduced new concepts and problems to be solved; it would yet appear that an examination of Mill's economic analysis, especially as it exists in Books I, II and IV of his Principles, is a further condition of our appreciating Mill's work as a whole. Thus, while in this study I shall take account of his other writings as they bear on the problems to be considered, the analysis of the Principles stands as the

1. Jacob Viner: "Studies in the Theory of International Trade" J. A. Schumpeter: "History of Economic Analysis" Lionel Robbins: "Theory of Economic Policy" G. J. Stigler: "The Nature and Role of Originality in Scientific Progress" Economica Nov. 1955.

central point of my argument. Some attention will be given, therefore, to Mill's Essays on Some Unsettled Questions of Political Economy (1844), to his correspondence (particularly with J. E. Cairnes[1]) and to his contributions to the periodicals of the day. Also, it will be necessary to consider his relations with other economists of his time, particularly his doctrinal association with Ricardo, his friendship with Cairnes, and his position with respect to Jevons and even Marshall. But the focus will be continually on Mill's Principles, and particularly on the thread of analysis stemming from capital which winds its way through his theories of production, distribution and accumulation.

II. First Impressions of Mill's Historical Role.

In this introductory chapter, I wish to sketch, as briefly as possible, the main influences which fashioned Mill's economic thought. This is immediately a digression from the purpose in hand but it is nevertheless, an essential part of any study of this kind. In Mill's case in particular, it would be invidious and indeed unwise to attempt to divorce his analytic work from the intellectual background which gave it birth. It will be found that by recalling some of the influences to which Mill was subjected throughout his life it will be possible to understand more clearly some of the problems of exposition he encountered. When writing on economic matters,

1. Some of the material here is unpublished, and is housed in the British Library of Political and Economic Science in London.

Mill was not merely an economist: he was also philosopher and sociologist, historian and politician, and the work he did on any one of these subjects mirrors his interests and perceptive powers in all the rest. Because of this, the sharpness of his analytical apparatus is often blurred, and because of his ever-present alertness for comparisons and the lessons to be learned in fields other than the economic, the clarity and independence of his theoretical framework is often lost. To extricate the thread of pure analysis is certainly not easy. It may even be objected that it is illegitimate to make such an attempt, in that it destroys the inherent unity of the finished product. But I do not believe this view can be upheld. For only by so extracting the theoretical line of thought can it be determined how far, if at all, Mill improved on his predecessors, and paved the way for those who came after him. Many of these others, lacking the generality of Mill's mental outlook, left a more obvious framework of analysis behind them. Again, it is only in this way that the entity can be understood. Only by breaking down the structure into its component parts, in this case the different levels of abstraction involved, and by understanding how the various elements were assembled, and why they were assembled in just that way, is it possible to assess the quality of Mill's contribution to economics. This would be worth doing in itself, but its interest is heightened by the possibility that in Mill we may find a better understanding of the pivot on which hinges the transition from classical to neo-

classical thought.

The classical period in economic thought is usually held to begin with Adam Smith's Wealth of Nations and end with J. S. Mill's Principles, while the neo-classical period begins with Jevons's Theory of Political Economy. (I should add at this point that while, for certain well-defined purposes the 'period-ising' method of classification has its uses, I believe it is more instructive to classify - if classification must be done- along other lines. I return to this matter in the concluding chapters, but for the present it will be convenient to adopt the normal procedure). For the present I wish to explain what I regard as the important kinds of change which occured during the transition. First of all there was a change in technique and indeed it is on this basis that the usual division of 'schools' is founded. The 'discovery' of the marginal principle as applied to economics in 1871 by Jevons and Menger, whether or not it constituted a revolution, undoubtedly wrought a considerable change in the analytical apparatus of political economy. It became necessary to examine economic processes in a way that was different from that adopted by the earlier writers. A new degree of abstraction became necessary. This is not necessarily to say that post-marginal economics was more abstract: it would be difficult to find a system much more abstract than the pure Ricardian model, despite its superficial appearance of near-reality. But after 1871 it did become necessary to reformulate the questions asked by the economists in order that the new marginal device could be made fully

effective in the various departments of the subject. And with this reformulation came the need for a new set of assumptions, on which examples could be set and studied.

It is this alteration in the assumptions which I conceive to be the essential feature of the transition between the two systems. I believe also that in the failure of later writers to grasp exactly how the transition had taken place we may find some explanation of the disrepute into which Mill's economic writings lapsed so soon after his death. Mill, of course, is usually regarded as the last major writer of the classical period: there are a few others, notably Cairnes, who must be treated as special cases since their work, though in essence of classical form and approach, was performed after the marginal analysis had been introduced. I have no real quarrel with this assessment of Mill's place in the development of economic thought, but I do feel that it is important to consider his position in relation to <u>both</u> systems of analysis. He was, after all, a personal disciple of Ricardo, and his loyalty to the master is reflected constantly, even in the work of his maturity. He was, in his <u>Principles</u>, distinctly and deliberately conservative and any advances or deviations from orthodoxy were disguised - if included at all. It is primarily because of this that he has come to be regarded as an unoriginal writer, too concerned to uphold tradition to find time to say anything new. Professor Stigler has done much to show the fallacy of this evaluation, purely from the evidence in the

Principles. In addition, it is possible to find, outside that work, quite definite questionings of the fabric of classical economics, and by taking these into account it may be possible to explain some of the contortions into which Mill got himself in the effort to preserve the unity of the stream of thought which had its source in the Wealth of Nations.

This is only one aspect of Mill's position, however. Mill was still actively contributing to theoretical discussions when Jevons first published his Theory, which has come to be recognised as the first English work containing an adequate statement of the marginal principle. Mill was, therefore, in a crucial position as far as the evolution of economic analysis is concerned, and this is especially the case since his Principles had rapidly become established as the standard text-book on economics - in the English language at least. Mill did not, it must be admitted, approve of Jevons's work, principally because of its use of mathematics. He wrote of Jevons:

> "he seems to have a mania for encumbering questions with useless complications, and with a notation implying the existence of greater precision in the data than the questions admit of... It is one pre-eminently at variance with the wants of the time, which demands that scientific deductions should be made as simple and as easily intelligible as they can be made without ceasing to be scientific."[1]

Mill's judgment has, of course, been proved unfounded, but this example serves a useful purpose in illustrating Mill's views

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1. Letter to Cairnes Dec. 5, 1871. Economica Nov.1943. "J.S. Mill and J. E. Cairnes" (correspondence edited by G.O'Brien)

on the direction economics should take. His own work had done much to popularise the thought of his time, and this is reflected in his wish that economics should continue to merge simplicity with scientific precision. Jevons's work did not seem to him to meet these requirements and if, using hindsight, we can see that he was mistaken, it must still be remembered that at that time the use of mathematics in the guise of the marginal technique still had to prove itself as a useful instrument of analysis. I say this not so much in defence of Mill's judgment as in recognition of his conviction that very little, if anything at all, should be claimed for new economic ideas until they have been proved positively advantageous. At any rate, it is evident that Mill was aware of a new trend in economic thought which he thought undesirable. This does not imply that he disapproved of it because it was a change, and for no other reason. Instead, he did, I think, appreciate the need for movement, but along lines somewhat different from those which were then being laid down. And indeed, had more attention been paid to some of the developments of the 1860's, the course of economic thought might have been very different. But that is another matter.

III. Intellectual Sources

The other point I wish to take up here is that of Mill's general background which is of great significance in the interpretation of his theoretical work. Obviously I cannot go into detail here, nor is there any need to do so, since Mill

has been adequately biographied[1] and the important features of his life are common knowledge. Yet, purely from the point of view of economic analysis, it is essential to have at hand a notion of the various non-economic[2] influences which found expression in his writings and which gave to his work a distinctive tone. It is hoped that a brief recapitulation of these influences will serve throughout the present study as a basis for the intellectual ideas we encounter. One word of warning may be added. This is not meant to portray all the many facets of Mill's character. The object of this study is the understanding of Mill's economic analysis, and what I have to say here will be solely on what I conceive to be relevant to such an understanding.

John Stuart Mill was a man of many parts. He was, perhaps, the most complete social scientist the world has seen, or indeed is likely to see. Prima facie, this is an extravagant claim. But it is not implied that Mill's was the supreme intellect of all time, or even that of his own age. Instead, it reflects two sets of conditions which favoured Mill especially.

The first of these was the intellectual atmosphere of mid-nineteenth-century England and Europe. From the 'rationalism' of the previous century there had emerged a general interest in social matters, and much of the intellectual activity of the early 1800's was directed to the charting out of territory

1. See, for example, J.S.Mill: "Autobiography". Also M.St.J. Packe: "The Life of John Stuart Mill."
2. No attempt is made here to discuss the influence of Ricardo or James Mill. In the following chapters there will be ample scope for introducing the direct economic influences on Mill.

which had previously been explored, if at all, only sporadic - ally. Perhaps the greatest advance was the introduction of 'method' into social research. Not only were the individual sectors of the social sciences, as we now know them, properly mapped out, but a systematic approach was introduced, and a good deal of work was done on the methods appropriate to the various branches of learning which were then, for the first time acquiring something of an independent existence. In short, by the time Mill was beginning to write, in journals and periodicals, the full scope of social philosophy was coming to be grasped, and much of the creative work of the time, both here and on the Continent, was being devoted to the study of the new sciences. The position, then, was that there was a whole field of knowledge which was as yet imperfect and immature in the extreme, and it was possible for a single person, with a breadth of intellect, to participate in the development, not only of one, but of all the sectors which had now been discovered. Thus it is that in this era we find many men whose names are important in a diversity of subjects, and among these Mill figures prominently. As yet, these embryonic sciences had not developed the specialised techniques which were to follow soon, but their independence was not sufficiently assured to encourage self-dedication to one particular branch. Once the various departments were established, however, specialisation did occur, with the result that barriers were set up, preventing

free movement between subjects and narrowing the area which could be competently cultivated by any one mind. Mill and his contemporaries, Comte in particular, enjoyed advantages which have not been available to thinkers in other ages, and this must be regarded as one of the conditions that favoured the comprehensiveness of Mill's activities. This does not, however, explain the unique nature of his position, for he shares this environment with many others, all of whom were free to make use of these liberal opportunities.

It is in Mill's education that we find the second reason for his distinctive circumstances. His father, James Mill, and Jeremy Bentham, subjected him to a severe course of instruction from an early age, the whole object being to fashion him into a vehicle for the cause which they did so much to develop, Philosophical Radicalism. Perhaps the most surprising thing about this indictrination is that it was tolerably successful, for Mill never succeeded in shaking off this influence which dominated his formative years. Yet, partly because of the thoroughness of the education, and the pitch to which Mill's critical faculty was brought, it defeated its own ends. Mill was unable to accept unquestioningly the Utilitarian creed, and in tampering with its doctrines, founded on a consistent, if crude, logic, he did much to bring about its downfall. This critical sense occupies a prominent place in any consideration of Mill's thought, for it continually shows itself as a disturb-

ing force in the otherwise smooth course of his work. Both in the case of Bentham's Utilitarianism and in that of Ricardo's economic system, Mill was evidently anxious to remain loyal, yet was unable to accept without qualification much of the matter inherent in them. But such was the degree of logic they embodied that any attempt to make them more realistic was bound to destroy their unity, and Mill often seems to have overlooked this, despite the fact that he was a competent logician.

If we are to explain this in any measure whatsoever, it is necessary to consider the other major influences which fashioned his manner of thought. Two such forces in particular deserve our attention.

The earliest of these was socialism, particularly those forms which were French in origin. Mill was always emotionally sympathetic to socialist ideas, although it is necessary to define just what is meant by socialism in this context. Certainly Mill did not embrace the Marxist doctrines which regarded the capitalist engine as tending always to impoverish and debase the labouring classes. Equally certainly he did not hold with the belief that a truly socialist society could only be achieved through revolution. On the contrary, he adhered to the view that society would, of its own accord, <u>evolve</u> into such a condition, and although in the early stages of his life he regarded this as something that would materialise in the distant future, he did, in later years, come to believe that

the goal was rapidly being approached. And with this, his leaning towards a socialist mode of thought seems to have become intensified and his views more consistently and firmly thought out. This particular brand of socialism has been called evolutionary socialism and I think it is quite fair to say, with Schumpeter, that Mill practically defined the species.[1] However, with reference to the socialist influences which he surveyed in his more youthful period, it must be admitted that, with one partial exception, he was unable to envisage any constructive outcome: they were, to him, little more than elaborate and impracticable day-dreams. The exception was Saint-Simonism, which did seem to have a more solid foundation than most, and it is evident from the correspondence between Mill and Eugene d'Eichtal, a member of the Saint-Simonism group, that Mill did, for a number of years, seriously contemplate the possibility that something positive might emerge from it. But eventually, as with the others, this too had to be rejected, although there is no doubt that, as a result of this relationship, Mill learned much which was to prove useful in the subsequent formulation of his own opinions.

The important question now to be asked is how far Mill's socialist sympathies affected the course of his analytical work. So far as the analysis itself is concerned, the answer must be that Mill's socialism had little or no influence. It

1. J. A. Schumpeter: "History" p.532.

would seem that out of all the influences to which Mill's mind was subjected in the course of his life, socialism was of primary importance to his economic thinking as a whole. In his digressions and stray comments aside from the main stream of analysis proper, Mill's concern for the present and future condition of labour is immediately obvious. Admittedly, this attitude placed Mill in an awkward position at times, since his thoughts often seemed to be leading him in directions foreign to the paths followed by the Ricardian scheme of analysis: as, for example, in the flagrant opposition between the conception of a perfectly elastic supply of labour at a constant real wage, and the ambition openly displayed by Mill to see a prosperous labouring community. Mill contrived to circumnavigate these hazards by admonitions to labour that they could obtain higher real wages all round only by reducing the rate of growth of population. But the theoretical problem would then still remain in that the traditional analysis was dependent on a perfectly elastic labour supply. On the whole, however, if we are concerned solely with Mill's analysis, the problems and inconsistencies arising from his socialist leanings need give us little trouble.[1]

The second major influence was the Positivism of Auguste Comte, whose relationship with Mill began in an unsound flurry of enthusiasm on the part of both men, and ended in complete

1. For a further discussion of Mill's socialism in relation to his prescriptions for economic policy, see Professor Lionel Robbins's "Theory of Economic Policy", especially Lectures IV and V.

disillusionment. It is none too easy to assess the importance of Comte's influence on Mill, for the latter was at first anxious to cooperate with Comte and was prepared to make generous concessions which were, however, later withdrawn when it became apparent that Comte was willing to yield nothing in return. Nevertheless, Mill undoubtedly sympathised with the philosophy propagated in the name of Positivism, especially as it expressed conclusions which coincided almost exactly with the opinions Mill had reached quite independently and by a different route, in his theory of induction. So far as Mill's economic thought is concerned, the main gleanings from Comte were two: the more tangible is the use of the terms Statics and Dynamics, which were in fact first introduced explicitly into economic terminology by Mill, although he almost certainly adapted the idea from Comte's writings: the second concerns more the methodology of political economy and this has only an indirect bearing on the present argument. Indeed, the prominent position enjoyed by discussion of methodological principles about this time really altered the course of analysis very little, if at all, and it is now fairly generally agreed t that this did not constitute any startling innovation, but rather reflected the relative maturity attained by the subject.

The influence of Positivism on Mill's thought is characteristic of many other similar, if lesser influences. Mill was continually seeking, or having thrust upon him, new kinds of

intellectual experience, among the more important of which must be mentioned his relationships with Carlyle and Coleridge. Although in themselves these have little bearing on the purpose in hand, they do, considered in their totality, impress on us the comprehensiveness of Mill's activities, and we may find in them some explanation of the high level to which his critical sensitivity was developed. The vast diversity of his activities brought him into contact with a host of mutually contradictory philosophies; yet he was able to absorb each of them sufficiently well without committing himself definitely to any one. The fact that men so different in outlook as Bentham, Carlyle, Comte and the Saint-Simionians regarded him as a potential missionary for their respective ideologies is indicative of his capacity for understanding and grasping the full impact of new ideas: while on the other hand his determination to maintain his intellectual integrity, which he valued so highly, restrained him from uncompromising surrender to any individual influence. Thus he built up, within himself, a heterogeneous pattern of opinions, comprising what he considered to be the most profitable parts of the various systems of thought he had encountered. It is here that his critical faculty became essential, and with every successive attempt to gain his support for a new doctrine, the pattern was re-shuffled and the latest influence would be subjected to a scathing examination, viewed in the light of all the opinions previously accumulated.

Here, too, we can discover the basis for the charge, so often laid against Mill, that he was an eclectic. There is little doubt that in Mill there was much that savoured of eclecticism, but whether this is necessarily a discreditable quality is another matter. If it is alleged that because of this characteristic, Mill could have had nothing new to say, then the charge is quite without foundation. On the other hand, if it be allowed that eclecticism is conformable with a certain measure of originality, then I am prepared to concede the point. Any assessment of his contribution to economic analysis must take this into account, and in the closing chapters of this study some attention will be devoted to this issue. But even now it is possible to make some general observations which will serve as a basis for the later consideration.

Mill had inherited from Ricardo a system of analysis which was, even in the 1820s, scarcely characteristic of the contemporary scene. Also, the early years of the nineteenth century was a time when rapid and sweeping changes were being made in the commercial and social worlds and it should have been evident to Mill, as to others of his age, that the Ricardian model was gradually becoming outmoded in certain departments. For a time it was possible to adapt the faulty parts of the analysis, but this could not go on indefinitely. Some radical change of outlook, involving in effect the

establishment of a new system of analysis, had of necessity to come sooner or later. It is doubtful whether Mill himself realised this, and certainly there is no hint in his later work that he was prepared for such an event. He had, as I have said, inherited a system which it was his duty to defend, merely out of loyalty to his father and to Ricardo. Some changes, of course, had to be made, but these need not destroy the essential form of the model: thus, his view once more favoured evolution and not revolution. When Mill came, in the Principles, to write a book "similar in its object and general conception to that of Adam Smith, but adapted to the more extended knowledge and improved ideas of the present age" which he believed to be "the kind of contribution which Political Economy at present requires"[1]: when Mill formed this purpose, he was concerned to present these principles of the subject which had become recognised and established, but which had not, as yet, been brought together into one coherent and systematic treatise. It was necessary, in attempting such a formidable task, that he should indulge in careful selection, and for this Mill was adequately equipped by the extensive nature of his learning and the mature critical capacity which has just been discussed. Such a work as he set out to write could only be accomplished by eclecticism, but as I have already stressed, this does not preclude the possibility of original theoretical contributions. For the perfectly valid reason that he combined

1. Preface to the 1st ed. of the Principles.

with this conception of his task a determination to maintain the orthodoxy of the Ricardian tradition, Mill minimised the extent of his originality, which comprises not only the addition of several analytical devices to the apparatus of his day, but also, as I hope to show here, the formulation of a new - at least in some important respects - schematic framework which, thought still far from perfect, was better fitted to the conditions of his age than that constructed by Ricardo. Mill himself perceived that the requirement of his time in the realms of economic theory was the gathering together of the various strands of thought which had their sources in the Wealth of Nations: in other words he appreciated the need for a comprehensive economic treatise. Where, perhaps, he was most at fault was in believing that in many departments of the subject the final work had already been done, the ultimate solutions to certain problems had already been realised. But if he erred in that respect, his overall conception was correct: a new set of generalisations was the patent need of the age, in order that a new stimulus, properly directed, could be given to the thinkers that were to follow. In this, Mill performed much the same task as Adam Smith seventy years earlier, and as Alfred Marshall was to do again some forty years later. Whether Mill was of the same stature is another question entirely, but the three have this in common, that they all wrote great treatises which served to give an automatic starting point to

new thought.

As I have already pointed out, although for a great number of years Mill's place in the evolution of economic thought was misjudged - the common phenomenon of the period of disrepute into which many great writers, in all branches of literature, fall soon after death - although, then, his influence had been played down, more recently there have been signs that Mill's work is acquiring a more worthy reputation. In the field of economic analysis, it is Schumpeter primarily who has worked this change. But although according Mill a nicely judged tribute, Schumpeter's interpretation is highly individualistic and also much scattered throughout his History of Economic Analysis. My purpose here is to follow through a particular thread of analysis, and to come to some general conclusions on the light such a procedure throws on Mill's analysis as a whole.

IV. The Plan of the Study

This examination of Mill's economic system falls into two parts. Part I concerns primarily the framework of analysis adopted by Mill in his Principles, though it will be necessary to take notice of some of his earlier writings also. Chapter II explains the assumptions and properties inherent in the model. In the third chapter a major component in the workings of the analytical system is discussed, Mill's four fundamental propositions on capital. Chapter IV pursues the theme opened up by the previous chapter, involving an examination of invest-

ment and interest as they are represented by Mill at this time. Next, consideration is given to the wages-fund concept, both as it appeared in the literature of the day and as Mill used it. Chapter VI deals more generally with wages and employment in Mill's system and the concluding chapter of Part I is devoted to the theory of capital accumulation.

Part I is concerned, then, with the exposition of the model adopted by Mill in his Principles. The second part will attempt to account for the decline of the model and the classical system as a whole. In Chapter VIII some of the work of the latter-day classical writers is examined, particularly with reference to the way they affected the validity of the classical model. Chapter IX more generally takes up the question of the breakdown of the system and the transition to the neo-classical analysis. Finally, in the last chapter, the conclusions to be drawn from the study are presented.

The first part is directed, therefore, towards the construction of Mill's analytic system while the second inquires into the causes which eventually destroyed the system. In that way it should be possible to obtain an understanding of the strengths and weaknesses of Mill's economic analysis, and of his relationship to the classical and neo-classical systems.

CHAPTER II : PROPERTIES AND ASSUMPTIONS

It will be my contention, in the following chapters, that Mill took over the Ricardian system of economic analysis and, in trying to adapt it to fit with theoretical innovations, the changing commercial and social environment of his day, and his own particular brand of 'social philosophy', ultimately unbalanced what had been, in Ricardo's hands, a stable and self-consistent model. In taking over the Ricardian system Mill carried out two kinds of renovation. In the first place, he amended some of the initial Ricardian assumptions, tacit or otherwise, and installed the new versions in his own Principles from the very outset. I shall regard the system thus erected as Mill's own system. Then, secondly, in the later stages of his economic career, Mill had second thoughts about the validity of certain aspects of his own analytic framework, or better, about the possibility of fitting new findings or suggestions into his own established system. In both these types of amendment Mill thought he was improving the Ricardian system, while still retaining the essential trend of analysis in that system. In fact, as I shall argue, Mill was bringing the Ricardian model to destruction, particularly by his second form of 'emendation'.

The first part of this study will be concerned with the construction of Mill's own economic system as it

grew from the Ricardian embryo. I shall consider, in successive chapters, how Mill expanded on the concept of capital, using the material gleaned not only from Ricardo but also from Rae and Senior, and how his theory of capital related to problems of interest, wages and employment, which seem to form the nucleus of the system. But before we can proceed to such problems, we must first equip ourselves with a notion of the fundamental tenets of the classical system as they were inherited by Mill when he came to write his Principles. Having reviewed these concepts, we may conclude the chapter with a statement of the assumptions on which the analysis of the first part of this study is based.

I. Basic Concepts and their Properties

Capital. Labour and natural agents were, to Mill, the two 'original' factors of production. Capital, though added almost as an afterthought in the role of a third productive factor, occupies a vitally important place in Mill's system. Despite the fact that he occasionally lapses into a use of 'capital' which implies 'money', Mill predominantly thought of 'real' capital, a stock of concrete goods. He is quite explicit about the reason for the existence of capital. Most productive operations, he writes, involve time and if they are to be carried out the labourers engaged in these operations must in some way have access to a store of food. But, if Mill was aware that time has an important connection

with capital, on the whole he makes little of it. One passage in particular is worthy of note, however. Mill wrote that:

"if the most advantageous employment has to wait longest for its remuneration, it is only in a rather advanced stage of industrial development that the preference will be given to it ..." (p.180)

Here Mill does recognise the superior productivity of more round-about processes of production: He is also aware that a considerable amount of capital will have to be accumulated before such capital-intensive techniques will be brought into use. But that is by the way, and other aspects of the quotation will be discussed later.

Capital was, in Mill's opinion, 'a stock, previously accumulated, of the products of former labour' and its function was described thus:

"What capital does for production, is to afford the shelter, protection, tools and materials which the work requires, and to feed and otherwise maintain the labourers during the process" (p.54)

The purpose of capital, then, is two-fold. It must be able to provide wages earned by the labourers engaged in the productive process, and it must also provide materials and appliances (including buildings, machines, etc) necessary for the production. Roughly corresponding to these purposes was the distinction drawn between fixed and circulating capital, a division common to all classical writers and symbolising the need for some kind of <u>analysis</u> of capital. A mere cataloguing of the heterogeneous mass of goods comprising

capital was insufficient for analytical purposes, and the breaking down of the capital mass into these two parts, fixed and circulating, was a first step in the construction of a theory of capital. Circulating capital Mill defined as that which

"requires to be constantly renewed by the sale of the finished product, and when renewed is perpetually parted with in buying materials and paying wages; so that it does its work, not by being kept, but by changing hands" (p.91)

Fixed capital, on the other hand, was not used up in this once-for-all fashion but performed its function by being used continually over a period of time: and returns to fixed capital were gradual and spread over time according to the life of the good in question. This distinction between fixed and circulating capital will appear again in the statement of assumptions at the end of this chapter. Here I need merely add that as this is not intended to be a study in the history of economic ideas, there is no need to embark on a survey of the sources of the distinction. Cannan's discussion of the question is, in any case, admirable[1]. To have said this much on the nature of Mill's attitude to capital is merely to introduce the problem, not to intimate that his approach ended there. It will be seen, as we proceed, that Mill's theory of capital - or, to be more correct, his use of the capital concept - plays a major part in the remainder of his analysis. Indeed, if we were to be

1. "Theories of Production and Distribution" (1893), Chapter IV.

strict, we should, I think, have to include a discussion of his 'fundamental propositions' on capital at this stage, since they go a long way in helping to define the system used by Mill. But, such is the independent importance of these propositions, it will be worth while devoting a separate chapter to them. (Chapter III below).

Productive and Unproductive Labour

Allied to the concept of capital is the distinction between productive and unproductive labour. I see little point in entering into the morass of criticism which has descended on these labels, for the greater part of the discussion, even in the classical period itself, was purely verbal and barren of economic significance. My own view on the matter is identical with that of Professor Lewis[1], who points out that the distinction is relevant in the classical model with respect not to value theory (which was the context in which it was largely discussed by neo-classical critics) but to the theory of production and of economic growth via capital accumulation. Adam Smith, who derived the idea from Physiocratic sources, introduced the distinction into classical economics in a chapter entitled 'Of the Accumulation of Capital, or of Productive and Unproductive Labour': (Wealth of Nations, BK II ch.3). Labour which worked with, and was employed and maintained

1. 'Unlimited Labour: Further Notes'. The Manchester School, Vol.XXVI. January 1958. pp.4-5.

out of capital, reproduced its wage with a surplus which accrued, in the first instance at least, to the person who had saved and made capital available for production. It was from this surplus over wages that profits and rents in the aggregate were derived. Unproductive labour on the other hand produced no such surplus but, we may suppose - Mill is never explicit on this point, though Adam Smith was - merely 'reproduced' the equivalent of its wage without remainder[1]. Productive labour, then, was employed and supported from capital, and was superior in productivity to unproductive labour which used no capital and was employed from income, as opposed to capital. These are the main features of the usual distinction between productive and unproductive labour and in the following discussion of Mill's system it will be assumed that labour engaged in the production of goods is productive, while labour providing services is unproductive, involving no 'material' embodiment of labour. (This usage was seldom expressly stated by the classical writers, but it seems to be what they had chiefly in mind). It should be added also that Mill was concerned to point out that no stigma should attach to unproductive labour for, although it added nothing to the national (physical) product or the material wealth of the country,

1. But it would presumably be possible for the consumer of labour services to derive a 'psychic' surplus over the cost of wages.

the very fact that unproductive labour could be maintained was to be regarded as a sign of the prosperity and high level of welfare in the community[1]. It demonstrated the presence of a surplus which could be used as a means of satisfying the 'higher wants' of the individual - a point of no mean importance from his own philosophical standpoint.

Productive and Unproductive Consumption

Parallel to the distinction between productive and unproductive labour was that between productive and unproductive consumption. Productive consumption Mill defined as what was consumed by productive labour, including those directing productive operations, in

"keeping up or improving their health, strength, and capacities of work, or in rearing other productive labourers to succeed them." (pp.51-2).

The bounds of this definition were not, however, to be too strictly invoked. (Mill was well aware of the difficulty in drawing the line between productive and unproductive in the cases both of labour and consumption). In general, Mill seems to take the view that a certain production of all consumption, whether by capitalists, landlords or labour of either category, was productive. It is that sense of the distinction which will be used here: productive consumption

1. It could be argued however that a high level of unproductive expenditure in Mill's sense might be in some cases a mere reflection of a very unequal distribution of wealth, enabling a few rich people to maintain large numbers of servants. (e.g. Imperialist India).

being part of consumption which is essential to the maintenance of working abilities and the raising of children. It follows that anything in excess of that limit was consumed unproductively.

Synthesising these two sets of distinctions, we find that productive labour is supported from circulating capital, and so far as the wages thus received are used to satisfy what can in some sense be called 'basic' requirements, this consumption is productive. Unproductive labour on the other hand is supported from income, what is left after allowance has been made for the provision of capital, payment of taxes, etc. More precisely, it can be said that unproductive labour is supported and employed by the net income of capitalists and landlords after they have deducted from their gross incomes an amount which will be adequate to provide both for their own productive consumption in the next period, and for their savings plans in that period. This is not to say, of course, that the demand for unproductive labour will extend to the whole net income of landlords and producers, for labour services form but one of the consumption choices available.

Value

It is no direct part of my purpose to investigate Mill's theory of value, but some notice of it must be taken at this early stage, as some understanding of his position will become necessary later in the analysis.

At first sight it may appear that Mill inherited Ricardo's final (third edition) statement of value theory with only a few minor amendments but, on closer examination, that initial estimate must be revised. On the questions of 'market' or temporary value, and of the value of non-reproducible goods, agreement between master and disciple is complete, and we need take up the discussion only as it relates to natural value. Since what we are primarily interested in is the relationship between Ricardo's version as known to Mill (by means of the third edition of Ricardo's Principles) and Mill's exposition of the Ricardian theory, we may ignore the variations in Ricardo's thought as expressed in his three editions of the Principles, and the final paper on value, except in so far as they bear on matters relevant to the issue in hand.

Ricardo was interested in value theory in two respects: he was concerned with relative values, and with absolute values. I begin with a brief account of his analysis of relative value. As a first step the rent element was dismissed. The natural value of reproducible goods produced in conditions of perfect competition was held to be determined by their cost of production, in the least favourable (but 'necessary') conditions, and rent entered into that marginal cost in the case neither of agricultural goods nor of industrial goods. The problem of the distribution of the product was simultaneously simplified.

Embodied labour was the prime element in the marginal cost but, after some hesitation, Ricardo became convinced that not only the relative quantities of labour, but relative wages and the time-period of production - including not only the durability of fixed, but of circulating capital also - had some influence in the determination of relative values.

Ricardo was not interested in the theory of value for its own sake. The overriding objective of Ricardian economics proper was to trace the course of class-income distribution as economic growth proceeded, a problem which involved social accounting. But Adam Smith had already encountered difficulties in the measurement of the national produce and, realising that some kind of invariable standard of value was required, put forward the suggestion that quantities of labour would serve the purpose:

> "Labour alone, therefore, never varying in its own value, is alone the ultimate and real standard by which the value of all commodities can at all times and places be estimated and compared. It is their real price; money is their nominal price only". (Wealth of Nations, I.35)

The idea of quantities and homogeneous labour, however, as an invariable measure of values, was unsatisfactory as Ricardo well recognised. For the role of capital, otherwise reduced to indirect labour, had also to be accounted for, and the indirect labour to be compounded at an appropriate rate of interest over the time labour had been engaged. Before going on to see how Ricardo set about surmounting that

that obstacle, we must consider more fully the part played by the invariable standard of value in classical economics.

A measure of value occurs in two different contexts, both in some way reflecting the need for a price index, but for different reasons. Because of variations in the relative values and prices of goods, including money which was with Smith as with most classical writers just another produced good, the intertemporal and interspatial comparison of wealth required some index or invariable measure of value. In the case of Adam Smith, as we have seen, quantities of labour (or more roughly, over longer periods of time, quantities of corn obtained in exchange for other goods) would serve the purpose. A similar notion of an invariable standard was introduced in discussions of currency depreciation and in the corn-law debates at the beginning of the nineteenth century. The common link between these was the quest for a price-index which would deflate a given value-series.

Ricardo, in the context of the Principles and in his final paper 'On Absolute Value and Exchangeable Value'[1], was concerned with a rather different problem. He was initially interested in the discovery of a criterion that would indicate which of two goods, when they varied in relative value, had actually undergone a change in its

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1. Works and Correspondence of David Ricardo, Vol. IV.

conditions of production. More particularly, the problem was to discover whether a change in the terms of trade between agricultural and manufactured products was due to an increase in the cost of producing corn (from the external diseconomies of corn-production as population and output increased) or to a fall in the cost of producing industrial goods (from the increasing returns generally attributed to manufacturing production). Such was the problem with which Ricardo set out in the first edition of his Principles, and it is the concept of absolute value which is there relevant. Changes in income distribution were of little importance here. But later and particularly in his final paper on value, Ricardo turned his attention to changes in value due to changes in wages. Mr. Sraffa points out the distinction between differences in wages and changes in wages[1]. Ricardo was interested in the former only belatedly in the second and third editions of the Principles: much more was he concerned with the effect of a rise in wages on relative values and it is this matter which remained the most prominent point of his analysis. The reason for this preoccupation was Ricardo's ultimate objective, the process of distribution, and the problem which faced Ricardo was that although there may be no change in the aggregate amount of the produce, relative values may alter as a result of changes

1. ibid. Vol. I. pp.xlvii - xlviii.

in the distribution of the product between wages and profits, so that there may appear to be changes in the magnitude of the produce. In this case it is changes in income distribution which require to be related to a measure which would be invariant to changes in the distribution of the product.

So far, then, as a standard of value was required merely to isolate the source of a change in relative values, it was absolute value that mattered, and the question of income distribution did not arise. But where a standard of value which would operate irrespective of changes in income distribution was concerned, absolute value had no real place in the analysis. The latter problem Ricardo never solved, and he was forced to return to his standard which offered the nearest approach to the ideal.

Being unable to identify a good which would operate as an invariable standard, Ricardo set about discovering what conditions such a commodity would have to fulfil. His oscillations on that question are well known and adequately discussed elsewhere[1]. All we need be concerned with in his final statement is the third edition. The standard ultimately adopted was that of (metallic) money

"produced with such proportions of the two kinds of capital (fixed and circulating) as approach nearest to the average quantity employed in the production of most commodities" (I,45: my insertion).

1. Especially Ricardo.I. Introduction.

The 'ideal money' here defined is produced in a period of production that is a mean representative of the economy as a whole. By using his measure of value so defined, Ricardo believed he could show that a rise in wages would have the effect of raising the relative value of goods produced largely by direct labour or with capital of lower than average durability: while at the same time the same rise in wages would lower the relative prices of goods with a small direct-labour content or with a higher than average capital durability.

Finally, then, we may say that the argument surrounding the measure of value was concerned with the isolation of the cause of a change in the terms of trade between agricultural and industrial goods. An invariable measure of value, by enabling the purchasing power of money to be abstracted from, would permit income shares to be directly related to the cost of obtaining corn. It would then be but a short step to the establishment of the central theorem that the rate of capital formation is (uniquely) governed by the quantity of resources which have to be devoted to the production of corn - or more generally, wage-goods.

When we turn to Mill's discussion of value it is at once apparent that the invariable standard holds no comparable position in the argument. In a short chapter (BK.III, Ch.XV) Mill dismisses the ideal of a measure of value as unrealistic, although he does seem to agree with

Ricardo's isolation of the necessary conditions when he writes that previous economists (he does not mention Ricardo by name)

"have imagined a commodity invariably produced by the same quantity of labour; to which supposition it is necessary to add, that the fixed capital employed in the production must bear always the same proportion to the wages of immediate labour, and must be always of the same durability: in short, the same capital must be advanced for the same length of time, so that the element of value which consists of profits, as well as that which consists of wages, may be unchangeable. We should then have a commodity always produced under one and the same combination of all the circumstances which affect permanent value." (p.566)

Despite this somewhat trivial mention of what was in Mill's opinion properly to be regarded not as a measure of value but as a measure of cost of production, the main part of Mill's value analysis is alienated from the ideal standard. While Ricardo had allowed himself to be distracted from the 'relative' nature of value, Mill on the other hand refused to recognise the importance of 'absolute' value and concentrated wholeheartedly on the 'relativity' of value. He wrote:

"Value is a relative term. The value of a thing means the quantity of some other thing, or of things in general, which it exchanges for. The values of all things can never, therefore, rise or fall simultaneously. There is no such thing as a general rise or a general fall of values. Every rise of values supposes a fall, and every fall a rise". (p.478)

Some consequences of Mill's emphasis on the relativity of value emerge presently. Meanwhile we may notice that although Mill is at pains <u>not</u> to disclose any variance in opinion, and to show that he is acting as the spokesman of

Ricardo, not as his critic, the fact remains that some differences of significance emerge. Mill divided goods into three main classes: those which were non-reproducible; those which were reproducible at constant (or decreasing) cost; and those which were reproducible at increasing cost. Ostensibly, Mill's views comply with those of Ricardo. But, in the first place, Mill considerably enlarges the class of goods coming under the first heading, making allowances for circumstances which may limit supply even in the longer run. Then, secondly, although Mill maintains the marginal cost principle on the surface, he allows for the case where rents may enter into cost of production:

"when land capable of yielding rent in agriculture is applied to some other purpose, the rent which it would have yielded is an element in the cost of production of the commodity which it is employed to produce" (p.479).

Labour, however, was still regarded by Mill as the principal element in cost of production, 'and so much the principal as to be nearly the sole' element (p.457)[1]. Again, 'natural' wage and profit differentials are allowed to influence relative values, as also is the length of the period of production. These basic similarities apart, however, there are the implications of Mill's refusal to recognise a standard of value in the Ricardian sense. Two main

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1. Mill, in his analysis of this matter, fastened for the first time on the transfer earnings argument. Rent, while from the social point of view not constituting a cost, is a cost to the individual producer.

problems emerge. First, how did Mill face up to the wages-profits relationship which forms so prominent a part of the Ricardian analysis as a whole, and which has its roots in value theory ? And secondly, it must be asked how Mill fared when he came to the problem of identifying the source of change in relative values.

The first of these problems is more a problem of distribution and will be met with in more detail at a later point in the argument. Briefly, it can be stated that while Ricardo expounded the theorem that wages and profits would vary inversely as each other, on the basis of his invariable standard of value, Mill tackled the problem (both in the Unsettled Questions and in the Principles) from the stand-point of the cost of production of a labourer's wage compared with the product of the labourer: that is, the invariable standard had no place in Mill's solution of the problem, although once more Mill made no attempt to show that his treatment was different from that of Ricardo. Mill and Ricardo arrived at similar conclusions regarding the wage-profit relationship, but by different means.

The second problem is complex, and in fact depends to a large extent on the role of money in Mill's 'real' analysis, primarily Books I, II and IV of the Principles. I propose to discuss the matter under a new heading.

Money

The analysis of Mill's Principles is carried out mainly in real terms. In this I follow Schumpeter who said of Real Analysis that

"it proceeds from the principle that all the essential phenomena of economic life are capable of being described in terms of goods and services, of decisions about them, and of relations between them" [1].

It is not thereby implied that monetary influences are left entirely out of account, but only that so long as the economic mechanism is operating smoothly money can be regarded as a neutral element in the process. Mill had his own 'monetary theory' of course, as witness his discussions of the currency and note-issue controversies, convertibility, etc. Such questions have but a limited relevance for our present purpose, however. Under the headings of Production, Distribution and Accumulation, the 'real' factors were of prime importance to Mill and money was allowed to have little or no effect in itself. Money or precious metals, was regarded as just another produced good, the value of which was determined, however, not quite in the usual way.

The value of money, or bullion, was determined in Mill's system in two different ways, depending on whether money was a domestic or an imported good[2]. In the country

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1. History of Economic Analysis, p.277.

2. The case of money as an imported good is discussed below.

in which it was mined, the natural value was governed by its marginal cost. Being a 'product of nature' money was subject to increasing marginal costs of production, although this tendency might be periodically offset by the discovery of new sources. But in two respects the production of money differed from that of other goods. In the first place, the value of money

"conforms...., though more slowly, to its cost of production..." (p.503. My italics).

Because, Mill argued, precious metals were used for plate and ornament as well as for money, and because also they were durable, there was always a large amount of them in existence. Thus even if the new production of the metals was stopped, it would in Mill's opinion, take a considerable time before any effect was made on prices. In the case of an increased rate of output of bullion,

"the increase must be very great before it can make itself much felt over such a mass of the precious metals as exists in the whole commercial world. And hence the effects of all changes in the conditions of production of the precious metals are at first, and continue to be for many years, questions of quantity only, with little reference to cost of production." (p.503)[1] .

A second difference is that although Mill argued of ordinary goods that the possibility of an increased supply would in near perfect competition be sufficient to cause a reduction in prices to the perfectly competitive price , this was not true of the value of

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1. Cf. Ricardo; I, 76-77.

money:

"Alterations, therefore, in the cost of production of the precious metals, do not act upon the value of money except just as in the proportion as they increase or diminish its quantity; which cannot be said of any other commodity". (p.504)

In conjunction, these two arguments lead to the result that, over a period of time longer than the normal period of production, the value of money will not vary unless its quantity changes considerably. Demand and supply, the determinants of market value in Mill's system, govern the value of money over a longer period than in the case of other goods. Also, demand for money is 'all the goods offered for sale' while supply of money is 'all the money in circulation'. (p.490). What Mill seems to be leading up to is this: that over the period in which demand and supply determine the value of money, money itself acts as a measure of absolute values. Since the quantity of money in circulation will change only slightly[1], by supposition, the absolute value of money remains constant and is divorced from its marginal cost. If a given amount of money can buy more goods or less goods, that is a consequence not of a change in the cost of producing money, but in the cost of production of other goods themselves.

1. The velocity of circulation is given(constant) /p.505/ Also velocity is geared to the rate at which goods come on to the market and the actual amount of money in circulation is dependent on the state of business activity. /cf.pp.497-8/.

Leaving this issue aside for the moment, we now consider the value of money where it is not a domestic, but an imported commodity. Reciprocal demand, Mill argued, operated in the case of bullion as with other goods, and

"any circumstance which disturbs the equation of international demand with respect to a particular country, not only may, but must, affect the value of money in that country - its value at the mines remaining the same" (p.610).

Any factor turning the terms of trade in a country's favour would enable bullion to be obtained more cheaply in terms of domestic products, and prices would rise within the country. Further, in the extension of the case to more than two countries, the overall balance of payments would be the relevant factor, so that even though no trade was <u>directly</u> carried on between the bullion - producing country and, say, England, the latter might be the country which obtained bullion

"on the lowest terms, provided there were a sufficient intensity of demand in other foreign countries for English goods, which would be paid for circuitously with gold and silver from the mining countries". (p.611).

The important point, then, is the general payments equilibrium and, in view of the list of factors given by Mill (p.610) which might disturb this equilibrium, we may conclude that the value of money in countries <u>not</u> producing bullion is likely to be subject to variation; for any disturbance of the balance of payments equilibrium would alter the quantity of money in the country, and its value would change so that it could no longer be used as a standard of values by economists.

When Mill, at the end of Book III and in Book IV, comes to discuss changes in the terms of trade between corn and industrial goods with reference to the class-income distribution problem, his procedure is, to say the least, puzzling. In considering the effect of money on distribution Mill makes the assumption

"as it is allowable to do, that money remains for the time an invariable standard, no alteration taking place in the conditions under which the circulating medium is produced or obtained" (p.689).

The problems raised by the italicised phrase are indeed considerable. By his use of 'produced or obtained', he would seem to imply that the assumption referred equally to countries producing gold and to those importing gold, either by way of trade or as a special commodity. We have already indicated the potential instability of money as a measure of values in gold-importing countries. But, more importantly, Mill appears to revert to the theorem that the value of bullion depends generally on its cost of production or the cost (in terms of exports) of obtaining gold, a theorem which held no place in Mill's earlier argument except in the long run[1]. Were we to assume that Mill chose to ignore his previous argument, and to revert to the Ricardian doctrine of 'ideal money', we would still be left in an unsatisfactory position, since Mill here makes no reference to the period of production of such money being, as it were,

1. It may be suggested that Mill was merely making the strongest assumption to safeguard the invariability assumption.

a 'mean' for the whole economy. Given only that money was a produced good, the value of which was dependent on its marginal cost, any changes in wage-rates, profits (or interest) would affect the value of money in no predictable way in relation to the value of other goods. Money could no longer be used as an effective, if temporary, measure of changes in other values.

At a later point in his analysis, in discussing the effects of industrial progress on prices, Mill comes face to face with the exact problem facing Ricardo at one stage, the opposing tendencies of increasing costs in agriculture and decreasing costs in manufactures. He concludes:

"the exchange values of manufactured articles, compared with the products of agriculture and of mines, have, as population and industry advance, a certain and decided tendency to fall. Money being a product of mines, it may also be laid down as a rule that manufactures tend, as society advances, to fall in money price." (p.703).

Although Mill says nothing about the relation between wage-goods and money, it might be possible to interpret this passage as implying that money and wage-goods are produced at (approximately) equal rates of increasing cost - which in turn imply that their periods of production were roughly comparable, though Mill says nothing about this. It would still be possible, of course, for money and wage-goods to vary relatively to each other, but on the whole they would move together in the opposite direction from manufactured goods.

The cost of production of manufactures, falling absolutely, would fall also relatively to the marginal costs of money and corn.

Again, in suggesting a way in which it might be ascertained whether population or agricultural skill is growing more rapidly, Mill states that this

"may be conjectured with tolerable accuracy from the money price of agricultural produce (supposing bullion not to vary materially in value), provided a sufficient number of years could be taken, to form an average independent of the fluctuations of seasons". (p.704).

But Tooke had already shown the dangers of this method, and Mill suggests the alternative of taking shorter periods but making seasonal correction.

"It is hardly necessary to add", he goes on, "that in founding conclusions on quoted prices, allowance must also be made as far as possible for any changes in the general exchange value of the precious metals" (p.704).

To this he appended a footnote in the 1852 edition:

"A still better criterion, perhaps, than that suggested in the text, would be the increase or diminution of the amount of the labourer's wages estimated in agricultural produce". (p.704, ft.note).

From these comments it can be gathered that Mill was not satisfied with the use of money, even as a short-run measure of absolute value. Even though he may appear to be groping his way towards some kind of index-number in these last remarks, he himself, like Tooke and Newmarch in the <u>History of Prices</u> on which Mill set considerable store, completely overlooked the work which had already been done in the field[1],

1. Cf. J.A.Schumpeter: "History of Economic Analysis", pp.519-526.

and if not actually 'contented' with the crude means of measurement adopted, was unwilling to take the matter any further. In the end Mill's position seems to reduce to an inexact, and therefore analytically faulty, compromise between Ricardian 'ideal money' standard and the view that some allowance could always be made in practice for changes in the cost of production of money: and money, therefore, could be used as a rough guide to the relative movements of the values of other goods, particularly the alterations in relative value between corn and manufactures.

When we come, at later stages of the study, to consider problems involving changes in the terms of trade between agricultural and industrial goods, it will be convenient to have at hand a tool which will serve to correct Mill's badly formulated ideas of measurement. The most appropriate concept, as well as the most germane to Mill's analysis (despite his disclaimers) seems to be that of Ricardo's 'ideal money' which we shall consider to be produced in a period which is a weighted arithmetic mean for the industries of the economy as a whole.

Assumptions

(1) The economy. Three sectors comprise the economy with which we shall be dealing in the following chapters. Of these, two are 'productive' while the other is unproductive. The latter is fairly easy to define. Where labour services

are bought and sold, and where no material product results from the services, the labour employed will be unproductive. This sector plays a comparatively minor role in the process. The two other sectors together comprise the productive sector. First of all there is the wage-goods sector, producing only corn; and secondly there is the industrial sector which may produce goods for consumption (other than corn) or 'produced means of production', capital goods. Mill has relatively little to say about capital goods and although there may seem to be some advantages in distinguishing between a capital-goods and a consumption-goods sector, it seems advisable, for the moment at least, to keep within the limits implied in Mill's own analysis:

" The processes of production issuing in the output of corn and of industrial goods

"require to be continued a certain time, before their fruits are obtained. Unless the labourer, before commencing his work, possesses a store of food, or can obtain access to the stores of some one else, in sufficient quantity to maintain him until the production is completed, he can undertake no labour but such as can be carried on at odd intervals, concurrently with the pursuit of his subsistence" (p.31).

That is to say, the production of wage-goods and of industrial products was capitalistic, and the labour employed in these sectors was productive in the sense defined above. Since, in Mill's system, the maximand was the 'real net produce' (the surplus of the total physical output over what was required for productive consumption) it may seem that we should assume the ultimate motive in the capitalist system

to be that of maximising the real net produce. But this would not give an entirely true impression of Mill's system. Firstly, Mill tended to regard the amount of unproductive expenditure a society could afford as an index of its prosperity. And it was Mill's argument that whatever was consumed unproductively could only reduce the possibilities of expansion, in contrast to the Malthusian view which held that a certain amount of unproductive consumption was necessary if economic stagnation was to be avoided. Thus to say that the motivating factor, from the social point of view, in Mill's system was continual maximisation of the real net produce, which would involve a zero rate of unproductive consumption, would run counter to Mill's own explicit ideas. A high rate of unproductive consumption was, in Mill's opinion, almost the aim of economic activity. Secondly, Mill partly acknowledged that it was economically desirable that the advent of the stationary state should be delayed as long as possible. There is some dubiety here, since Mill looked forward to the stationary state as something to be welcomed, rather than feared. But this difficulty can, I think, be reconciled at a later stage in the study. If this 'postponement' of the stationary conditions is in any respect to be taken as a motive of the system, we are again faced with the antithesis of productive and unproductive consumption, since the former would tend to produce stagnation more rapidly than the latter - on Mill's arguments, of course.

The motives dynamising Mill's system are not easy to identify, therefore. The difficulties are partly removed, however, if we take the motives of capitalists to be given in the following way. The aim of capitalists will be the maximisation of the real net produce in the long run: an aim which embodies the idea that the coming of the stationary state must be prolonged as long as possible, so that new technical possibilities promising a satisfactory rate of profit will be adopted in production without hesitation, so far as external circumstances permit. Since any unproductive consumption will (again on Mill's arguments) reduce the rate of capital formation and since capital formation is a prime means of increasing the real net produce, capitalists will undertake no unproductive expenditure; and the share of the national dividend accruing to capitalists will automatically be saved, with a small allowance only for productive consumption by capitalists. The only way in which capitalists can offset the approach to the stationary state, then, is by the introduction of more productive techniques: to attempt a postponement by unproductive consumption would violate their raison d'etre.

(2) The economic classes. Three classes share the national product: labourers, who are assumed to consume the corn they receive in wages without remainder: landlords, who receive

their income (rent) in corn but who do not themselves consume any corn, exchanging it instead either for industrial goods or labour services; and capitalists who may receive profits either in terms of corn or industrial goods, but who again consume no corn. Capitalists also, as we have just seen, consume nothing unproductively, and merely set aside so much corn as will exchange for industrial goods to give them a necessary level of productive consumption; the remainder of their incomes will be automatically saved. To repeat, only capitalists can make savings. Labourers are assumed to consume the whole of their corn-wages without remainder, while the landlords exchange their entire corn rent against industrial goods and services.

The class-income shares are determined in the following way. Each labourer receives a subsistence wage, in terms of corn, which remains constant in the long run. The wage is just sufficient to maintain the labourer and his family at subsistence level. Although the long-run real-wage rate is thus fixed, short-run variations are possible. Mill is not altogether consistent on the nature of the reaction of labour to a fall in the demand for labour. On balance (as we shall see[1]), he seems to favour the idea that labour will allow the wage-rate to fall below subsistence level

1. Cf.Ch.VI below.

in the short run, but if this low rate is maintained for any length of time the rate of increase of population will slow down and the corn-wage rate will tend to its long-run equilibrium level.

The share of rent is determined by the excess of the average physical product over the marginal physical product in the wage-goods (agricultural) sector. The existence of rent itself, as Mill was well aware, implies that the supply of good-quality land is inelastic and that as production is extended, either lower-productivity land must be brought under cultivation or the capital-and-labour investment on already cultivated land must be increased. The payment of rent, in terms of corn, will measure the difference between physical output on better quality lands and the marginal net physical product on the least productive lands necessarily cultivated, which will pay no rent.

Profits, which once more accrue in corn in the wage-goods sector, but in terms of industrial goods in the industrial sector, are the residual after wages (in the industrial sector) and wages and rents (in the wage-goods sector) have been deducted from the annual product.

Wages accrue as a flow over the period of production, but have their source in a fixed stock, the wages-fund. Both profits and rent accrue as a stock at the end of each production period, and the decisions made as

to their allocation between investment, and unproductive consumption, relate to the subsequent period.

(3) The time element. The 'period of production' is the Marshallian short period in which the following are given and cannot be altered until the next period has commenced: the stock of capital in real terms, the technique of production and the supply of labour. Even in the short period situation, however, output and employment may vary. We must also be concerned with what constitutes the long run, however, and in some ways this presents more difficulties than the concept of the short period. If we look, say, at Mill's Fourth Book in the Principles, it becomes evident that the period he had in mind was approximately equivalent to Marshall's very-long-run period, in which

> "secular movements of normal price" are possible, "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". (Marshall: Principles, p.315).

To put a number of years to such a period is not easy, nor yet is it really essential to our purpose. It is, I think, sufficient to say that it is no less than twenty-five years. When we come to discuss Mill's theory of capital accumulation and the advent of the stationary state, it will be convenient to think of the overall process of development as spanning a number of these Marshallian very-long periods.

Intermediate between these two periods we may identify also the equivalent of the Marshallian 'long-run normal' period, in which we shall assume labour-supply, capital and technique all to be variable, but in which no changes in tastes or other secular trends will have any serious influence.

(4) The labour-supply. Labour is postulated to be homogeneous and the supply of labour is perfectly elastic in the long run at the given subsistence level of wages. An increase in the wages-fund will automatically lead to a proportionate increase in the birth-rate, so that when the population increment matures into fully-fledged labour (a minimum figure for this 'maturity period' would be fifteen to twenty years, probably longer). The subsistence level of wages will again obtain, always assuming no other increases in the wages-fund in the meanwhile. Ricardo occasionally ignored this lag between the increase of wages and increase in the labour force, but since he was on the whole considering a steady rate of growth of capital, the lag would be constant, and there was little scope for disparity between changes in the demand for labour and changes in the supply.

Perfect competition exists in the labour market, together with perfect mobility between sectors, including the existence of adequate knowledge of

opportunities and conditions of employment in all three sectors. No stigma attached to labour employed in any sector, but the procedure of employment in the productive sector is given priority, men being taken on in accordance with a 'first-come, first-served' principle: any labour not employed in the productive sectors must seek employment in the unproductive sector.

There are the main assumptions of the model in its strict form, with respect to labour. But it has to be pointed out that Mill was by no means single-minded on this question, and in fact continually made allowance for the possibility that population might not 'automatically' increase in response to a rise in the real-wage rate. This admission as much as any other contributed to the downfall of the classical system, as I hope to show in later chapters. It will be more convenient, however, to take into consideration, as we explore the workings of the model, this additional possibility regarding the labour-supply. It is, I think, a legitimate procedure to expound a theory of economic processes in accordance with strictly established conditions, while yet admitting the possibility that in practice one or other of the conditions may not constantly be fulfilled. And, such is the importance and frequency in Mill's argument of the possibility that the labour-supply may <u>not</u> be perfectly elastic in the long run at a given (subsistence) wage-rate, I will treat it as an

inherent alternative within the model, rather than as an extraneous element which may be introduced as a haphazard and unpredictable influence.

(5) The technique of production. In discussing Mill's initial analysis of capital, we saw that he followed the traditional break-down into fixed and circulating capital. However, it will be more convenient to discard this distinction and set up in its place the distinction between wage-capital and technological-capital, which is familiar enough. Wage-capital is to be identified with the wages-fund, or the amount of corn 'destined' for the payment of wages in the productive sector. Technological capital, on the other hand, will be taken as the sum of the fixed capital equipment and the raw materials, work in progress, etc. available for productive use in any period.

A given technique of production will signify a balanced outfit of technological capital which is specific in three ways: it is specific to the given level of output of the particular commodity in the production of which it is engaged; it is specific in its physical make-up, so that the combination of buildings, machines, materials, etc. is quite inflexible; and it is specific in respect of the time it takes to produce a given unit of commodity. The technique chosen by any entrepreneur will always be governed

in some way by the 'normal' level of activity expected for the outfit over its life time. A pproducer will not provide himself with a set of equipment which is capable of producing a 'normal' flow of output of 100 units per week when the 'normal' demand seems to promise a market for only 50 units per week (at a given price). He will wish to leave room for some expansion of output, since slight fluctuations of demand may be experienced in the course of the period. Thus we will assume that the producer facing a normal demand of 50 units per week will instal equipment capable of producing up to 55 units per week. But even if the capital has produced only 45 per week at the end of the period, we will consider its productive life to be over, and its value only that of its scrap worth, so that it will not be used to produce any output in the following period. The costs thereby incurred in providing this excess capacity will be assumed to cancel out over the long run: the loss incurred when demand is less than 50 will be abalanced by the gain accruing when demand is more than 50.

Another problem arising from the same course is that technological capital cooperates with labour: if technological capital is to be worked more intensively, labour must also be used proportionately more intensively. The problem is where the wages are to come from for the extra

labour applied. The basis for the following explanation will be seen later in connection with the fourth of Mill's fundamental propositions on capital, but a brief outline will suffice for the present. Since in any period aggregate demand price must equal aggregate supply price (by Say's Law), an increase in the demand for one good will always be offset by an equivalent fall in the demand for another good. In the first case, where demand increases, more wage-capital is required, in the second case, less. Assuming that the capital-labour ratio is equal in all industries (this is frequently postulated by Mill) we can say that wage capital can be moved from one industry to the other so that output in each case can be optimally adjusted to the changed demand. In other words, although there is no change in the amount of corn (wage-capital) the corn can be redistributed between industries according to short-run changes in demand for their goods. Thus it is possible to provide a logical foundation for the assumption that labour and capital can be more intensively operated in the short run, even with a given stock of wage-capital.

Finally, we must face up to the problem of capital evaluation. <u>All</u> capital, as we have seen, is the product of former labour, but we cannot compare the value of two stocks of capital merely by reckoning up in a simple way the amount of labour-hours embodied in each. Allowance

has to be made for variations in wage-rates and profit or interest rates over the time during which labour has been applied to the production of the now-existing capital stocks. While it is true that we are assuming the corn-wage rate to be constant over time, the fact remains that in Mill's system the labour-cost of a given quantity of corn will vary as the costs of production of corn change, due to the diminishing returns inherent in the ordinary progress of agricultural production. Although, therefore, it might be possible to reckon up the quantity of corn embodied in any stock of capital, compounded at an appropriate rate of interest over the period in which the labour has been applied, the problem of the value of the corn itself still remains unsolved.

There seem to be two methods of ridding ourselves of this difficulty, both of which are applicable to Mill's analysis:

(i) <u>The invariable measure of value</u>

Although we have seen that the invariable measure of value is more typical of Ricardo than Mill, the standard of value in its abstract formulation is at least approved by Mill. Now a given stock of capital can always in the present conditions be reduced to the quantity of labour embodied in its production: more precisely we can reduce the value of a given capital stock to its value in homogeneous labour hours, accumulated down to the present

time at an appropriate interest rate (dependent on the rate of profit over the period during which labour has been applied). The value of the capital in terms of labour hours can in turn be reduced to its value in units of corn, since the corn-wage per hour is constant, by assumption. And, although the cost of corn in terms of labour hours may itself vary as output and population expand and diminishing returns are encountered in agriculture production, we may always invoke the invariable standard of value, which (having a period of production that is a weighted arithmetic mean for the periods of production of the whole economy) will act as a measure of the value of corn, irrespective of changes in the cost of production of corn or changes in the exchange ratio between corn and industrial goods. Any two stocks of capital equipment can therefore be reduced to terms of the invariable standard, and compared.

(ii) The durability of capital equipment

An alternative approach is by means of the assumption that the life of all capital equipment is limited to only one period. It may seem a drastic assumption to say that all capital equipment takes one period to produce, and, having operated in production for a further period, falls to pieces and must be replaced. Yet, within the context of Mill's Principles this is by no means as inadmissible as

might at first be thought. The evidence for this will appear in detail in the following chapter, but here we may take note only of the following passage:

"The greatest part, in value, of the wealth now existing in England has been produced by human hands within the last twelve months. A very small proportion indeed of that large aggregate was in existence ten years ago; of the present productive capital of the country scarcely any part, except farmhouses and manufactories, and a few ships and machines; and even these would not in most cases have survived so long, if fresh labour had not been employed in putting them into repair .... Most kinds of capital are not fitted by their nature to be long preserved". (p.74).

With a few minor exceptions, which could legitimately be ignored, the productive (apparently in contrast to social) capital of a country lasts only a year which, as James Mill observed, was the normal production period of classical economies. If, then, we accept this as a supposition, problems of capital evaluation do not arise. For any two stocks of capital now existing will be the product of the period immediately before, and their values are therefore directly comparable.

(6) Technical Progress. Both the wage-goods sector and the industrial sector will experience technical progress, but the flow of innovations will be different in nature in each case. In the industrial sector, the flow of improvements will be steady and reasonably fast, whereas in the agricultural sector innovation proceeds move slowly and sporadically. This view is backed up by Mill's own conception of progress and, as we shall see, played a

significant part in his economic forecasting, particularly with regard to the advent of the stationary state.

The distinction between the two sectors may be taken as a reflection either of the nature of the inventions themselves, or of different 'rates of absorption' of new techniques in the two sectors. The first view, which (so far as can be ascertained) was that of Mill himself, implies that it is easier for the community to develop and implement inventions in the industrial sector than in the agricultural sector, because of the nature of the sectors themselves. The second view would imply that entrepreneurs in the industrial sector were more able in adapting given inventions to their own particular problem than were entrepreneurs in the agricultural sector. The basis for these assumptions is discussed more fully in a later chapter[1].

A further point on the question of technological progress is the formal distinction between autonomous and induced changes in technique. Autonomous changes may be defined as those which result directly from scientific discoveries; induced changes as those which arise from changes in wages relatively to profits in a given state of technical knowledge. Although Mill recognised the effect

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1. Below, Ch.VII.

of the second kind of change in his discussion of machinery, he largely ignored the reasons for introducing a new technique in a given state of knowledge; and we shall, consequently, deal more in terms of the autonomous changes.

(7) A Closed Economy. Although it will not be assumed that we are dealing with a closed economy it is worth noticing certain conclusions that would follow from such an assumption: no emigration is possible: No exportation of capital may be made; and corn or other goods cannot be imported. These conditions will be seen to have considerable significance in later chapters.

(8) The Role of Government. Government plays no part in economic affairs beyond that of maintaining a state of peace in which trade can proceed normally. At times, however, it will be helpful to make note of Mill's views, on the part that should be played by Government, but such comments will be asides, apart from the main analysis itself.

(9) Competition. Perfect competition will be assumed to prevail in all departments of the economy. Although Mill did not in fact possess a formal definition of 'perfect' competition, he was aware that only in so far as competition was operative could principles of analysis be laid down. But competition here is opposed to 'custom' and not to monopoly or imperfect competition. Thus Mill

argued that

"only through the principle of competition has political economy any pretensions to the character of a science" (p.242).

Monopolies, he went on, had always been allowed for by economists; and Mill himself furthered the analysis of imperfect competition. Mill points out that, so far as political economy is concerned,

"there cannot be two prices in the same market" (p.246).

Yet there were in practice almost always two prices. Again, Mill was aware of restrictive trade agreements (p.247). Although, therefore, Mill recognised that free competition did not always prevail, he concluded that

"Our reasonings must, in general, proceed as if the known and natural effects of competition were actually produced by it, in all cases where it is not restrained by some positive obstacle" (p.247).

On the whole, then, it will be proper to assume free or perfect competition, except where Mill explicitly takes account of non-competitive conditions.

The statement of the assumptions, now concluded, is to be regarded as the basis of the system with which we shall be concerned in the remainder of this first part of the present study. The assumptions, it should be pointed out, are not always explicitly stated by Mill, and some of them are not stated in the exact form here given to them. They will, however, provide the foundation of a workable system of analysis which it will be the task

of the next five chapters to elucidate. As we proceed, it will become evident that in stating the postulates of the system in this way, we have anticipated Mill's own statement of them. But the procedure here adopted is, I think, a legitimate one, for it sets out clearly the properties of the model - which Mill does not always do - and enables us to recognise Mill's own statement and development of them when they do appear in the text.

CHAPTER III. Capital (1)

The Fundamental Propositions on Capital

Jevons wrote, in his Principles of Economics, that "Mill expounds the theory of capital in four Fundamental Propositions, all false." (p. 120). Not only Jevons, but countless other critics of the neo-classical period, found cause for serious complaint in the four theorems expounded by Mill. Why this should have been so, I shall try to explain in the appendix to this chapter, dealing with the major criticisms of the propositions. But within the text of the chapter itself I shall be concerned only with the propositions as they were expressed by Mill himself. It is my contention that in these theorems, properly stated and with due regard for the assumptions expressed and implied in them, Mill laid the foundation for the subsequent analysis of the Principles. Yet it must not be supposed from this that the propositions were entirely original: the first three had previously been stated in a single chapter of the Wealth of Nations, and Mill's treatment of them leaves no doubt that his inspiration was drawn from Adam Smith, though no acknowledgment was made.[1] As the propositions are discussed, I shall make

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1. "Wealth of Nations" Bk. II. Ch. III. For discussions of what later became the Fourth theorem, see Ricardo: "Principles," Ch. XXXI. Cantillon: "Essai sur la Nature de la Commerce" Pt. I, Chs. XIV, XV.

reference to their apparent sources, but it should be added that Mill, in establishing these classical 'truths' and setting them up as individual but interdependent theorems, gave to them a new status and priority which attracted attention and, subsequently, destructive criticism. The four theorems themselves, as I have indicated, are properly to be regarded as interdependent and, as such, they form an essential part of Mill's economic theory. But more than that, they help to define the whole theoretical system expounded by Mill, constituting together an important development of the original model of Ricardo. One aspect of this function of definition is seen almost at once, for the first three propositions are not strictly 'propositions' at all, if a proposition is something requiring formal proof: they are, instead, more in the nature of deductions from the original 'axioms' of the system, based on the definitions ascribed to particular concepts (especially that of capital). The fourth, and most-disputed, theorem, is a deduction from the other three previously stated.

Proposition I: 'That Industry is Limited by Capital

The first point to be tackled is the definition of 'industry' in the above phrase. The Oxford English Dictionary gives the following: "Industry - 4. Systematic work or labour; habitual employment in some useful work, now especially in productive arts or manufactures."[1] It is significant that

1. My italics.

this usage is exemplified by the following quotation from the Wealth of Nations:

"Every increase or diminution of capital, therefore, naturally tends to increase or diminish the real quantity of indust ry, the number of productive hands, and consequently the exchangeable value of the annual produce of the land and labour of the country, the real wealth and revenue of all its inhabitants.[1]"

Quite apart from the obvious relevance of this quotation for Mill's theorem itself, it can be seen that 'industry' implies the amount or volume of productive labour, and it is that definition which is adopted in the following discussion.

To my mind the theorem falls into two quite separate, yet complementary, parts, relating respectively to the short and to the long run. A short-period situation was defined in the last chapter as a period in which the following are given: capital (which is to be regarded as a stock of goods which may be used in production either in the payment of wages, or in the purchase of plant and materials), the labour force, the technique of production, and the wants and tastes of consumers. Even in the short period, however, output and employment may vary.

(a) The short-period theorem.

Mill states what I call the short-period theorem in the following way. The people of a country, he writes,

"consume what has been produced, not what is about to be produced. Now, of what has been produced, a part only is allotted to the support of productive labour; and there will not and cannot be more of that labour than the portion so allotted (which is the capital of the country) can feed, and provide with the materials and instruments of production." (p.64)

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1. op. cit. I. 320.

Mill's argument can be restated thus. The national product of any period issues in the shape of a collection of goods at the end of the period: we have assumed, in the previous chapter, that output does not proceed as a flow over a period, but issues as a 'lump' at the end of the period. Of that total output, a part will go to consumption (by capitalists and landlords) and a pa rt to the provision of capital for the next period. The 'provision of capital' here, of course includes replacement and maintenance of existing capital as well as net additions to the capital stock. At the beginning of the subsequent period, then, there will exist a given stock of capital which has in some way to be divided between two functions: the supply of raw-materials, equipment, etc. (technological capital), to be worked by productive labour; and the supply of wages to that labour itself, which will thus be enabled to maintain itself in corn.

From the point of view of labour seeking employment in that period, two things stand out as of prime importance. The first is the amount of the total stock of capital: the second is the ratio in which it is divided between the two functions just mentioned. For the stock of capital in real terms, and the proportions going to wages on the one hand and technological capital on the other, are the decisive factors limiting the volume of productive employment which can be expected by labour in the course of that period.

That this is not a proposition requiring rigorous proof in itself is to be seen from the fact that by the very nature of the initial assumptions themselves, the 'theorem' emerges as a

simple but necessary consequence. Given, that is, that in the short run the amount of capital cannot be increased, and that technology is fixed, so that the amount of wage-capital itself is fixed (in terms of corn), it must follow that there is a temporary limit to the number of productive labourers that can be employed. What that number will be, will depend on the wage-rate acceptable to labour: but that is a side-issue for the present. The 'limit' now introduced is an upper limit which may not always be reached in practice. For, in the first place, there may be a shortage of labour relative to capital, although strictly this does not apply in the model we are presently discussing. It was Mill's opinion that labour-shortage of this kind would arise more in 'new' or underdeveloped regions, where it was conceivable that there might be a greater demand for labour than could be forthcoming in the short run.[1] Then, secondly, and of greater importance for our argument here, Mill admits that the 'employment' limit may not be reached because of temporary - and this qualification must be emphasised - maladjustments, even in the older, more mature, capitalist economies. At once it must be said that Say's Law of Markets is not called in question. There is no implication of a failure of demand (in the Malthus-Sismondi sense): what is implied is that supply and demand are thrown temporarily out of gear by some

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1. Principles, p. 65. There is an important sub-argument here. Mill explicitly recognised a difference in the economic principles applicable to 'new' countries on the one hand, and 'old' countries on the other. This emerges most clearly in his critique of Carey's economics (Principles, pp. 181-2, 430-2.)

defect in the composition of output, or more precisely, in the sectoral planning of production.

One of the main points arising from t his short-period theorem of Mill's is that it does allow either for capital or labour being unemployed in the short run. But that is a question which will be better considered later on. The essential feature of the theorem itself, as stated by Mill, is that in the short-period situation, there is a definite upper limit to the amount of employment which can be given to labour in the productive sectors of the economy, a limit which will become determinate when the amount of wage-capital and the real-wage rate demanded by labour are known.

(b) The long-run theorem.

What I take to be the long-run limb of the first proposition on capital is stated by Mill as follows:

> "While, on the one hand, industry is limited by capital, so on the other, every increase of capital gives, or is capable of giving, additional employment to industry, and this without assignable limit." (p. 66).

The theorem, stripped of adornments, reads that every increase of capital gives additional employment to industry. It is first to be noted that, since capital is now supposed to be capable of increase, the analysis is taken out of the short period context and longer-run implications are introduced. If every increase of capital is to give additional employment, some portion of the increment must be used as wage-capital. But at the same time, every increase in wage-capital does not necessarily mean that employment will be increased. Mill allows for the possibility that capital and population may not

always increase together by his qualification that an increase in capital 'is capable of giving' additional employment.

To illustrate Mill's argument we may postulate a full employment economy which experiences a rise in the rate of capital accumulation, and in which some part of the increase in capital goes to augment the wages-fund. Labourers may behave in either of two ways: (1) they may accept the per capita rise in real wages as an indication that they should have larger families, and by increasing the population rate of growth to match the rate of capital accumulation, ultimately provide a larger working population which will all find employment at the original wage-rate: (2) labour may decide to use the per capita rise in real wages to raise their living standards, and by maintaining the rate of population growth at its original level, obtain the whole increase in wage-capital in the form of a higher real wage per head.

Mill's conclusion bears this out:

> "Every addition to capital gives to labour either additional employment, or additional remuneration; enriches either the country, or the labouring class. If it finds additional hands to set to work, it increases the aggregate produce; if only the same hands, it gives them a larger share of it; and perhaps even in this case, by stimulating them to greater exertio n, augments the produce itself." (p. 68)

That is, more wage capital with a constant labour force, raises real per capita wages, leaving output unchanged unless, perhaps, labour has previously been receiving a very low wage which has

impaired labour productivity:[1] or, if the additional wage-capital is taken as a signal that the rate of population growth should be increased, in the longer run population and output will grow, but there will be no change in the long-run or natural wage-rate.[2]

Finally the more difficult problem of Mill's phrase 'without assignable limit' must be accounted for. Mill's argument is that every increase of capital will give additional emp loyment to labour, and that so long as capital continues to be accumulated there is no limit to the amount of labour that can be employed. Provided only that some people are willing to save and undertake new net investment, they must in Mill's opinion have some unsatisfied wants, and the scope for employing labour will continue to increase. The ultimate limit of employment is never deficiency of consumers (or demand for goods) but deficiency of capital and of productive power. Mill's long-run theorem leaves the way open for a certain amount of substitution of capital for labour, although he does not directly bring it into his argument here. The only possibility he is not willing to admit is that the whole of any large capital increment will not in some way enlarge the wages-fund.

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1. Mrs. Robinson's inflation barrier is relevant here. If its real-wage rate falls so low as to impair labour productivity, it may pay employers to raise the wage-rate and prevent a rise in costs. It would seem however that such a situation cou ld only arise where labour mobility is high. For if some workers are perpetually unemployed, mobility being low, their efficiency will not be important since they do not work in any case. The labour habitually employed will receive a sufficient wage and no decrease in efficiency will follow. Cf. J. Robinson: "The Accumulation of Capital", pp. 48 - 50.
2. Although Mill seems to have in mind a full employment economy, it can easily be shown that unemployment would be reduced by an increase in wage-capital, at least where competition in the labour market is reasonably free.

Proposition II : That Capital is the Result of Saving

In the accumulation of capital Mill saw a never-ending source of increasing employment for productive labour. But all he has told us so far about the nature of capital is that it is a stock of goods produced by previously performed labour. In discussing the origin of capital we may recall Mill's opinion that a producer's capital is "precisely that part of his possessions, whatever it be, which is to constitute his fund for carrying on fresh production." (p. 55).
Even though capital existed 'in the mind' of the producer, it was generally to be identified as a stock of goods which could either be applied directly to production, or exchanged against other goods (or money) to be used productively. Thus the origin of capital is conceived in terms of real goods and not in the monetary decisions of the Keynesian model. The implications of this emerge as we proceed.

Saving is the process by which capital is formed and saving, in Mill's system, means not consuming. It is important to notice at this point that Mill's 'unit of decision' with respect to saving is the individual income-recipient. Saving is not yet considered in the aggregate. Mill's view is that "If all persons were to spend in personal indulgences all that they produce, and all the income they receive from what is produced by others, ca pital could not increase." (p. 68).
What Mill has in mind here is that those who receive incomes from which saving can be made must forbear to consume a part of their incomes if they are to make any contribution to saving. The

process in which savings, having first been made, are used up in production is considered in Mill's third proposition and there it becomes clear that Mill regarded the using-up of capital as just another form of consumption. But from the point of view of the individual saver this is irrelevant: what matters to him is that if he wishes to save, he himself must not consume the whole of his currently available income.

Because saving is 'real', what is saved is automatically invested. Thus, so long as the national income accruing in any period is not all set aside for personal consumption in the next period, there will remain a stock of goods available for productive use, and this will be the capital of the next period. It should be added, perhaps, that Mill was faintly troubled by the word 'abstinence'. For a person to increase his savings did not necessarily imply that a greater 'sacrifice' or 'increased privation' had to be undergone. In Mill's words, "it is obvious that whatever increases the productive power of labour creates an additional fund to make savings from, and enables capital to be enlarged not only without additional privation, but concurrently with an increase of personal consumption." (p. 70).

Mill seems, therefore, to be saying that increased saving need not imply a greater rate of saving from a given income, but only the same rate of saving from a larger income. The proposition reduces ultimately, then, to the point that the stock of capital goods can be increased by new net saving, which involves a decision on the part of capita lists not to consume

the whole of their incomes at the present, but, by converting that income into capital, to add to production and thereby obtain a greater income in the future. There is little more to be said directly on the proposition. But in the third proposition Mill explains more precisely the nature of the process by which capital is used in production. Meanwhile, before progressing to that theorem, we may consider the nature of saving in Mill's system as expounded in Bk. I Ch. XI of the Principles. By this means it is possible to view the second theorem in its context.

The theme of the argument of Chapter XI is to be found in the following passage:

"Since all capital is the product of saving, that is, of abstinence from present consumption for the sake of a future good, the increase of capital must depend on two things - the amount of the fund from which saving can be made, and the strength of the dispositions which prompt to it." (p. 163).

The remainder of Mill's chapter is devoted to a consideration of these determinants. The 'fund' mentioned is the 'real net produce' of the country in any period: as Mill puts it, "the surplus of the produce of labour, after supplying the necessaries of life to all concerned in the production: including those employed in replacing the materials and keeping the fixed capital in repair." (p.163). To Mill, therefore, the 'ceiling' of saving is given by the total real income of any period minus the allowance that has to be made for productive consumption in the following period. The next step is to isolate the determinants that are operative within the given limits: the upper limit just defined (which is impractical), the the lower, at which net saving is zero: net saving might be negative, but the case

is not relevant here. Mill's argument so far amounts to saying that it is the net product of labour and capital which determines how much can be saved. He continues with the statement that the size of the net product will also contribute to the determination of what will actually be saved:

> "A part of the motive to saving consists in the prospect of deriving an income from savings; in the fact that capital, employed in production, is capable of not only reproducing itself but yielding an increase. The greater the profit that can be made from capital, the stronger is the motive to its accumulation." (p.164).

That is, capital used in production replaces itself with a profit, the 'real net produce,' which in any period can be regarded as the net increase in the physical quantity of goods in the country. But Mill fails at this point to make it clear that it is the rate of profit which is the important factor, and to correct this it is necessary to introduce the quantity of capital into the analysis. Then the rate of profit for any period is the crucial element affecting Mill's capital 'motive to accumulation.' Once this point has been established, Mill's analysis follows more easily.

The average propensity to save is governed by the rate of profit on capital, while the rate of profit depends in turn on the net productivity of capital. There is, furthermore, at least a suggestion of the 'expectations' line of thought, for Mill makes the motive to capital formation partly dependent on the 'prospect' of deriving an income from saving. 'Prospect' evidently carries overtones of the future but the modern

connotation of uncertainty is absent. Also, the classical tendency to amalgamate in one person the act of saving and the decision to invest adds interest, in that it makes the decision to invest dependent on the prospective rate of return on capital. It can be seen that this conception accords closely with the view that capital is what is 'destined' to be used in production during a period, emphasising that the important thing is the decision in the mind of the capitalist with reference to prospective profits. The following passage from Mill's Principles bears this out:

> "The distinction, then, between Capital and Not-capital, does not lie in the kind of commodities, but in the mind of the capitalist - in his will to employ them for one purpose rather than another; and all property, however ill adapted in itself for the use of labourers, is a part of capital, so soon as it, or the value to be received from it, is set apart for productive reinvestment. The sum of all the values so destined by their respective possessors, composes the capital of the country." (p. 56).

It would appear, therefore, that Mill's vision of the savings-investment process was essentially one free from hitches and maladjustment. He does not, here at any rate, seem to recognise the possibility that the capital goods currently available may not be suitable for the consumption pattern desired. Admittedly, at a low level of capital formation the specificity of capital equipment may not be very great but Mill does not take sufficiently into account the two sets of problems arising (1) from the difficulties involved in the accurate forecasting of the kind of capital goods required, and (2) from the specific nature of capital goods at any reasonably advanced stage of capital accumulation. But these

comments do little more than reflect his lack of attention to capital goods in general: the main part of capital in his view may well have been the wages-fund which, with an assumption of homogeneous labour, is hardly specific in any real sense.

Finally, Mill rounds off this part of his discussion with the following:

> "when the general productiveness of labour and capital is great, the returns to the capitalist are likely to be large, and ... some proportion, though not a uniform one, will commonly obtain between the two." (pp. 164-5)

Mill's argument here seems to be that when the average productivity of labour-and-capital is high, the rate of profit is also likely to be high. It should be pointed out, however, that this was not a necessary relationship and that it is conceivable that average productivity could be high, while marginal productivity was low. Mill had no concept of marginal productivity as such however, and it may be better to consider the problem rather differently.

The 'general productiveness' of labour and capital clearly refers in Mill's passage to the size of the real net produce, and when the real net produce is high in proportion to the capital-labour input, the rate of profit will usually also be great. But the ratio of profits to the net produce will not always be constant, for although the capital-output ratio may be relatively low, the share of wages (or wages plus rent) might be comparatively high, and profits, being a residual, would be squeezed so that the rate of return on investment would be low. What seems to be the theorem to which Mill was moving was the

Ricardian doctrine concerning the inverse relationship between profits and wages. That theorem, to which Mill was subservient, although he 'proved' it in a different way from Ricardo, asserted that as the cost of production of wage-goods increased (through the external diseconomies in the production of corn) the share of profits in the national income would be reduced, first relatively, and ultimately - if expansion continued - absolutely. But that is a problem which must be left aside at present.

From this point in Mill's Chapter XI the discussion becomes more general in nature and, having now established, to his own satisfaction at least, that the amount of saving taking place in any period will depend partly on the net productivity of capital, Mill goes on to the discussion of other factors affecting the degree in which the 'pecuniary inducement' to saving and investment is operative. There is no need for us to pursue his explorations on the institutional influences on the average propensity to save, except to say that his treatment is based largely on the work of John Rae.[1]

The important points emerging from the correlation between Mill's second proposition on capital and the discussion of saving are as follows.

(1) The stock of capital goods could only be increased in so far as capitalists failed to consume directly the whole of their net income.

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1. "New Principles of Political Economy" (1834). On Mill's opinion of Rae, see Principles p. 165.

(2) The factors influencing the decisions of capitalists not to consume the whole of their net incomes were the absolute size of the net produce, and the prospective rate of return on current new investment.

(3) The savings-investment process was hitchless, so that acts of saving and investment were practically simultaneous and the specificity of existing capital was such that no changes in the consumption-demand pattern would involve a breakdown in the flow of consumption goods.

Finally, it has to be added that the theorem that capital is the result of saving takes on appreciable significance only when a theory of the determinants of saving is developed which relates saving to the theory of capital. By divorcing his second proposition on capital from his analysis of saving, Mill failed to make the interrelationship as clear as he might have done. But he did, nevertheless, succeed in advancing on the Ricardian position, although it shou ld be mentioned that while Ricardo was interested in the problem only indirectly, he did in fact lay the foundation from which Mill's analysis was constructed.

Proposition III : That Capital, though saved, is nevertheless consumed.

The crux of this proposition is again in the concept of saving which, in Mill's view "does not imply that what is saved is not consumed, nor even necessarily that its consumption is deferred; but only that, if consumed immediately, it is not consumed by the person who saves it."

(p. 70). That this proposition was not always recognised Mill put down to the fact that insufficient attention was paid to the ultimate consequences of saving on the one hand, and unproductive expenditure on the other. His own view of the process is described as follows:

> "Saving (for productive investment) and spending, coincide very closely in the first stage of their operations. The effects of both begin with consumption; with the destruction of a certain portion of wealth; only the things consumed, and the persons consuming, are different .... But in the spending, this first stage is also the final stage; that particular amount of the produce of labour has disappeared, and there is nothing left; while, on the contrary, the saving person, during the whole time that the destruction was going on, has had labourers at work repairing it; who are ultimately found to have replaced, with an increase, the equivalent of what has been consumed. And as this operation admits of being repeated indefinitely without any fresh act of saving, a saving once made becomes a fund to maintain a corresponding number of labourers in perpetuity, reproducing annually their own maintenance with a profit." (pp. 71 - 72).

Once again the root of this proposition is to be found in the Wealth of Nations, where Smith argues that "By what a frugal man annually saves, he not only affords maintenance to an additional number of productive hands ... but ... he establishes as it were a perpetual fund for the maintenance of an equal number in all times to come."[1] The similarity in wording can leave no doubt about the source of Mill's proposition. Also, we encounter again the fact that this is not a theorem requiring proof but a mere statement of the manner in which capital is applied in production. It is, in other words, a definition of the use of capital, and we may express the idea for which Mill was striving in the following way.

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1. op. cit. I, 321.

At the beginning of any production period there is a given stock of goods which is to comprise the capital of that period. These goods are fed into the production mechanism: in Mill's example (p. 70) some goods are exchanged for equipment, some for seed and materials, and the rest is paid out in wages to productive labour who may either consume their wages entirely or save some part of it.[1] Thus the total capital is 'used up' in the production process, having been set aside only in the sense that it is not consumed by the person who performs the saving. As a result the stock of goods comprising capital at the start of a period is (in Mill's sense) 'destroyed' for the purpose of giving a larger stock of goods at the end of the period. By our assumption that no capital equipment will last longer than a single period in productive use, we may take it that the entire labour and capital input issues in the form only of new goods, which may be either consumption goods, including corn, or capital goods. If this is to mean something more than that capital is replaced with a profit (the real net produce of the period in question) it must be emphasised that the point of the proposition is related to the process by which capital is 'used up' to produce a flow of goods. Also, if we credit Mill (and Smith) with the ceteris paribus assumption, as I think we must if the quotation is to be taken seriously, with its reference to 'a corresponding number of labourers in perpetuity' and the obvious inference that technique remains unchanged in the long

1. Here we encounter for the first time Mill's recognition of the fact that wages need not always be consumed without remainder. But the possibility of saving from wages is ignored in the following argument.

run and that no dissaving occurs; if we credit Mill with that assumption, we must also admit that he has grasped the essential nature of the production mechanism. Capital acts as an intermediary in the production process. It was regarded as a collection of stored-up labour in the form of goods and only by employing capital could this labour in some sense be set 'free', embodying itself in, and simultaneously increasing, the stream of outputs emerging from the production mechanism. The function of capital, we might say, was to transmit labour-inputs into the flow of output from that mechanism; and that function could be performed only by the injection of capital into the process, where it would be operated upon by labour, thereby being worn out or 'consumed' in Mill's terminology.

One point arising here is the 'rate' at which this 'consumption' takes place. It may at first be doubted whether the proposition is intended to be applied to capital as a whole, or merely to wage-capital. Yet although Mill may seem to imply the latter alone when he speaks of saving and spending as both involving consumption, "and the former quite as rapidly as the latter" (p. 73), the whole context of his discussion of the proposition seems to imply that he had in mind technological (fixed) as well as wage (circulating) capital. While he was prepared to admit that social capital (Westminster Abbey, bridges, etc.) might have an exceptionally long life, "there are few instances of any edifice applied to industrial purposes which has been of great duration; such buildings do not hold out against wear and tear, nor is it good economy to construct

them of the solidity necessary for permanency. Capital is kept in existence from age to age not by preservation, but by perpetual reproduction; every part of it is used and destroyed, generally very soon after it is produced, but those who consume it are employed meanwhile in producing more." (p. 74). There can be little doubt, I think, on the evidence he presents, that Mill did in fact consider the process of capital consumption to be speedier than we would now suppose, or even than seems likely to have been the case in his own day. Taking this vision of capital-consumption to its ultimate conclusion, Mill drew inferences about the rapidity of recovery from the ravages of wars, floods, etc., which, while being based on what were fundamentally correct conceptions, were nevertheless extravagant even in a nineteenth century context where the durability of capital equipment may not have been so great as it is today.[1] Finally, it may be repeated that because Mill took this view of the rate of capital consumption, it becomes feasible, within his scheme of analysis, to make the assumption that productive capital exists only for a single period, although it is not to be deduced from this that Mill recognised the problem of the valuation of capital and made a covering assumption of this nature.[2] Mill did not, I think, at any point consider the problems of valuing a stock of capital, and his proposition relating to the rate of capital consumption was to him in the nature of a socially observable fact.

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1. The question of economic recovery is discussed in the Appendix to this chapter.
2. Cf. the earlier discussion on this point, Ch. II above.

Proposition IV : That Demand for Commodities is Not Demand for Labour

This proposition, more than any other, has attracted criticism of a most severe nature. Let me say at once that Mill is not here denying what has become known as the principle of derived demand, for it is evident from allusions throughout the Principles that he did recognise that relationship between demand for goods and demand for labour. For example, Mill states that "the choice made by a consumer to expend five thousand a year in luxuries keeps a corresponding number of labourers employed from year to year ..." (p.72). Demand for commodities in this case does constitute demand for labour in the sense that commodity-demand causes labour to be employed. But the point Mill wanted to make in his fourth proposition was quite different. In discussing the proposition I wish to abstract from the controversies which have surrounded it, and to concentrate quite simply on the meaning of the theorem as it seems to be presented in Mill's detailed exposition. I should also add that my later suggestions about Mill's views on employment theory are partly dependent on Mill's discussion of the proposition, and as I take up that theme in Chapter VI below I shall deliberately brush over some issues which may seem deserving of further attention. I now proceed to the main business in hand.

The essence of the proposition seems to me to lie in the two passages now quoted:

(1) "What supports and employs productive labour is the capital expended in setting it to work, and not the demand of

purchasers for the produce of labour when completed. Demand for commodities is not demand for labour. The demand for commodities determines in what particular branch of production the labour and capital shall be employed; it determines the direction of the labour; but not the more or less of the labour itself, or of the maintenance or payment of the labour. These depend on the amount of the capital, or other funds directly devoted to the sustenance and remuneration of labour." (p.79 : Mill's italics).

(2) "I apprehend, that if by demand for labour be meant the demand by which wages are raised, or the number of labourers in employment increased, demand for commodities does not constitute demand for labour. I conceive that a person who buys commodities and consumes them himself, does no good to the labouring classes; and that it is only by what he abstains from consuming, and expends in direct payments to labourers in exchange for labour, that he benefits the labouring classes, or adds anything to the amount of their employment." (pp.80-81).

Passage (1) can be broken down into three parts: the statement that demand for commodities is not demand for labour; and the questions, 'what does constitute demand for labour?' and 'what is the economic function of demand for commodities?' Before going on to examine each of these parts in turn, it is as well to notice the assumptions which were explicitly stated by Mill in his exposition. First, the proposition does not apply when labour is not fully employed: and secondly, the effects of economies of scale must be abstracted from.[1] These 'assumptions' are stated by Mill as qualifications to the theorem near the close of his discussion and (perhaps because of their position) have never, to my knowledge, been noticed by the many critics of the theorem. The significance of the qualifications is a matter for later consideration:[2] for the

1. It appears from Cairnes's notes to Mill in 1865 that Cairnes was responsible for the inclusion of this second qualification.
2. Cf. pp. 95-97 below.

moment we work with a full employment economy and in the absence of economies of scale.

The 'slogan', 'demand for commodities is not demand for labour' - which, incidentally, was not used as a slogan by Mill himself, but was singled out as an object of ridicule by later writers - is largely explained by passage (2) above. The argument of that quotation may be restated in terms of our model in the following way.

Income accrues in the three economic classes in different ways: labour receives its wages in corn as a flow throughout the period, and consumes the corn so received directly, without exchange and without remainder: capitalists and landlords both receive their incomes as a stock at the end of each period and, on receiving their incomes, they have to make decisions as to its disposal with reference to the following period. After allowance has been made for their productive consumption, the remainder has to be allocated between three classes of use: saving, consumption of goods and consumption of labour services. It is at once clear that whatever is consumed in the way of goods must diminish the amounts going to the formation of capital on the one hand, and the hiring of labour services on the other. Saving and investment constitute demand for productive labour. The hiring of labour services is demand for unproductive labour. Then as Mill argues, 'a person who buys commodities and consumes them himself, does no good to the labouring classes; ... it is only by what he abstains from consuming, and expends in direct

payments to labourers in exchange for labour' that he adds to the demand for labour. The underlying logic of the theorem should now be clear. By whatever the recipients of non-wage income consume in the form of goods, they reduce the amount that can be devoted either to saving or to consumption of labour services.[1] In that sense, demand for commodities is not demand for labour: that is, the demand for goods for personal consumption reduces the income available for the 'consumption' of labour, be it productive or unproductive.

This interpretation of the slogan seems to me to be the only one feasible in the context of his exposition, and as we go on to discuss the remaining aspects of the theorem as a whole the conclusion gains in strength.

I turn next to the question of what, in Mill's system, does constitute demand for labour. The answer is clearly given in the statement that the amount of employment depends 'on the amount of the capital, or other funds directly devoted to the sustenance and remuneration of labour.' (passage (1) above). The first proposition has already informed us that in the short run the amount of productive labour that can be employed depends on the (wage-) capital available, on the assumption that the corn-rate of wages is given. Mill, it may be noticed in passing, makes allowance in this fourth proposition, for the

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1. Further confirmation of this interpretation is discovered in the following: 'a person does good to labourers, not by what he consumes on himself but by what he does not so consume.' (p. 84).

possibility that the wage-rate may not in fact remain constant in terms of corn, when he speaks of 'the more or less of the labour itself, or of the maintenance and payment of the labour' - a contrast which evidently allows for the possibility that labour may accept the increase in corn wages as a permanent rise in real per capita income, and not as a sign that they should have larger families. It will here simplify the discussion if we merely postulate that any increase in the demand for labour will, sooner or later, raise the volume of employment.

The demand for productive labour is thus determined by the amount of the wage-capital: the demand for unproductive labour is determined by the size of the 'other funds' paid directly to labour. And again, whatever is consumed by capitalists and landlords in the form of goods, must thereby reduce either the demand for productive or for unproductive labour, or both. It may be pointed out as a side-issue, that in so far as saving suffers from a rise in the unproductive consumption of capitalists and landlords, whether it be consumption of goods or services, the detriment to future employment will be cumulative. What is not saved will not be added to capital and will not therefore yield a net produce in further periods, from which, ceteris paribus, still more employment would result. The income-and-employment generating effects of saving in the longer run are superior to expenditure on labour services (or a fortiori, expenditure on commodities): for labour services yield no net (physical) product and no

further investment can occur from that form of expenditure. But this is a point less noticed in Mill's exposition than in Adam Smith's treatment of the same problem: the prodigal, Smith writes, "By diminishing the funds destined for the employment of productive labour, ... necessarily diminishes ... the quantity of that labour which adds a value to the subject upon which it is bestowed, and, consequently, the value of the annual produce of the land and labour of the whole country, the real wealth and revenue of its inhabitants."[1]

Finally, before we proceed to a more detailed examination of one of the examples by which Mill illustrated his theorem, we must pay a little attention to the third aspect of the theorem, relating to the function of demand for commodities in the economic process. Mill states that demand for goods 'determines in what particular branch of production the labour and capital shall be employed; it determined the direction of the labour ...' (passage (1)). This argument must, I think, be read to mean tha where the amount of capital available for production in any period is given, it will be distributed between industries - perhaps also between firms in the industries, though Mill takes no account of the role of the individual firm - according to the demand for the product of the industry. Mill's argument is simplified by the assumption that capital withdrawn from one industry is 'ready for a new employment, in which it will maintain

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1. "Wealth of Nations" I, 321.

a s much labour as before.' (p. 80). If this is to be applied to total capital, and not merely to wage-capital, the supposition is that all industries operate identical techniques with the same capital-labour ratios. Given that assumption, Mill's argument would be that capital will be allocated between industries in the proportions dictated by the level of demand for the products: and that labour would be employed in proportion to the amount of capital in each industry. The process envisaged is one of perfect competition, in which resource allocation takes place on the basis of the demand anticipated for the period of production about to commence. As we shall see, the anticipation of demand may not always be accurate, but the process of readjustment is (to Mill) fairly simple in its operation. The essence of this aspect of Mill's theorem would seem to be, therefore, that the demand for commodities determines the proportions in which capital and labour will be allocated between industries. But what is important for labour is the actual <u>amount</u> of capital in the economy as a whole: the amount of capital, not its proportional distribution, determines howmuch labour will be employed at a given wage-rate.

By going on to examine one of the examples by which Mill illustrates the theorem we may be able, firstly, to discover how Mill envisaged the operation of some related economic processes, and secondly, to check on the va lidity of the interpretations just offered. A consumer has the choice of

consuming goods or labour services and Mill asks how his choice will affect employment. (p. 81). It is supposed that a consumer, who has been accustomed to spending a part of his income in the hiring of bricklayers - who seem to be regarded as unproductive labour but who should, by definition, be productive labour - now decides to use that portion of his income to buy velvet. This extra demand for velvet, says Mill, "cannot be satisfied without an extra capital, nor can the supply be produced without an extra capital; where, then, is the capital to come from? There is nothing in the consumer's change of purpose which makes the capital of the country greater than it otherwise was. It appears,, then, that the increased demand for velvet could not for the present be supplied, were it not that the very circumstance which gave rise to it has set at liberty a capital of the exact amount required. The very sum which the consumer now employs in buying velvet, formerly passed into the hands of journeyman bricklayers, who expended it in food and necessaries, which they now either go without, or squeeze by their competition from the shares of other labourers." (pp. 81 - 2). The bricklayers, then, either no longer have an effective demand for wage-goods, or, by competition, reduce the average wage-rate in the short run by competing for a smaller wages-fund. Because that wages-fund is smaller, the demand for wage-goods will be less and Mill goes on, "The labour and capital, therefore, which formerly produced necessaries for the use of these bricklayers, are deprived of their market, and must look out for some other

employment; and they find it in making velvet for the new demand." (p. 82.). The process, simply restated, is that an increase in the demand for velvet at the expense of the demand for labour services, causes the wages-fund to be reduced so that less wage-goods will be produced: capital and labour in the wage-goods industry become partially redundant, are set free, and used to increase the output of velvet. If the wage-rate is fixed the labourers providing services are unemployed: if it is flexible, a new lower competitive wage will be established. The total capital in the economy remained constant, and so long as it was employed, the volume of productive employment must have been constant: but the demand for labour services fell, and labouring interests, in one form or the other, must suffer. Reversing the case, Mill supposes that the demand for bricklayers increases at the expense of the demand for velvet. Then, Mill maintains, "there is an increase of the total sum applied tothe remuneration of labour. The velvet manufacturer, supposing him aware of the diminished demand for his commodity, diminishes the production, and sets at liberty a corresponding portion of the capital employed in the manufacture. The capital, thus withdrawn from the maintenance of velvet-makers, is not the same fund with that which the customer employs in maintaining bricklayers; it is a second fund." (p. 82). It is concluded that there are now two 'funds' instead of one and there is a new employment created for bricklayers "and a transfer of employment from velvet-makers to some other

labourers, most probably those who produce the food and other things which the bricklayers consume." (p. 82). Mill's point is that, with a constant level of saving from a given real income, more employment will be given to labour if labour services are substituted for commodities in unproductive consumption. A reduction in the demand for non-wage goods will result in a corresponding reduction in the capital and labour required for the production of non-wage goods, so that at first sight it appears that the increase in the demand for unproductive labour is merely offset by the fall in demand for productive labour. But, provided that capital can be withdrawn rapidly from one employment (non-wage goods) and reinvested elsewhere (wage-goods), the redundant labour will quickly find employment in the wage-goods industry, increasing the supply of wage-goods to meet the demand set up by the newly employed unproductive labour. To suppose that the increased demand for labour services was merely countered by a fall in the demand for productive labour would be to assume that the redundant capital in the non-wage goods industries found no alternative employment during the remainder of the period. Mill foresaw this argument and expressly stated his opinion that "The increased employment which I contend is given to labour, would not be given unless the capital of the velvet-maker could be liberated, and would not be given until it was libera ted". (p. 88 - Mill's italics). He is prepared to admit that the withdrawal and re-investment of capital might take some time - we might add that in so far as

the adjustment is a marginal one involving only circulating or wage-capital, the process might be fairly smooth and rapid.

Nevertheless, there are other points which need comment. It is assumed by Mill that the increased demand for labour-services is met by an increase in the supply, which would seem to contradict the postulate of full employment. We might excuse Mill on the grounds that even at 'full employment' there will be some flexibility in the labour supply. More satisfactorily, it may be suggested that the full employment assumption need only apply to the productive sector (this assumes imperfect competition in the labour market): for whether or not unemployment was present in the unproductive sector, an increase in demand for non-wage goods could not cause the existing capital "to set in motion a greater amount of labour than it did before." (p. 88).

The foregoing discussion of Mill's fourth proposition seems to establish the validity of the theorem within the system under observation. Final sanction to the interpretation offered seems to be given by Mill's summary: "a person does good to labourers, not by what he consumes on himself, but solely by what he does not so consume ... When less is not produced, what one person forbears to consume is necessarily added to the share of those to whom he transfers his power of purchase." (p. 84).The underlying theme of the entire proposition is to be identified with Say's Law. Aggregate real demand, the total amount of goods in existence at the beginning of a period, will always equal aggregate supply:

what is supplied in any period is an exact measure of the unsatisfied demand in that period. Demand and supply were, to Mill, merely opposite sides of the same coin, the action of demand being exerted by the deposition on the market of a suitable quantity of exchangeable goods - supply in other words. As Mill writes elsewhere, the 'means of payment' for commodities 'is simply commodities' (p.557). The foundation of the argument of the fourth proposition is just that supply (and hence demand) is determined at the beginning of each period by the quantity of output in the previous period. If, for reasons such as maladjustment of markets, demand is not at first satisfied, a reallocation of resources will enable the composition of supply to be adapted to the pattern of demand. In that way, what appears as an increase in the demand for commodities - in fact it is an excess of demand over that anticipated by individual producers - will be responsible for an increased supply in the industries affected. The increase in demand in some industries will be exactly offset by a decrease in the demand in other industries, and the equality of aggregate real demand and supply is maintained. Where demand and supply are maladjusted, and where capital cannot be withdrawn rapidly, aggregate supply and demand will fall below their potential upper limit, but will remain equal, even though some unemployment of labour and capital exists. In the longer run it is possible to take a more dynamic view of Say's Law, where demand and supply

increase pari passu, and where demand for goods assumes its role of apportioning the productive factors between employments, so that demand and supply patterns can be aligned and a full employment equilibrium restored.

Finally, a short note has to be made on the quali fication to the theorem regarding economies of scale. The significance of Say's Law is again to be seen here. Where the increase in the demand for a particular good makes possible an increased division of labour, if the demand "determines that the commodity shall be produced on a large scale, it enables the same capital to produce more of the commodity, and may, by an indirect effect in causing an increase of capital, produce an eventual increase of the remuneration of labour." (p. 88). Mill's argument is evident enough, though its direct relevance may be doubted. The aim of the qualification is to show that an increased efficiency in the use of resources may raise the potential limit of output obtainable by a given quantity of labour and capital. In terms of Say's Law, aggregate demand and supply increase above the limit hitherto imposed. The net produce is increased and the demand for labour may also be increased, so that if the initial economies of scale were made possible by an increased demand for the good, that increased demand will have been responsible for an increase in the demand for labour. The theorem as a whole is logically complete.

My discussion of the theorem has been lengthy, but the justification for this is to be seen when account is taken of

the many adverse criticisms mentioned in the appendix. It may, however, be advisable to restate the theme of Mill's proposition in a brief form, with its proper assumptions.

In a situation of full employment in the productive sectorof the economy, and in the absence of economies of scal e, any increase in the demand for non-wage goods must take place at the expense either of saving or of the consumption of labour services. A fall in the rate of saving from a given real income will, ceteris paribus, reduce the demand for productive labour, while a fall in the consumption of labour services involves a fall in the demand for unproductive labour. That is, demand for commodities and demand for labour are alternatives: in Mill's words, 'demand for commodities is not demand for labour.'

By way of conclusion, a few words must be added on the nature of the contribution made to economics in those four theorems. Considered as a whole, they represent a carefully conceived and well-worked out foundation for subsequent analysis. Little progress is made, admittedly, towards a 'theory' of capital in a more modern sense, but that, I submit, was not the purpose in Mill's mind. What Mill seems to have been aiming for was a precise statement of the essential nature of capital in the classical system - capital, regarded no t so much as a structured entity as a prime mover in the econ omic process. Mill is less concerned with what capital is, more concerned with what capital does, and in what way. Thus it is that we have a new emphasis on the importance of

capital for the employment of labour, an emphasis not yet adequately thought out, but containing sufficient information to enable us to draw out of Mill's system an embryonic 'employment' analysis. On that matter there is a good deal more to be said in a subsequent chapter.[1]

There is another aspect of the propositions which I have passed over in the above examination, the 'policy' implications extracted by Mill from his initial suppositions. I do not propose to enter into the detail of this question. It is enough to note that Mill's arguments take the form mainly of objections to the Malthusian 'anti-saving' thesis which maintained that while some saving is a necessary condition of continued economic advance, unproductive expenditure is an equally necessary condition if economic stagnation is to be avoided. The form of the argument between the two camps is familiar enough and need not be recounted here. What does seem to be of greater importance is the fact that Mill, having deduced these propositions from the original axioms of his system, admittedly common to all classical literature, Ricardian or Malthusian, goes on to use them as weapons against the opponents of Ricardo. He does this before the operations of his system have been fully explained, and as we have seen, some of the more important parts of that system have not even been introduced - the law of diminishing returns for example. The possibility that his conclusions in respect of policy might have to be revised in the light of these later features

1. See Ch. VI below.

of the system does not seem to have been considered by Mill, although it must be said that on the whole his more practical arguments do not suffer from the undeveloped theoretical conclusion. The fact remains, nevertheless, that his method of procedure is open to criticism.

This concludes my examination of the propositions, which will be regarded from now on as established principles on which more complex analysis is based. The system of thought developed from these principles forms the subject-matter of the next four chapters.

CHAPTER IV: CAPITAL (2) INTEREST AND INVESTMENT

I have tried in the previous chapter to present an interpretation of the fundamental propositions on capital which is at once realistic and indicative of their relevance for other problems involving more intricate analysis. The first of these problems, now taken up, concerns interest and investment. Neither of these topics in Mill's system is particularly easy, but for different reasons. The difficulty with investment is that Mill, in common with most classical writers, had little to say directly on the matter, despite the fact that it formed an essential part of his analysis. Classical literature on the whole intended to consider the savings-investment-production relation in a manner much more compressed than is customary today. The intermediate stages between the decision to save and the act of investment were largely ignored and saving at one end and output at the other were the issues on which analysis was primarily focussed. Yet it would be untrue to say that classical economics entirely bypassed the intervening processes and, in the case of Mill in particular, we will see that there is a sufficient number of allusions which, pieced together and coordinated, provide at least the basis for an analysis of investment.

First, however, must come the question of interest. Mill's first major venture on this topic was his essay "On Profits and Interest" in the Unsettled Questions, and there he expressed some disagreement with the orthodox Ricardian analysis on two

scores. Throughout the first five editions of the Principles, however, Mill's views on interest accord closely if not completely with orthodox opinion at the time. The assured nature of this phase was broken when, in 1865, Cairnes submitted to Mill a series of manuscript notes which were mainly concerned with Mill's views on interest theory. As a result, Mill made several important changes in the sixth edition. In accordance with the plan of the present study, the last (post-1865) stage of Mill's thought must be left out of account for the present: the thread of the argument will be taken up once more in Part II.[1] The present chapter, therefore, will be confined to the examination of Mill's interest theory as it is to be found in the Unsettled Questions and in the pre-1865 editions of the Principles. There is another difficulty in the interest analysis of the Principles. Mill's treatment of the subject was scattered and sporadic and first impressions, at least, point to a lack of cohesion. Introduced as a component of profit in Book II, interest is given its main discussion in Book III, and makes a final appearance in Book IV. As I hope to show, however, there is a certain logic in this apparent lack of integration although there can be little doubt that a more balanced approach would have led Mill to a better understanding of the interest phenomenon. Also, it is to be noticed that the main analysis of interest occurs in Book III of the Principles, the Book devoted to the theory of value. The divorce of interest from distribution theory is apparent rather

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1. Cf. particularly Ch. VIII.

than real: the rate of interest is the aspect dealt with in Book III, while interest as a distributive share is discussed in Book II under the heading of Distribution.

The following discussion, then, concerns Mill's initial sorties in the field of interest theory, as illustrated by his essay on Profits and Interest, and his exposition in the Principles. In a sense our task with regard to the essay is one of reporting, rather than of operations within the system of analysis which is our main concern: this approach is necessitated by the nature of the material but I shall try, wherever possible, to relate the material studied to the workings of the model. Also, the question of the role of money enters into the picture, it being part of Mill's aim to discover in what way, if any, currency operations affected the rate of interest. But on the whole the present chapter will play its part in further explaining the terms of reference of our system and, when we turn later to the problem of investment, a still more positive step will be taken.

I. Interest

(i) In the "Unsettled Questions"

The essay "On Profits and Interest",[1] as we have seen, shares with the other essays comprising Mill's "Essays on Some Unsettled Questions of Political Economy" a peculiar history, in that it was completed by 1830 but remained unpublished until 1844. The essay with which we are concerned is divided into two

1. Mill wrote of this essay in 1834 "I believe almost all that I have written in the fourth essay concerning Interest is erroneous." (letter to J. P. Nichol, 15th April 1834: Fortnightly Review; May, 1897)

parts, dealing respectively with Profits - particularly the Ricardian theorem that profits and wages vary inversely as each other - and Interest. In dealing with interest, Mill begins with interest as a 'real' phenomenon before proceeding to the effects on interest of banking operations.

Mill's intention was, firstly, to show that the relationship between the rate of profit and the (natural) rate of interest was not necessarily the constant one which had normally been accepted by earlier writers. In particular, he raised an objection to the habit of using the rate of interest at any time and place to judge the rate of profit, a notion which had been suggested by Adam Smith, to some extent followed by Ricardo and eventually, it would seem, adopted quite generally by writers on economics. As Mill puts it, it was commonly inferred that the rate of interest "conforms on the average of years to a standard determined by the rate of profits, and bearing some proportion to that rate - but a proportion which few attempts have been made to define." (U.Q. pp.106-107)

Mill goes about his task by reducing gross profits to its three component elements, a payment for risk, the wages of superintendance (sic) and interest. Excluding the risk factor, which, it may be suggested, will be proportional to the amount of capital either borrowed or used, Mill points out that the wages of superintendance, unlike ordinary wages, accrue as part of the product at the end of the production process.

Then commences his main analysis of the factors operating

on the natural rate of interest. Mill's aim, it seems to me, was to show how the long-run equilibrium rate of interest was related to the rate of profit. Previously it had merely been accepted that there was some 'proportional' relationship between these rates, the only explanation of which was that interest was equal to profits net of the risk element and of the wages of superintendance, an essentially tautologous proposition. Mill, on the other hand, could not accept this without further explanation and set about showing that there were 'real' factors which would determine the relation between interest and profits.

Mill begins by considering the supply and demand for loanable capital, not in their short-run aspect, but with reference to the habitual tendencies of the community. Given the aggregate sum which people are willing to borrow at a given rate of interest, Mill argues, "the rate of interest will depend on the quantity of capital owned by people who are unwilling or unable to engage in trade. The circumstances which determine this are, on the one hand, the degree in which a taste for business, or an aversion to it, happens to be prevalent in the classes possessed of property; and, on the other, the amount of the annual accumulation from the earnings of labour." (U.Q. p.112). The demand for loanable capital was constituted, in Mill's opinion, of two elements: the demand for loanable capital (a) to be used productively by businessmen, and (b) to be used unproductively by Government and other 'unproductive' consumers, who, says Mill "do not borrow in order to make a profit by the loan, but from the pressure of a real or supposed necessity."

(U.Q. p.111). The demand for loanable capital to be used productively is limited by 'the power of giving security' and by 'the uncertainty of the prospects of the individual producer.' There is "never more than a portion of the producers, the state of whose business encourages them to add to their capital by borrowing; and even these are disposed to borrow only as much as they see an immediate prospect of profitably employing." (U.Q. pp.111-112: Mill's italics). Then, Mill concludes, the rate of interest in the long run is determined by the habitual demand for and supply of loanable capital in the community.

The analysis here presented requires some elucidation. Two alternative interpretations seem possible. Each depends first of all on the assumption that Mill is not guilty of circular argument when he states that, given the supply of loanable capital at a given rate of interest, the rate of interest will be determined by the demand for loanable capital: and vice versa. What Mill is implying, I think, is rather that, given a schedule of supply of loanable capital at various rates of interest, and a similarly constructed demand schedule for loanable capital, the actual rate of interest will be determined by the 'intersection' of these schedules or their graphic representations. Once given that Mill was groping for the concept of demand and supply schedules, not yet formulated in English economics, the analysis may branch off in either of two directions.

The first interpretation would assert that Mill was guilty of a confusion between stocks and flows. It was his view that

the supply of loanable capital was determined (1) by the distribution of property by its owners between direct investment and lending, and (2) by the annual savings of wage-earners. The decision of property-owners to superintend actively the employment of their capital, or to lend it out, refers in the first instance to a stock: the decision to consume or to reinvest the returns from that initial investment relates to a flow. Also, the decision to save by wage-earners must also be taken as relating to a flow. On the demand side of the picture, we would again have a 'flow', the demand for loanable capital being determined by the current prospects of individual producers and the cash requirement of unproductive consumers. Were we to consider only net additions to loanable capital, we would have to admit that relevance of a flow analysis throughout. On the other hand, it might be suggested that Mill was thinking in terms of total loanable capital (old as well as new) and in that sense it would be more legitimate to regard the decisions at the end of each period as relating to a flow; the process over a series of periods would appear as a flow, the stock continually increasing but requiring a new set of decisions in each period. Also, this latter supposition, that the entire supply of loanable capital is the vital question under review, would not only dovetail into Mill's conception of the rapid deterioration of fixed capital equipment, but would also fit into the pattern which regards demand in terms of a flow.

The alternative explanation demands a slightly different point of departure. Mill was concerned to show the 'real'

foundation of the commonly-accepted dictum that the market rate of interest fluctuated about a certain equilibrium level which was in some way related to the rate of profit generally obtaining in the economy. In equilibrium, both the demand for and supply of the stock of loanable capital, and the demand for and supply of the flow of loanable capital, would have to be equal. Mill's analysis would seem to imply that the demand and supply of the stock would always be equal. How much would be lent and borrowed at any given time and place would depend in his opinion, on the habitual tastes of the community. He argues that "if more than half the capital of the country were in the hands of persons who preferred lending it to engaging personally in business, and if the surplus were greater than could be invested in loans to government, or in mortgages upon the property of unproductive consumers, the competition of lenders would force down the rate of interest very low." (U.Q. p.110). Then, because of the low rate of return on lend capital, some property-owners would be induced to enter into active business on their own account, and the relationship between interest and profit, necessary for the society to be in equilibrium, would be restored.

Mill goes on to suppose the case in which "it might be necessary to offer them (i.e. property-owners) a rate of interest fully equal to the ordinary rate of profit." (U.Q.p.111) In that case, it was likely that only government and unproductive consumers generally would wish to borrow. The argument put forward, then, is that the relationship between the equilibrium

rate of interest and the rate of profit is basically a stable one, but it is clear also that Mill left open the possibility that the ratio between the two rates might vary, according to the propensity to engage in business habitual to different societies.

There still remains the problem of the net additions to the demand and supply of loanable capital. But it would seem that the same test can be applied there also: the psychological dispositions of the community will continue to allot net additions to the real-capital stock between lending and direct investment in the same way as the original stocks of loanable capital: provided, always, that the margin between the rate of interest and the rate of profit is one acceptable to the society at large. If it is not, there will be a marginal alteration in the <u>supply</u> of loanable capital, so that equilibrium is again restored. In that way, it is possible to argue that both the demand for and supply of (a) the stock, and (b) the flow of loanable capital would always be equal, and the relation between the rate of profit and the rate of interest kept constant.

This, in effect, is the main part of Mill's analysis. The task here has been to put the normal classical analysis on a firm sociological foundation. But Mill himself does not agree with the usual conclusion that the relationship between the rate of interest and the rate of profit would <u>always</u> be constant. Briefly his argument is that, given an equilibrium rate of interest, determined in the manner described above, where the aggregate

demand for, and supply of loanable capital are equal, we may suppose that on the outbreak of a war, Government is obliged to enter the loan market. Since all who were willing to lend capital at the market rate have already lent it, Mill argues, Government will have to offer a higher interest rate, which will induce some who possess disposable capital to lend it, rather than employ it themselves. He goes on: "The same temptation will also induce some persons to invest, in the purchase of the new stock, what they would otherwise have expended unproductively, in increasing their establishments, or productively, in improving their estates. The rate of interest will rise just sufficiently to call forth an increase of lenders to the amount required." U.Q.p.113). That is, in Mill's opinion, the rise in interest would have the effect of causing a reduction in unproductive consumption from a given income, and of diverting capital from productive investment to the purchase of Government bonds.

Mill then assumes that there is no reason why the rate of profit should have changed in the meantime, and concludes that interest has risen (and will remain high so long as the war continues) while the rate of profit remains constant, so that the natural relation between interest and profit is, for the time disturbed. To assume that profits remain constant, however, is legitimate only if the ceteris paribus assumption is applied. The capital diverted from productive investment to investment in bonds is most likely to be capital employed in the diminishing returns industries, and as capital is drawn off, the rate of profits there will tend to rise. Also a fall in the demand for

consumption goods will tend to produce redundancy of labour and capital in some industries, so that profits will again be affected.

Mill's argument fails, therefore, to take into account the effects on the rest of the economy of changes in the pattern of consumption and investment: or at least, the argument depends on an unstated partial equilibrium assumption, which can hardly be used to justify such an analysis as Mill here presents.

Finally, it may be concluded that the most important part of Mill's discussion for our purposes was that which dealt with the 'real' factors affecting the supply of and demand for loanable capital. Mill has attempted to explain the institutional forces acting on the natural rate of interest, whereas Ricardo accepted these tacitly as data, and there is not any direct opposition between the two writers, but rather a complementarity.

However, from the methodological point of view, it can be said that Mill was closer to Adam Smith than to Ricardo. For whereas the latter was intent upon the construction of a water-tight system in which each factor was assigned a logical place, his pupil at this stage was more concerned with the broader foundations of the logic itself and the result was a return to the semi-sociological, semi-psychological outlook so characteristic of Smith himself. Mill, by operating at a lower level of abstraction than Ricardo, had succeeded to some extent in putting the tautologous argument, that interest was equal to profits minus payment for risk and the wages of superintendance, on a

more secure footing: it is in that contribution that the merit of this part of the essay lies. Although, however, Mill had tried to show that the rate of interest was not entirely dependent on the rate of profit, simply, he did not by any means rule out the importance of the rate of profit, as is clear from his conclusion, that "although the rate of profits is one of the elements which combine to determine the rate of interest, the latter is also acted upon by causes peculiar to itself, and may either rise or fall, both temporarily and permanently, while the general rate of profits remains unchanged." (U.Q.p.114).

The first part of the essay dealing with interest has dealt exclusively in terms of interest as a <u>real</u> phenomenon: in the second part Mill proceeds to discuss the influence on the rate of interest of changes in the monetary situation of a country. His argument may be summarised as follows:

The function of banks of credit is to increase the <u>capital in activity</u> at any moment, and the resulting tendency is for interest to fall. But (here Mill was in direct opposition to Ricardo) where a bank was able to issue notes, capital would be increased absolutely. If the currency-issue was convertible, Mill wrote,

"it cannot get into circulation permanently without displacing specie, which goes abroad and brings back an equivalent value. To the extent of this value, there is an increase of the capital of the country; and the increase accrues solely to that part of the capital which is employed in loans." (U.Q.pp.117-118)

In this case, Mill's argument seems to be that the initial issue of currency in the way of loan at first displaces specie, and it is only when that has been returned to the country that there is

any increase in capital. Mill is somewhat obscure on this point, and he does not develop it at all, but the main result is clear. Capital is, in some way, increased, and as it accrues to the lending sector, some portion of it is added to the loanable capital of the country, thereby depressing the rate of interest.

On the other hand, Mill goes on, where the increase in currency is inconvertible, the currency will be depreciated, and the banker in this case lays a tax on all who have money in hand or owing to them. Thus the banker

> "appropriates to himself a portion of the capital of other people, and a portion of their revenue. The capital might have been intended to be lent, or it might have been intended to be employed by the owner: such part of it as was intended to be employed by the owner now changes its destination, and is lent. The revenue was either intended to be accumulated, or it was intended to be spent: in this last case, revenue is converted into capital; and thus, strange as it may appear, the depreciation of currency, when effected in this way, operates to a certain extent as a forced accumulation." (W.Q. p.118)

To Mill, therefore, an increase in the supply of money as such was likely to increase the amount of capital in the country absolutely: but, where the currency was inconvertible, it did this by <u>diverting</u> goods into the form of capital, not of course by increasing the amount of goods themselves. In either case, however, whether the currency-issue is convertible or not, a domestic citizen is deprived of goods in exchange for money: in the 'convertible' example, the citizen loses gold, which is spent abroad, while in the 'inconvertible' example, he loses goods directly.

Such an argument was of course in direct opposition to the normal Ricardian doctrine, which depended on the rigid quantity

theory of money. It may be noted, also, that the increase in the supply of loanable capital leads to a reduction in the rate of interest - again without any necessary decrease in the general rate of profit (although where the increase in capital is applied in the domestic economy there may also be a reduction in the profit-rate). Mill's argument, therefore, controverted, or at least imposed restrictions on, the orthodox monetary theory, which stipulated that although a change in the amount of money would have some temporary effect on interest, the equilibrium would soon be regained, none of the real factors in the economy being changed. As we shall see, however, this was by no means Mill's last word on the present subject.

It is difficult to assess the merit and importance of these youthful questionings. Partly this is due to the dubiety shown by Mill in the extract from the letter to Nichol quoted above: partly also there is the consideration that in the essay Mill did not have the space to work out fully the induced effects in other related fields. In any event, before conclusions of a more definite nature can be hazarded, the essay must be seen in its proper perspective, in the light of Mill's later analysis of interest in the Principles: it is to this question that I now turn.

(ii) In the "Principles"

The relation of interest and profits is discussed in Book II, and the essential points are the following. Profit, as we know, is a residual in the classical theory of distribution. In Mill's

words, after indemnifying the producer for his outlay,

"there commonly remains a surplus, which is his profit, the net income from his capital: the amount which he can afford to spend in necessaries or pleasures, or from which by further saving he can add to his wealth." (p.405)

In Mill's view the reason for profit is the net productivity of labour although in essence his position is not far removed from that which attributed profit to the net productivity of capital. But Mill was distrustful of the phrase 'productivity of capital', believing that the only 'original' productive powers were those of labour and natural agents. Gross profit had to be sufficient (in the long run) to cover three items of cost; abstinence, risk and superintendence: profit is thus subdivided into interest, 'insurance' and wages of superintendence. In addition, the rate of profit has a lower limit over the long run, for it must be adequate to provide a 'normal' reward for each of these elements: if it did not amount to this, capital would be withdrawn and either invested elsewhere or consumed unproductively. In modern terms, if the marginal net revenue productivity of capital falls below the level which is necessary to induce people to keep capital invested, disinvestment will take place until the rate of profit is again raised to a satisfactory level. Mill observes also that it is not necessary that rates of profits in all trades should be equal. It is necessary only that on the average (after allowing for variations in risk and disagreeableness)

"the various employments of capital are on such a footing as to hold out, not equal profits, but equal expectations of profits, to persons of average abilities and advantages." (p.412)

Because of this, Mill contends, the rate of profit on capital

tends everywhere to equality, again after making allowances for adventitious advantages. Hence investment in any employment will proceed up to the point at which it seems (to the investor) that it would be more profitable to invest elsewhere.

Mill's view of the basic relationship between interest and profit, as distributive shares, is repeated in Book III: after allowance for average risk, the capitalist at the end of the period is left with a surplus which must cover the cost of abstinence and the wages of superintendence. The proportion between these, we are told, is shown by the remuneration that could be obtained by the owner of the capital from its user, where these functions are separated. The problem then resolves into one of demand and supply and since Mill introduces demand and supply analysis only in Book III we have a sufficient explanation for the postponement of the interest problem.

The rate of interest, in Mill's opinion, will be such that exactly as much as some people are desirous to borrow at that rate, others shall be willing to lend. The market rate of interest fluctuates considerable since "the desire to borrow, and the willingness to lend, are more or less influenced by every circumstance which affects the state or prospects of industry or commerce, either generally or in aim of their branches." (p.638). But there will still be a natural rate of interest, and it is to the determination of that rate that Mill first turns.

Mill's first step is to assume a quiescent economy in which there is neither boom or slump and in which capital is

quite fully employed: but if producers could obtain more capital, they would be able to transact business above the current level. It is in this relative shortage of capital that the demand for loans for productive employment has its source and in addition allowance must be made for loans required by Government, landowners and other unproductive consumers. To Mill, these elements constituted the 'habitual' demand for loanable capital. Again, as in the classification of the essay, Mill does not seem quite sure of the distinction between stocks and flows.

On the other hand, balancing this demand, there is the supply of loanable capital, depicted thus:

"The disposable capital deposited in banks, that represented by bank notes; the capital of bankers themselves, and that which their credit, in any way in which they use it, enables them to dispose of; these, together with the funds belonging to those who, either from necessity or preference live upon the interest of their property, constitute the general loan fund of the country: and the amount of this aggregate fund, when set against the habitual demands of producers and dealers, and those of the Government and of unproductive consumers, determined the permanent or average rate of interest; which must always be such as to adjust these two amounts to one another." (p.640)

This neatly reasserts the survey given in the essay, only in greater detail. It betrays the same fascination for the social foundations of borrowing and lending in different economic groups. Once more, however, we may apply criticisms similar to those relating to the essay on interest, though now it seems clearer that Mill is really interested in the social aggregate of loanable capital on both the demand and supply sides. Further, he goes on to remark that fluctuations in the rate of interest "depend

almost entirely upon the portion which is in the hands of bankers; for it is that portion almost exclusively which, being lent for short times only, is continually in the market seeking an investment" (p.640).

What this would seem to imply is that Mill regards the natural rate of interest as dependent on stable forces such as might apply in a static society, where the demand for, and supply of, loanable capital was invariable from period to period. If that is the essence of Mill's argument, then it is natural to proceed by pointing out the elements which prevent this static equilibrium from setting in: and to Mill the relevant factor was the portion of capital in the hands of bankers, since that portion was constantly in the market (and of course would be variable). This portion also may be regarded as a 'flow' and it is in this that Mill sees the source of variations in interest. The natural rate itself was clearly considered by Mill to be the rate determined by the demand and supply of real capital in the form of loans, as can be seen from the following passage:

"The rate of interest, then, depends essentially and permanently on the comparative amount of real capital offered and demanded in the way of loan; but is subject to temporary disturbances of various sorts from increase and diminution of the circulating medium. (p.647)

Mill continues by considering the relationship between the natural and market rates of interest, and it is noticeable that he seems to have relapsed into thinking of the relation between the natural rate of interest and the general rate of profit as stable. Where there is an 'excess' of lending, Mill argues, "the rate of interest would bear a low proportion to the rate of profit.

Interest would be forced down to the point which would either tempt borrowers to take a larger amount of loans than they had a reasonable expectation of being able to employ in their business, or would so discourage a portion of the lenders, as to make them either forbear to accumulate, or endeavour to increase their income by engaging in business on their own account, and incurring the risks, if not the labours, of industrial employment." (p.639).

Mill's account of the forces keeping interest and profit in line would seem, therefore, to be quite sound at least from a neo-classical view, and the reverse process is also well described:

> "When there is only a small difference between interest and profit, many borrowers may no longer be willing to increase their responsibilities, and involve their credit for so small a remuneration ..." (p.639)

Here the rate of interest is raised above the natural level and borrowers find their profit margins reduced, perhaps so much that, as Mill goes on to suggest, some borrowers will become lenders and retire from productive employment until, once more, equilibrium is restored. In the general case, then, it may be inferred that when the market rate of interest deviates from the natural rate (and hence away from or towards the general rate of profits) in either direction, there will be some revaluation of their positions by property-owners, particularly with respect to their allocation of capital between direct investment and loans. As a result, there will be some redistribution of capital between direct investment and lending, until once again the market rate

and the natural rate coincide and equilibrium is restored. (Of course, Mill had argued that fluctuations would depend primarily on the part of loanable capital in the hands of bankers, and we may expect that the equilibrium will be regained mainly by adjustments in this quarter). What is lacking in this analysis of Mill's is a direct attention to the relationship between the commodity market and the loan market: Mill's approach provides only a very tenuous recognition of the relation, and falls a long way short of Wicksell's analysis of later years (or even Ricardo's, for that matter).

Our examination to this point has provided an impression of the framework within which changes in the money-supply, and their implications, were worked out. We have already seen Mill's attitude to monetary changes, in the essay, where he was unwilling to accept unreservedly the analysis which maintained that changes in the money-supply would have no long-run effects on interest, although of course temporary disturbances were admitted. This view implied that monetary changed did not affect any of the real economic phenomena. They did not, therefore, alter the natural rate of interest on the general rate of profit on capital. In the essay Mill had found reason to disagree with this theory, and we must now see what was his opinion as stated in the Principles.

His position is shown in the following passage:

" how great an error it is to imagine that the rate of interest bears any necessary relation to the quantity or value of money in circulation. An increase of the currency has in

itself no effect, and is incapable of having any effect, on the rate of interest."[1]

Although (he goes on) an addition to the currency seems to lower interest, this is due only to the fact that since all currency is issued in the way of loans (except what is used to purchase gold and silver) an operation adding to the currency adds also to the loans, or to the capital seeking investment on loan. In fact, Mill says, currency is only increased in order that loans may be increased, and although as currency these issues have no effect on interest, as loans they have.

Mill's argument here would appear to put the essay into a proper perspective. At this more mature stage of his career, he has grasped the significance of currency issues in their role as loans, and the consequent effects of changes in the money-supply are more clearly explained. But, on the whole, Mill has now reverted to the conception of interest as a purely real phenomenon, and it is to be concluded that, after temporarily leaning towards (if not quite firmly accepting) the monetary approach to interest in the essay, he has relapsed in the earlier editions of the Principles to a more orthodox position, more in keeping with the tradition begun by Smith and unheld by Ricardo. Adam Smith, by diverting attention from the monetary aspects of the loan market, had caused some important economic considerations to be overlooked, and this was to be the characteristic approach of the next hundred years (although there were a few exceptions, notably Henry Thornton). Ricardo too had adopted Smith's theme, although within the logical perfection of his model, the omission was not so apparent. Mill, however,

1. "Principles", 1st ed. Vol.ii pp.185-6.

in trying to relax some of the Ricardian restrictions, remained trapped by the fundamental strictures of the 'real' approach - even, as we shall see later, when Cairnes suggested a way out.

(iii) Mill in Interest: Some Conclusions

Having now seen Mill's view on interest in the Unsettled Questions and in the pre-1865 editions of the Principles we can come to some interim conclusions. In his earlier period, Mill was not altogether satisfied with the state of interest theory. His essay discloses the two main points on which he took issue: the relationship between the rate of interest and the rate of profit, and the effect of changes in the money supply on the rate of interest. In both these matters Mill's attitude was one of doubt: in the first, the difference from the Ricardian position is not as great as might seem at first sight; in the second, his criticism of Ricardo is probably to be regarded as a qualification to the orthodox viewpoint. In the Principles Mill retains the basic idea behind the argument of the essay, for he again puts a good deal of weight on the institutional determinants of interest, working with and through the rate of profit. Yet he has now apparently forgotten the purpose of his earlier excursion into interest theory (or, it might be suggested has realised that his argument there is on a lower level of abstraction than the Ricardian) and so far as the long-run relationship between interest and profit is concerned, he has slipped back into the Ricardian manner of thinking. Indeed this was still true at a much later period in Mill's life when in the

1860s he and Cairnes were debating the comparative rates of profit in this country and in the United States: the rate of interest was used quite unselfconsciously by both men as an indicator of the rates of profit.[1] But then, we have already agreed that the main point in this part of the essay was not so much the difference as the complementarity between Mill's position and Ricardo's. Mill's discussion of the demand and supply of real loanable capital placed the Ricardian argument on a better-defined foundation.

The real difference between the essay and the Principles is in the effect of a change in the money-supply, as such, on the rate of interest. In the earlier work Mill had regarded changes in the money supply as having a direct influence, as currency on the amount of loanable capital: in the Principles, Mill returns to the more orthodox viewpoint, and admits that although as currency such changes have no effect on loanable capital, as loans they do have, even in the long run. There was, of course, no dispute about the short-run consequences of a change in the money supply. However, Mill's opinions on interest varied considerably throughout his lifetime and we have not yet reached the end of the story. His correspondence with Cairnes on the problem will be introduced in a later chapter,[2] and any conclusions of a more definite nature can be delayed until the full evidence is before us. This concludes what I have to say on interest itself, but the next section, on investment, involves many of the ideas considered here.

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1. Cf. "J. S. Mill and J. E. Cairnes" (correspondence edited by G. O'Brien) Economica N.S.10 (1943) esp. p.278.
2. See Ch. VIII below

II. Investment

It has already been mentioned that it is not easy to discover any explicit analysis of investment in the Principles. Nevertheless, within certain narrow limits we can piece together unrelated parts of implicit analysis and reach some kind of conclusion. We may look at investment in either of two ways: by abstracting from changes in technique, and attempting to discover the limits to aggregate investment; or by introducing changing techniques into the picture and attempting to discover the circumstances which will lead to the adoption of a particular technique, or to a change in technique. These two aspects of the problem can be considered as dealing respectively with how much will be invested, and what form the investment will take.

Mill has little to say on the latter topic. As we would expect in a pupil of Ricardo, who became increasingly interested in the problem of changing techniques, Mill pays attention to the introduction of machinery and its consequences for the levels of employment and wages. Yet he largely ignores the question why machinery should be introduced in place of labour. He generally assumes that any change in technique is an 'improvement' - otherwise it would not be adopted, or would not be maintained if it proved unprofitable - and that an improvement, by definition, must in some way result in increased productive efficiency. 'Improvements' as we have stated in the assumptions and as we shall see at a later stage, were regarded by Mill primarily as 'antonomous' and 'induced' technical changes he either did not recognise or did not care to discuss. Although Mill had much

to say on the consequences of technical change, he had little to say on the conditions for such change, and we are thrown back on the problem of the limits to aggregate investment.

We have already seen Mill's argument in the fourth proposition on capital that the economic function of demand for commodities was to determine the distribution of labour and capital between productive employments. We are asked to suppose a given quantity of labour and capital which has in some way to be allocated between competing uses for a certain period of time. Apparently such a problem depicts the normal approach via the notion of scarcity, but in this instance a slight qualification is necessary. 'Scarcity', as usually conceived in economics, refers generally to all factors of production - land, labour and capital. In Mill's system (and perhaps more generally in the English classical literature as a whole) land and capital were scarce in the accepted sense, but in the case of labour we require to be more cautious. Even in the classical system a price had to be paid for labour, but it was a minimum price at which unlimited supplies were available at least in the longer run. Labour, by which is meant the mass of homogeneous labour and not differentiated labour receiving varying wages for skills, disagreeableness of occupation, etc. was normally considered to be unlimited in supply at a historically given minimum real wage. Labour, then, was not 'scarce' in the same sense as land and capital. Yet in the final analysis this perhaps subtle distinction plays a relatively insignificant part, for since labour was primarily dependent for employment on capital, and since capital

itself was scarce, employment of productive labour, if not labour itself, was also limited and hence scarce. Thus Mill writes that

"it appears that the limit to the increase of production is two-fold; from deficiency of capital, or of land. Production comes to a pause, either because the effective desire of accumulation is not sufficient to give rise to any further increase of capital, or because, however disposed the possessors of surplus income may be to save a portion of it, the limited land at the disposal of the community does not permit additional capital to be employed with such a return as would be equivalent to them for their abstinence." (p.189)

From this passage, we learn a little more about Mill's conception of the investment process. Production (by which must be understood increases in production) 'comes to a pause' for either of two reasons: a change in the community's saving habits so that the rate of saving from a given real income falls: or a decline in the normal rate of profit to be obtained from the productive employment of capital. In the latter case, assuming momentarily the familiar classical argument regarding the tendency for the rate of profits to decline in the long run, the rate of profit will fall, carrying with it the natural rate of interest. At this lower level of profit, the community is no longer willing to save as much from a given real income: net additions to investment cease when the marginal productivity of investment is just equal to the general rate of time-preference of the community (time preference forming an integral part of the effective desire of accumulation). If aggregate investment is pushed beyond that point, the rate of profit will fall below the minimum level and the difference between the rate of profit and the natural rate of interest will tend to narrow. We may then apply Mill's earlier analysis of such a situation (though in this

case it is the rate of profit that falls, not the rate of interest rising) to conclude that profit margins will be squeezed and some profit will be withdrawn from productive employment until equilibrium is regained.

It is perhaps legitimate to infer from this macro-economic argument that investment in any individual employment or firm will be carried to the point at which, in a given state of technology, the prospective rate of return is just equal to the standard rate of profit in the country. As Mill at one stage points out, if the chances of profit in a particular business are thought to be inferior to that in other employments, "capital gradually leaves it, or at least new capital is not attracted to it; and by this change in the distribution of capital between the less profitable and the more profitable employments, a sort of balance is restored. The expectations of profits, therefore, in different employments, cannot long continue very different ..." (p.412)

Another light is cast on Mill's views on investment by his comparison between agriculture in England and in the United States. In a country such as the latter, Mill observes, "no attempt is made to extract from land anything approaching to what it will yield on what are esteemed the best European modes of cultivation. The land is tasked up to the point at which the greatest return is obtained in proportion to the labour employed, but no further: any additional labour is carried elsewhere." (p.179) That is, where land is plentiful and labour the expensive item, investment will proceed up to the point at

which diminishing returns begin to be obtained. But where high-productivity land is no longer obtainable, more intensive cultivation becomes profitable, always supposing the demand is adequate. Mill continues by pointing out that even when it is not profitable to apply more labour or capital directly to the production, "it may still happen that the application of a much greater additional labour and capital to improving the soil itself, by draining or permanent manures, would be as liberally remunerated by the produce, as any portion of the labour and capital already employed. It would sometimes be much more amply remunerated. This could not be, if capital always sought and found the most advantageous employment; but if the most advantageous employment has to wait longest for its remuneration, it is only in a rather advanced stage of industrial development that the preference will be given to it ..." (pp.179-180)

The two main points emerging from this passage relate to the limits to investment in a given technological environment, and the important recognition of the time-element in the investment and production process. Mill would seem, on the latter point, to have grasped the notion that only at relatively advanced stages of capital accumulation will more capital intensive techniques be adopted: a notion which has more recently received attention from Mrs. Robinson[1] and Mr. Kaldor.[2] While on this subject, it is perhaps worth mentioning another observation by Mill:

"Labour sunk in expectation of a distant return, when the great exigencies or limited resources of the community require

1. J. Robinson: "The Accumulation of Capital"
2. N. Kaldor: "A Model of Economic Growth" E.J. Dec.1957 Vol.LXVII

that the return be repaid, may leave the country not only poorer in the meantime, by all which the labourers consume, but less rich even ultimately than if immediate returns had been sought in the first instance, and enterprises for distant profit postponed". (p.51)[1]

With Mill, then, as with most other classical authorities, the theory of the investment process received little attention and what analysis there is appears to be weak. A partial explanation of this failure on the part of the classical system to shed much light on investment must surely lie in the close relationship posited by the classics between saving and investment As I have suggested, it may be more valuable not to search for an explicit investment analysis as such when the more usual approach consisted in an examination of the motives operating on the saving propensities of the community. Another partial step towards explaining the failure of classical analysis to penetrate to the roots of investment theory may be taken when we recall that it was a central condition of classical reasoning that the labour supply was unlimited at a given real wage. Under that condition the scope for factor substitution, which occupies a major position in the neo-classical investment theory, must be limited, although the problem must arise in connection with the rising costs of producing a given real wage. But at least it can be said that the substitution of capital for labour will have much less significance in the classical system than in the neo-classical, where the labour supply is limited.

On the whole, therefore, Mill's analysis of investment is virtually to be identified with his analysis of saving, the crucial factors determining the rate of new investment being

1. Cf. below Ch.VII.

similar to those determining the rate of new saving. What Mill does have to say about investment itself is concerned rather with the social requirements: that is, he is less concerned about the problems facing the individual producer or firm, than with the problems of the developing economy. Once it has been asserted that the individual producer will more or less automatically seek out those investments which are most profitable to him, judged by the prospective profit rates, there is little more to be said, so far as the classics were concerned. The only problem still remaining for Mill was that of a conflict of interests between short run and long run profits, as can be seen from that passage quoted above which relates to the current requirements of a poor economy. Private interests may then conflict with the social and in such cases where, as Mill puts it, the workman or consumer may not be the best judge of the ends to be attained, there may be grounds for state intervention.[1] This aspect of the investment problem only serves to emphasise the relative unimportance of investment in the classical system. Where investment did have importance socially, it was in a role subservient to that of economic growth, and the allocative problem arose only in relation to growth, not as the end in itself as with the neo-classical analysis.

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1. Cf. Principles p.953

CHAPTER V : THE WAGES-FUND THEORY

In turning from Mill's theory of capital to his theory of wages and employment we become aware of a continuity of analysis quite alien to modern discussion of these topics. Whereas wage and capital theory have now developed distinctive methods of analysis, to Mill and his contemporaries these topics seemed to overlap considerably, so that it was difficult to discuss the one without encountering, at least by implication, the fundamental principles proper to the other. This was not merely a result of the principle of substitution between labour and capital, examined by Ricardo. For there was much more to the relationship than this limited but important problem, and the consequences of substitution for growth and wages. In the previous chapters, in which were discussed the main features of Mill's capital analysis, the implications for wage theory were much in evidence. Particularly in the first and fourth propositions it was clear that capital, considered as a stock of goods amassed at the beginning of a period, was regarded as the motivating force which gave rise to the employment of the greater part of the labour force, and it is this relationship which lies at the centre of Mill's wage analysis.

The factor common to capital-and wage-theory is the 'wages-fund' and it will be the first aim of this chapter to examine the evolution of the concept and the theory of wage-determinat-

ion based upon it. Mill's attitude to the wages-fund, and his argument relating to wage-differentials, will be treated in the later sections of the chapter. Once this has been done, it will be possible to proceed, in chapter IV, to a more general approach to Mill's theory of wages and employment. Finally, in a later chapter it will be necessary to pay some attention to the effects of his well-known 'recantation' of the wages-fund doctrine on the structural content of his usual analytic model. Several problems as yet unsolved will be encountered on the way. Why, for instance, did Mill take on himself the blame for promulgating the doctrine of the wages-fund when he neither originated it nor, perhaps, even held it except in a cautious form? Again, why did his contemporaries, for what did not amount to altogether convincing reasons, follow Mill's lead, and join in what was to become a favourite pastime - 'killing the wages-fund' as Schumpeter has put it? It is hoped that the following discussion will go some way towards a solution of these and other problems arising in the course of the discussion.

I. The Wages-Fund prior to Mill's 'Principles'

The historical development of the wages-fund doctrine is important for our purpose, since it is essential to understand how far Mill's version conformed to that of his predecessors. However, several writers, notably Taussig and Schumpeter,[1] have

1. See F. W. Taussig: Wages and Capital
J. A. Schumpeter: History of Economic Analysis

given detailed consideration to the evolution of the theory and the present section may in consequence be confined to a presentation of the main characteristics and the principal characters associated with them.

To all intents and purposes Adam Smith was the founder of the wages-fund concept, although embryonic formulations of other wage-theories are also to be discovered in his work. For example, Smith was quite aware of the 'productivity' line of approach, by which wages were regarded as dependent on the (physical) productivity of labour. And from this there was derived the 'product-less-deductions' theorem which was applicable to a more highly developed economy. In dealing with the natural rate of wages, however, Adam Smith obscured the productivity aspect and instead made the natural price of labour dependent on the extent of the funds made available to labour, and the number of labourers themselves. Thus he wrote:

"The demand for those who live by wages, it is evident, cannot increase but in proportion to the increase of the funds which are destined for the payment of wages."

This was in fact a quite logical step to take, since it is a characteristic of more highly organised economies that wages are advanced to labour, and hence wages in the aggregate must be limited by the extent of the funds to be advanced. Smith's main concern was the demand side of the equation and he paid relatively little attention to population and the supply of labour. But perhaps the most important point here arising is

that this kind of approach, in detracting from the more fundamental productivity line, led on naturally to a theory of labour's share in the national income as a whole, and it was this concentration on relative shares that was to become the predominant feature of distribution theory for the next hundred years. Had the alternative line of enquiry been followed up, the confusion of ideas inherent in the wages-fund concept might never have arisen and attention might have been devoted at a much earlier stage to the problem of individual or unit wage-determination.

With Smith, then, demand was the principal element, but with the advent of the Malthusian theory of population the balance was redressed. Ricardo, who used the population theory and the corresponding rent analysis with telling effect, occupies an intermediate position with regard to the wages-fund theory. He absorbed the Malthusian views although in the process he tempered them somewhat by substituting a 'habitual' minimum for the original 'biological' minimum of subsistence. As far as the long run is concerned - i.e. the natural level of wages- he conceived of an infinitely elastic labour supply at a fixed real wage, namely the cost of production of labour in terms of corn. This comprises Ricardo's main theory of wages (strictly, only a proposition in wage theory) and the only further point to be made is that he recognised the ability of labour to improve its situation by not multiplying up to the accepted

leval of subsistence. Apart from this, however, there is his short-run or market theory which is based on the supply of, and demand for labour, reflecting a loose formulation of the wages-fund idea. It is a trifle ironical that in Ricardo's own system of pure logic, a wages-fund would in no way have been out of place. For wage-goods were, to him, 'corn', and it is a fact that corn is harvested once a year and the stock run down gradually as the year goes on. Thus the capital-population relationship is introduced but there is as yet little evidence of the rigid doctrine which was later to come into prominence.

Finally, with regard to Ricardo, it must be mentioned that while Smith had allowed his natural rate of wages to be determined by supply and demand, Ricardo made his market rate of wages dependent on supply and demand. This is a change of some significance and can probably be interpreted as a consequence of the consolidation of the cost of production theory of natural price, which was firmly installed by the latter. It is in this sense that Ricardo occupies an intermediate position in the evolution of the wages-fund theory proper.

It is perhaps more with James Mill and McCulloch that we encounter the wages-fund concept in its more rigid formulation for the first time. The former was quite explicit about the wage-relation as a kind of bargain which, so far as it was free from restrictions, was determined purely by competition, with the

terms altering according to variations in supply and demand conditions. Supply and demand, being envisaged as population and capital, lead almost inevitably to the wages-fund. McCulloch is even more confident, maintaining that it is

"on the actual amount of the accumulated produce of previous labour, or of capital, applicable to the payment of wages, in the possession of the country, that its power of supporting and employing labourers must depend."[1]

Once again we find the now familiar refrain that the average rate of wages in the market must depend on the proportion the whole capital bears to the population of the country. As for the long-run wage rate, in both cases the Ricardian position was adhered to closely.

Senior, in this as in many other matters, was very much the odd man out. First of all, he questioned the whole idea of a 'fund' in the sense in which that term was used by his predecessors. With Adam Smith he was lenient, interpreting his use of the term as being

"not that the identical supplies which will be wanted in a course of progressive industry must be already collected when the process which they are to assist or remunerate is about to be begun, but that a fund or source must then exist from which they may be drawn as they are required."

He further adds:

"That fund must comprise in specie some of the things wanted. The painter must have his canvas, the weaver his loom and materials, not enough, perhaps, to complete his web, but to commence it. As to those commodities, however, which the workman subsequently requires, it is enough if the fund on which he relies is a productive fund, keeping pace with his wants, and virtually set apart to answer them."[2]

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1. McCulloch: Principles (2nd ed.) 1830, p.378
2. N. W. Senior: Outline of Political Economy. p.79

A second deviation from the prevalent view related to the supply side of the equation (in fact it was, in its crude form, probably no more than a rather harmless, because meaningless, identity.) Senior denied any tendency for the pressure of population to bring about a stationary state, which of course was the conclusion drawn by the others. He took a much more optimistic view of the ability of labour to rise above its present state of poverty. Population growth, in his opinion, would tend to produce improvements and increase productivity per head, while on the other hand he put his faith in the "ambition, foresight and prudence" of the human race. This was indeed a much more realistic and better founded approach to the problem. For surely, in that era of technological advance and incipient social reform there was scope for a fairly firm belief that the social and economic condition of the population as a whole, and not least the labouring classes, was about to be improved. Not that Ricardo or the others were unsympathetic, but their own gloomy premises seemed to lead inevitably to equally unhappy conclusions; sympathy and a certain amount of advice as to the desirable size of family were practically all they had to offer.

Where did the younger Mill fit into this picture? The evidence is scanty, but we can learn something of his views prior to the more adequate statement of his position as recorded in the Principles. Since we have just examined

Senior's views, it is convenient to look first at Mill's comments on the former's Outline, inscribed in the first edition of 1836.[1]

The first important point emerges from Senior's reference to the contrasting statements of James Mill and McCulloch on the one hand, and Malthus on the other, on the matter of population growth and subsistence. Senior had observed that Malthus's admission

"that 'in the progress of society, the probability is that the evils occasioned by the pressure of population against food will be mitigated' is opposed to Mr. McCulloch's statement, 'that the power of increase in the human species must always, in the long run, prove an overmatch for the increase in the means of subsistence;' and to Mr. Mill's,[2] 'that the tendency of population to increase faster than, in most places, capital has actually increased, is proved incontestably by the condition of the population in most parts of the globe."[3]

Mill steps in to defend the position of his father and McCulloch in the following way:

"I think Mr. McCulloch's expressions only mean (considered with reference to the general scope of his argument)[4] that the power of increase when fully called into action would in the long run be an overmatch for any increase in the means of subsistence. My father's expressions seem to me equally reconcilable with the true view. The condition of the population, being one of poverty, proves that population has borne too great a ratio to capital....

"No political economist, except Malthus in his first edition, seems to me to be chargeable with more than having used expressions which occasionally have been, misunderstood, and it seems to me to throw very unnecessarily a shade of apparent doubtfulness over the true view of the subject and over the

1. The notes, and the relevant text from Senior's Outline, are reproduced in Economica, Aug. 1945 with notes by F.A.Hayek.
2. i.e. James Mill
3. Outline, pp.46-7
4. Mill's insertion.

truths of the science in general, to represent the great authorities on the science as having been at war on so fundamental a point, when I do not believe there was an atom of difference in their real opinions."[1]

As we should probably have expected, Mill's views at this stage were fundamentally similar to those of Ricardo and his father, and the population-capital ratio is a cornerstone of his belief, just as it was of their's. Another passage worthy of note is appended to Senior's interpretation of Smith's use of the word 'fund'. Mill writes:

"Not only that; but there must be an equivalent fund stored up in the possession of the painter himself, to enable him from it and its intermediate profits to supply himself with necessaries during the whole time; unless he be a mere workman receiving wages from an employer."[2]

It is extremely difficult to know what to make of this comment by Mill. He seems generally agreeable to Senior's reading of the passage from Smith, yet this would indicate that he did not really hold with the more rigid wages-fund doctrine, namely, that before production could be commenced, all the materials, food, etc. to be used up in the ensuing production period, had of necessity to be accumulated. Senior himself evidently rejects this idea when he avers that all that is necessary is that the initial fund should be 'productive' and keep pace with the wants of the worker. If Mill indeed does agree with Senior at this point (and this would mean equating his 'intermediate profits' with the product of Senior's 'fund') then there seems to be little point in his making any comment whatsoever. Yet this does seem to be his meaning, and if so, then it is

1. "Economica" 1945 p.135.
2. ibid p.136

obviously highly important for the understanding of Mill's thought on the subject. Undoubtedly the case is complicated by the particular example of the painter, for it is hard to say what might be the duration of the production period involved. If we take the case of the weaver, then things become rather simpler, intermediate profits being those, presumably, which accrue to the weaver between the starting point and the finish which coincides with the replacement of the machine employed. In this sense, Mill's usage appears to be identical. The alternative, of course, would be to assume a production period equal to one year: then we get the same kind of conclusion.

Another issue of a similar kind is raised by Mill at a much later stage of the book. Senior states his elementary proposition on wage determination thus:

> "that the quantity and quality of the commodities obtained by each labouring family during the year must depend on the quantity and quality of the commodities directly or indirectly appropriated during the year to the use of the labouring population, compared with the number of labouring families ..."[1]

The important phrase to Mill is 'to the use of the labouring population' and he advocates the substitution of 'to be expended in the purchase of labour'. Apparently this is a very small point but there seem to be much deeper issues involved. For to Senior the appropriation is a continuous process going on uninterruptedly throughout the production period - here assumed to last a year. To Mill, however, the situation is regarded

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1. Outline, pp.173-4

from a more static viewpoint - it is the stock of goods existing which is, in the course of the forthcoming period, to be distributed to labour. Again there is some ambiguity about Mill's position, whether or not he visualised a comprehensive stock of goods for all the requirements of the year, stored up in the country. Of course, in a position of equilibrium it does not matter greatly which approach is adopted, although evidently when this is not the case vastly different conclusions could emerge. As things stand, however, there is little that can be determined without doubt on this matter and we must search elsewhere for a fuller expression of Mill's views.

One other smaller point on the wages question may be extracted from these notes before we pass on. Mill singles out as the 'only'difference of any importance between Senior and himself the fact that Senior seems to take the view that capital consists only of goods which are already in a form suitable for production. Mill on the other hand vents his opinion as follows:

"I think confusion worse confounded is the result of calling nothing capital till it is in the state in which it can be used as such. According to my view, it is net[1] increase of food which raises wages: it is certain purposes in the minds of capitalists which make them bid higher for labour, that raises wages, and the rise of wages causes the production or importation of the necessary increase of food."[2]

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1. 'net' appears in Economica, but it must surely be 'not'.
2. ibid. p.138

The view here expressed by Mill is, of course, in line with his later observations on the ability of goods 'destined' to be used productively to be quickly converted into a more appropriate form: a view which reflects his belief in the low specificity of fixed capital.

A more significant point relates to the Ricardian theorem that profits vary inversely as wages. The theorem itself had, since Ricardo's formulation of it, been reduced by James Mill, McCulloch and others to a rather empty shell relating to relative shares of capital and labour in the product after rent had been deducted. But Mill stands by the original meaning of Ricardo, treating the proposition as one dealing with per unit wages. Mill begins by explaining that "If by wages, be meant what constitutes the real affluence of the labourer, the quantity of produce he receives in exchange for his labour; the proposition that profits vary inversely as wages, will be obviously false" (U.Q. p.95). Mill goes on to point out that in Ricardo's view an increase in the labourer's comforts was not considered as a rise in wages:

"In his (i.e. Ricardo's) language wages were only said to rise, when they rose not in mere quantity but in value. To the labourer himself (he would have said) the quantity of his remuneration is the important circumstance: but its value is the only thing of importance to the person who purchases his labour." (U.Q. p.95 : Mill's italics). Nor yet does this mean

'exchangeable value' for Ricardo, it seems, did not normally adopt this terminology although, Mill admits, there are some lapses. What is intended here by 'value' is 'cost of production', the quantity of labour required to produce an article: "A rise in wages, with Mr. Ricardo, meant an increase in the cost of production of wages; an increase in the number of hours' labour which goes to produce the wages of a day's labour; an increase in the proportion of the fruits of labour which the labourer receives for his own share; an increase in the ratio between the wages of his labour and the produce of it." (U.Q. pp.96-97: Mill's italics)

Still maintaining that the wages on which profits depend are the 'proportional' wages of one labourer, Mill holds that the important point is "the ratio between the wages of one labourer, and (not the whole produce of the country, but) the amount of what one labourer can produce; the amount of that portion of the collective produce of the industry of the country, which may be considered as corresponding to the wages of one single labourer." (U.Q. p.97) By thus basing his defence of the Ricardian proposition on the wage per unit of labour, Mill provides an alternative to the Ricardian defence which was largely dependent on the concept of the invariable measure of value, either without realising the significance of that device at this point or deliberately passing over it, neglecting to point to the difference between the approaches.

(I do not propose to go into the question of the relevance of the invariable measure, but Mr. Blaug, in his Ricardian Economics, gives what would seem to be a satisfactory explanation. The argument, which is most easily understood, perhaps, with reference to Ricardo's early Essay on Profits, in which corn appears both as input and output in agriculture and the money rate of profit is equal both in the agricultural and industrial sectors. As corn becomes more costly, in terms of labour, to produce, the money rate of profit in agriculture falls, while the price of the invariable standard is unaffected by a rise in wages. The price of industrial goods, produced with capital-intensive methods, must also fall, and with it the money rate of profit in the industry.[1] That is, as the labour cost of production of wages rises, the rate of profit will tend to fall.) Mill who, as we have already observed, eschewed the invariable measure of value as such, though recognising the analytical necessity of having some 'measure of value' or price index, argued in favour of the Ricardian theorem along lines quite different from those of the original.

Secondly, Mill was in direct opposition to those who had taken the Ricardian theorem to relate to aggregate shares in the product after deduction of rent; who, as Mill put it, dealt in terms of "the proportion which the labourers en masse receive of the total produce of the country." (U.Q. p.97). The approach adopted by Mill, while not actually reverting to the

1. M. Blaug, op.cit Ch. 2, sect. 4. esp. p.24

'productivity'strand of thought, does provide at least a hint of the exploitation thesis, and quite definitely stood in opposition to the 'aggregate' theorists in this respect. But this would appear to have been but a temporary phase in his thought. In the Westminster Review of 1825 he observed that "there may be, and always is, a competition of capital for labour ... and this competition has a tendency to raise wages and, therefore, to lower profits; the limit to the rise in wages being the ratio between capital and population; wages, therefore, depend upon the ratio between population and capital, and profits depend upon wages."[1] The later expression of Mill's views on wages as an aggregate share will be seen presently, but in conclusion of the present survey of wage theory prior to 1848, it may be said that Mill was, on the whole, very much in accord with the orthodox opinion and accepted the essential principles of the wages-fund. The situation just considered was evidently one in which the wages-fund concept, together with its policy recommendations, had become firmly established in the literature of economies, not merely as an analytical device but as an empirically verifiable phenomenon. The whole sequence of thinkers, at least from Ricardo down to Mill as he entered his 'mature' period, was unified in this department of analysis by a strong adherence to a supply and demand solution to the problem of wage determination: and by supply and demand in this context were implied labour (or population

1. W.R. Jan. 1825. V. (Review of article in Quarterly Review, LX)

generally) and capital which in turn denoted essentially a wages-fund structure, whether or not the fund was spoken of explicitly.[1] This is so precisely and only because of the classical conception of capital as a stock which had to be entirely accumulated at the beginning of any production process. Had it been otherwise, and a 'flow', perhaps involving different rates of 'circulation' - to keep to the classical terminology - substituted for the stock, it is clear that demand at least could have been regarded as a variable, even in the short run. As it was, demand became a determinate entity as soon as the period commenced and the instractability of the classical technique of analysis prevented most writers from seeing through the evident weaknesses of the theory as it stood, when compared with the flexibility of the real economic operations of everyday life.

The next question is whether this is at all a fair judgment of Mill's outlook in the middle stage of his career.

II. The Wages-Fund in the Principles

I must at once explain that my concern in this section is to provide an elucidation of the orthodox wages-fund doctrine as set out in the Principles. This is not to say that I regard Mill as primarily a wages-fund theorist but, as should become evident as the argument proceeds, the wages-fund was a concept quite vital to the expositionary form of the

1. Senior, of course, is an exception to this general appraisal.

Principles. Any judgments, therefore, which emerge in the course of this section must not be taken as giving my evaluation of Mill's wage theory as a whole, but must rather be considered as interim findings which will be found at a later stage to be in need of qualification.

Although Mill treats the problem of wages in Book II of the Principles, under the heading of Distribution, he did nevertheless recognise that, on a certain level of abstraction at least, the determination of wages was a problem in value theory, the solution to which must always be sought in the mechanism of supply and demand analysis.[1] Two main questions are identified by Mill, relating to first, "the causes which determine or influence the wages of labour generally, and secondly, the differences that exist between the wages of different employments." The first of these topics provides the material for the remainder of this section.

The first step is to clarify the assumptions on which the argument is to be based. Labour is assumed to be homogeneous, "as if there were no other kind of labour than common unskilled labour of the average degree of hardness and disagreeableness." (p.343). Competition and custom are then isolated as the two principles according to which wages may be determined, but only competitive wages are to be considered. Given these conditions, Mill goes on, wages will depend on demand for and supply of labour, or capital and population. But these terms

1. Cf. "Principles" p.450.

require more accurate definition and Mill explains that "By population is here meant the number only of the labouring class, or rather of those who work for hire; and by capital circulating capital, and not even the whole of that, but the part which is expended in the direct purchase of labour. To this, however, must be added all funds which, without forming a part of capital, are paid in exchange for labour, such as the wages of soldiers, domestic servants, and all other unproductive labourers." (pp.343-4) For the purposes of the argument, however, Mill proposes to omit these other 'non-capital' funds, in order to simplify the analysis. The principle of wage-determination is now restated:

> "With these limitations of the terms, wages not only depend upon the relative amount of capital and population, but cannot, under the rule of competition, be affected by anything else. Wages (meaning, of course, the general rate) cannot rise, but by an increase of the aggregate funds employed in hiring labourers, or a diminution in the number of competitors for hire; nor fall, except either by a diminution of the funds devoted to paying labour, or by an increase in the number of labourers to be paid." (p.344).

So stated, the wages-fund is reduced to a rather empty tautology, which must necessarily be true by the definition of terms.

For the first time in classical thought, Mill has made explicit the assumptions underlying the wages-fund doctrine, and has so clarified the terminology that there can be no doubt about the significance of 'capital' and 'population' in this context. But no depth of meaning as yet attaches to the proposition, for the result of the calculation suggested gives

only the 'general' rate of wages, a concept to which no distinct usefulness can be attributed. Further, as yet there is no analysis of the limiting factors operating upon the provision of the wages-fund. But two points may be remarked upon: because, firstly, Mill made it clear that he was adopting certain assumptions, later critics should have realised that the analysis which followed was not a presentation of Mill's own personal vision of real labour market operations; the purpose of the assumptions was simplification: and secondly, because the wages-fund concept, seen in this light, is a technical device, it separates Mill from most of his predecessors, in that he recognised the need for a reduction of complex matters into some simpler system which would operate to give approximate solutions; not real solutions per se, but means towards a more competent understanding of the issues commonly arising in practice.

In what sense, then, was the wages-fund doctrine significant? As a piece of logical analysis, the theorem outlined above by Mill is unobjectionable, except in so far as it is sterile. What was important, in classical eyes, was the fact that the stock of capital was given in any period and that the general position of the labouring classes could not be improved except by a rise in capital or a fall in population: that if any group of labourers obtained wages above the average rate, some other groups must suffer a reduction in wages: and

therefore, that the effect of trade union bargaining was merely to improve the position of one set of labourers while depressing the conditions of others. How far this position is true of Mill when he comes to his more realistic treatment of wages, in respect of wage-differentials and the effects of trade union pressures, will be seen in the following section.

III. Wage-differentials in the "Principles"

Whereas hitherto we have been concerned with the general rate of wages, in itself not a particularly useful concept,[1] we turn now to Mill's account of conditions in the actual labour market. The content of this present section may best be regarded as an attempt on the part of Mill to soften the harshness of the wages-fund theory in its strict form, and further, to work away from that initial analysis to a more realistic representation of the process of wage-determination in the market situation.

In Chapter XIV of Book II of the Principles, Mill turns to the causes of different wage-rates in different trades. In effect this involves a removal of the earlier assumption of homogeneous labour, and the subsequent analysis is thus placed on a new footing. Henceforth, what he has to say may be regarded as a qualification of the rigid analysis presented above. For example, Mill is aware of the importance of the bargaining strength not only of labour as a whole, but of different grades of labour. While admitting the truth of many of Adam Smith's

1. But cf. below, Ch. VI.

comments on relative wages, he does in places openly state his disagreement with Smith. The latter had maintained, for example, that high wages would be paid for hard and disagreeable work. Mill points out that beyond a certain limit,

> "the really exhausting and the really repulsive labours, instead of being better paid that others, are almost invariably paid the worst of all, because performed by those who have no choice. It would be otherwise in a favourable state of the labour market. If the labourers in the aggregate, instead of exceeding, fell short of the amount of employment, work which was generally disliked would not be undertaken, except for more than ordinary wages. But when the supply of labour so far exceeds the demand that to find employment at all is an uncertainty, and to be offered it on any terms a favour, the case is totally the reverse. Desirable labourers, those whom every one is anxious to have, can still exercise a choice. The undesirable must take what they can get." (p.388)[1]

We witness here Mill's appreciation of the importance of the relative bargaining strengths of labour and employers, and the picture presented is clearly one in which the overall advantage lies with the latter. The individual wage-bargain is thus not (directly at least) determined on the wages-fund basis, but by the quality of labour and the general employment situation. Also, whereas until now the argument has openly assumed freedom of competition, Mill goes on to introduce barriers to competition in the labour market, which have the effect of raising wage-rates in the restricted sector. The superiority of reward in such cases is due to the absence of competition, being, as Mill says, "not a compensation for disadvantages inherent in the employment, but an extra advantage; a kind of monopoly

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1. The exploitation thesis is much in evidence at this point but Mill, despite his Socialistic sympathies, was never concerned to make an issue of it, in the way Marx did.

price, the effect not of a legal, but of what has been termed a natural monopoly." (p,391) So we have once more an illustration of Mill's refusal to be bound by the limitations of the wages-fund doctrine, and developing this, he goes on to examine systematically the ways in which the labour market may be restricted. Other writers, in his opinion, had neglected this field of enquiry, and it is implied that the supply and demand mechanism of the freely competitive situation is an insufficient explanation for all the cases of relative wages. What was lacking in Mill's new approach was a technique capable of narrowing down the range of indeterminacy involved in this problem. He had, of course, some conception of the theory of monopoly values and he enjoyed some measure of success in applying this to the problem of wage-determination. We are left with an impression that Mill had somehow hit on the concept of imperfect competition without being able to advance anything like a consistent theory. This impression is strengthened by the following discussion.

Classical analysis stated that the lower limit to wage-rates in the long run would be given by the minimum real wage acceptable to labour in general. What, then, of the upper limit? To Mill, in the case of very highly skilled labour, for example, the answer was that "the wages paid to them are only limited by the price which purchasers are

willing to give for the commodity they produce." (p.392) In other words, the limit to the wage rate of such labour is in some sense the price-elasticity of the demand for the good: there is an undertone of the cost of production theory of value. It may be inferred that if the price elasticity of demand for the good is relatively low, it will be possible for producers to increase prices without suffering a reduction in sales, and assuming that at the same time profits and material costs remain constant, the whole increase of price can be obtained by labour. The limiting point, therefore, will be where the demand for the good has a price-elasticity greater than unity.(-1) The actual wage will be fixed somewhere between the upper and lower limits thus delineated, exactly where depending on the special circumstances of the case.

From this Mill proceeds to a discussion of another form of imperfection in the labour market, based on the idea of non-competing groups. It is customary to attribute this concept to Cairnes but there is no doubt of its existence in the Principles: Cairnes probably made more of it, but was almost certainly stimulated by Mill's original insight. The idea is clearly stated by Mill:

"So complete, indeed, has hitherto been the separation, so strongly marked the line of demarcation between the different grades of labourers, as to be almost equivalent to a hereditary distinction of caste; each employment being chiefly recruited from the children of those already employed in it, or in employments of the same rank with it in social estimation, or from the children of persons who, if originally

of a lower rank, have succeeded in raising themselves by their exertions." (p.393)

From this Mill proceeds to draw the conclusion that the wages of each 'class' are regulated by the increase of its own population, rather than that of the whole population. The situation envisaged here is one in which each of the non-competing groups of labour is itself responsible for the future supply of labour in that sector of the population: and it is evident that by a judicious limitation of supply, the average remuneration can be maintained at a high level. But if this is the case, then surely on Mill's supposition there must be a 'wages-fund' not for the country as a whole but for each of these groups. Certainly he does not take up the point but it would seem to be a logical deduction from the above argument. Were we to take the matter to its ultimate conclusion, it would be found that at the level of the individual firm, each concern had its own wages-fund- a conception which is perhaps not totally removed from the conditions of business life, at least so far as we retain Mill's definition of capital (of which the wages-fund is a part), namely 'what is destined' by the producer to be employed in production over a certain period. Such a conclusion would become even stronger where expectations were assumed to be reasonably certain. However, to Mill the decisive unit was not the firm but the broad social aggregate, and the line of approach suggested here was ipso facto ruled out as a

serious proposition.

A further factor which disposed Mill to pass over this issue was the state of flux in the society in which he lived. The barriers to competition which had for the first time discerned, seemed to him already almost a thing of the past. In his own words:

> "The changes, however, now so rapidly taking place in usages and ideas, are undermining all these distinctions; the habits or disabilities which chained people to their hereditary condition are fast wearing away, and every class is exposed to increased and increasing competition from at least the class below it. The general relaxation of conventional barriers, and the increased facilities of education which already are, and will be in a much greater degree, brought within the reach of all, tend to produce, among many excellent effects, one which is the reverse; they tend to bring down the wages of skilled labour." (p.393)

Two issues are involved here: first, the dissolution of the frontiers between groups and secondly, as a direct consequence of this, a narrowing of the differentials between skilled and unskilled wage-rates. On the latter point, Mill does not seem to object to the process of disintegration itself (in fact, he rather approves of it) but to the way in which it was taking place by a decrease in the wages of the skilled and not so much by an increase of the wages of the unskilled. The narrowing of differentials is still a problem at the present day, of course, but the case is rather different. In Mill's time it was the relative rates of wages which were altering: now it is primarily earnings that are increasing in the semi-skilled and unskilled occupations, relative to the skilled;

and this disturbs the overall equilibrium of the wage structure. Incidentally, the question of earnings versus rates does not appear to have been an issue in the classical era.

The breakdown of social barriers was the main problem, and to Mill it seemed that although at that time inter-group mobility was limited to 'neighbouring' classes only, this process might well continue, to produce ultimately a completely free market for labour. In fact, even today we are far from having this kind of situation in the majority of occupations. Surprisingly, perhaps, Mill does not devote much space to this development in the social structure, and having briefly introduced the subject, passes on to the consideration of other restrictions on competition. So far impediments have been in the way of 'natural causes' and the 'unintended effect of general social circumstances'. Now we encounter deliberate restrictive policies, in the shape of apprenticeship regulations, etc. The aim of such restrictions is recognised by Mill as the maintenance of a high wage-rate. There is, however, a limit: wages might be kept indefinitely high, "were it not that wages which exceed the usual rate require corresponding prices, and that there is a limit to the price at which even a restricted number of producers can dispose of all they produce." (p.401) Again, therefore, the analysis is brought up short with a limitation on wages imposed by what we would

now call the price-elasticity of demand. The importance of this point is to be seen more fully in the subsequent discussion of the influence of labour-combinations.

Mill's analysis up to the present stage has been intended to show that the labour market is not the perfectly competitive market insinuated by the wages-fund doctrine. There are, instead, a number of rigidities which in effect reduce the wages-fund concept to nothing more than a device appropriate for abstract analysis, and with no other real economic significance. But the full implications are not limited to the labour market. For even with imperfect competition in the labour market, were it not that imperfect competition (and the absence of a perfectly elastic demand curve facing the individual entrepreneur) prevailed in the commodity market, there would still be little scope for differences in wage-rates <u>other</u> than differentials for skill. Because, however, the producer is often faced with a demand curve with relatively low price-elasticity, it will be possible for him to raise the price of his product and enable his workers to receive higher wages. Several qualifications might be appropriate here, such as that in the case of wage-goods, a rise in the price of the goods and in the money wages of labour would cancel each other out: but the main issue is, I think, clear. All that is necessary for Mill's analysis to hold good is that full 'monopolistic' profits are not being

obtained, so that a wage-rise can be offset by the producer by a rise in the price of his good: if other producers in the same limited range of production are similarly affected, there will be no change in profit-differentials and a stable price, wage and profit equilibrium can be maintained in that field of competition.

Further aspects of the implications of imperfect competition appear in the following section.

IV. Wage-rates and Trades-Unions

Taking up the question of trade union activities, Mill writes:

> "These combinations always fail to uphold wages at an artificial rate, unless they also limit the number of competitors. But they do occasionally succeed in accomplishing this. In several trades the workmen have been able to make it almost impracticable for strangers to obtain admission either as journeymen or as apprentices, except in limited numbers, & under such restrictions as they choose to impose." (p.402)

It can be seen that at this stage Mill was aware of only one means by which combinations could raise wage-rates, namely by a restriction of numbers. As yet there is no sign that he had realised the immense changes that might be brought about by the enhanced bargaining power of labour organised en masse. But this is perhaps understandable in view of the fact that legalised trade unions were, even in 1848, a relatively new phenomenon and their potentialities were not to be explored until a later stage. Furthermore, numerous obstacles to their activities still existed in the obsolete legal arrangements of

the day. Nevertheless, Mill does take some account of the function of such combinations and it is instructive to digress a little on this point. For the present I shall restrict my observations to Mill's views as stated in the first edition of the Principles but it should be noted that frequent changes were made in this part of the work throughout the successive editions, reflecting the speed at which the movement was growing, and altering in character.

Mill was obviously sympathetic to union activities, recognising however that they did not always act in their own best interests. He regarded them

"as simply intrenching round a particular spot against the inroads of overpopulation, and making their wages depend upon their own rate of increase, instead of depending on that of a more reckless and improvident class than themselves."[1]

Group action was thus visualised as a means of self-defence rather than the more positive force of union activities in later years. Again, Mill wanted to see more of these unions, discounting any arguments based on an accusation of injustice in excluding the more numerous, unorganised labour from sharing in the gains of a few: the final result of this could only be a reduction of the others to the same low level. Large-scale combinations were considered by Mill to be impracticable, due to the difficulties of organisation. But he adds that if it was feasible,

"they might doubtless succeed in diminishing the hours of labour, and obtaining the same wages for less work. But if

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1. "Principles" 1st ed. Vol I pp.473-4

they aimed at obtaining actually higher wages that the rate fixed by demand and supply - the rate which distributes the whole circulating capital of the country among the entire working population - this could only be accomplished by keeping a part of their number permanently out of employment."[1]

It becomes clear now what all this is leading up to, namely the clash of interests between organised and non-organised labour against a wages-fund background. There is the familiar idea of an increase of wages being gained by one group only at the expense of another. Mill has, however, succeeded in pointing out that it is not the sole function of unions to raise wage-rates, but that other objectives, such as the reduction of working hours mentioned here, are quite within the scope of these organisations. Against this must be set what at first sight appears to be a conclusive charge that Mill in fact did hold the wages-fund doctrine in its most stringent form. Yet the case does not seem to be altogether carried, as witness the following passage:

"A rise of wages, thus confined to particular employments, is not (like a rise of general wages) defrayed from profits, but raises the value and price of the particular article, and falls on the consumer; the capitalist who produces the commodity being injured in so far as the high price tends to narrow the market; and not even then, unless it does so in a greater ratio than that of the rise in price ...."[2]

Clearly this refers back to the relationship between wages, prices and price-elasticities of demand earlier encountered and it is time now to go into the matter more fully.

If we were to suppose an economy in which the market for every good was perfectly competitive, and in which the price

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1. "Principles" Vol. II pp.498-9
2. Ibid. Vol II p.499.

elasticity of demand for every good was perfectly elastic, then any rise in the price of a single good would lead to a complete cessation of the demand for that good. In such a situation, therefore, it would not be possible for a producer to increase his price to allow for a rise in wages: the only possibility would be a reduction in profits, and this is not likely to occur, unless, as Mill points out in the above passage, the rise in wages is general. Under these highly artificial circumstances, then, the strict wages-fund analysis would hold good: a rise in wages would result in a squeezing of the profit margin, and a subsequent reduction in the size of the wages-fund, this following from the fact that a lower rate of profit will reduce the propensity to save; and the rise in wage-rates will make it desirable to change to a more capital intensive technique. The fall in the size of the wages-fund means that at the first turn of the wheel, at least, labour must suffer.

This is not, of course, a realistic picture, nor is it that visualised by Mill. Competition is not perfect, and price-elasticities of demand are not generally so high. Hence in some trades, the producer faced with a demand for increased wages will be prepared to grant it in so far as he expects to be able to pass it on to the consumer without a proportional fall in sales, or more accurately, as Mill points out, without a fall in the rate of profit. This follows from his statement about the high price of the good narrowing the market in a

greater ratio than that of the rise in price, which is a clear indication that Mill was aware of the price-elasticity of demand and of the significance of unitary price elasticity. The implications for the wages-fund analysis are important. For it now appears that an increase in wages within an industry may take place without any corresponding reduction in employment, or in wages in other industries, so long as the producer can pass on the increase to his customers. The wages-fund analysis is on the verge of destruction.

But there are still qualifications to be made to this. Although Mill did not remark on the point, it is clear that the price increases must have the effect of reducing the consumers' real income, and the demand for other goods (or labour services) must be somewhat less in consequence. Another illuminating passage is the following:

> "This partial rise of wages, if not gained at the expense of the working class, ought to be regarded as a benefit. The consumer indeed must pay for it; but cheapness of goods is desirable only when the cause of it is that their production costs little labour, and not when occasioned by that labour's being ill remunerated .... (A) higher remuneration either causes fewer persons to find employment in the trade, or if not, must lead to the investment of more capital in it, at the expense of other trades; in the first case it throws an additional number of labourers on the general market; in the second, it withdraws from that market a portion of the demand: effects, both of which are injurious to the working classes."[1]

In the first half of this quotation, Mill is apparently referring to the benefits accruing to labour from the increase in wages which can be passed on to the consumer in higher

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1. Principles, 1st ed. Vol. II pp.499-500

prices. In the second half he is more concerned with wage-increases which cannot thus be passed on, and the result, in his opinion, is in conformity with the general wages-fund view that a rise in particular wage-rates must lead to a fall in the demand for labour elsewhere in the economy. The argument may be restated thus:

(1) where total capital in the trade is constant, an increase in the wage rate could take place in the short run only by reducing the numbers employed. Mill says nothing about the likely decline in output.

(2) where the capital in the trade is increased, that is, by an influx of circulating capital into the trade; wage-rates may increase and the number employed remain constant; we might add that output will remain constant unless previously the workers have been under-nourished.[1] But here, Mill points out, there will be a counter-effect in other trades where circulating capital has been decreased, and labour in these trades suffers accordingly.

Thus in the short run there is still a 'wages-fund' for the country as a whole, although not for each individual trade. Any increase in wage-rates obtained in a particular trade must mean that either fewer are employed in the trade or that fewer are employed in other trades (or wages in other trades are reduced).

In the longer-run, Mill goes on, population will

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1. In this instance, the rise in real wages might conceivably have some effect on productivity.

eventually adjust itself to the new conditions: then some will have higher real wages, while others have the same real wage as before. A new equilibrium is established at a higher general level of welfare, as a result of union activities. But that is not brought about by an increase of total capital: it is the result of a forced restriction on population growth.

This particular stage in the development of Mill's wage theory is best regarded as intermediate, allegiance to the strict formula enunciated by his father being undermined by his own observations and his deep sympathy for the labouring classes. If his socialistic leanings were contributory, they were not sufficient, however: affirmation could come only on grounds of pure political economy, and although we witness here the beginning of a more flexible outlook, he lacked the equipment to carry through the analysis to its logical conclusion.

We can now put this discussion into a proper perspective. It is well known that Ricardo, in the introduction to his Principles, set the scene for the more mature phase of classical theory by asserting that distribution was the central problem of economics: more precisely, distribution as related to, and influenced by, economic growth. If this is so, it is equally true that the keystone of distribution theory was the problem of wage-determination, for, since rent

was not to be generally considered as an element in cost of production, the distributive process devolved into a question of the division of the produce between labour and capital. The return to capital being a 'residual', wage theory becomes the issue on which the whole system is dependent.

On the whole, the analysis was characteristically devoted to the determination of a single ('general') rate of wages, although it was customary to give some attention to differentials. Capital, or more strictly the wages-fund, will vary with savings, while population is regulated mainly by non-economic factors, primarily the habitual standard of living of the working population. Thus wages, in the long run and on the average, were determined almost outwith the economic system.

This, the general situation up to the time of Mill and Senior, has obvious shortcomings, particularly in the matters of labour-supply and wage-differentials. Mill's opinions, as reviewed above, can be interpreted in either of two ways.

First of all, we may suspect that he was by no means satisfied with matters as they stood, and the trend of his argument as a whole seems to imply an impending abandonment of the wages-fund analysis. (This is perhaps too easy a conclusion to draw, using hindsight, but the evidence would seem to point in this direction). Secondly, there is another way of viewing the matter, which I personally find satisfactory (as may be obvious from some earlier remarks) although

the later argument in no way wuffers from a refusal to be convinced by it. This interpretation depends on whether we can regard Mill's conception of the wages-fund concept, not as something verifiable in business life, but as an analytical device which has usefulness in theory, but no validity in practice. The evidence for thinking in this way is based primarily on his quite explicit assumptions of homogeneous labour and free competition, for the sole purpose of considering how the general rate of wages is determined. By these assumptions, which as we have seen are later withdrawn when differentials are introduced, Mill resorted to temporary expedients to simplify analysis, and although the use of hypothetical examples[1] was common in classical economics and even earlier, the deliberate use of assumptions in such a way seems to involve something quite new in economic methodology, On that basis, Mill's adoption of the wages-fund concept is to be regarded as the acceptance of a device which was, in his opinion, partly an analytical convenience and partly an approximation to an everyday process, observable in his day. Undoubtedly the shadow of the wages-fund as a real phenomenon still looms large in the early editions of the Principles. Although no longer adhering to the strictest formulation of the doctrine, the concept was not yet entirely meaningless

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1. What I have in mind here is mainly the technique of providing arithmetical examples to illustrate a particular argument.

and the temporary restriction on wages in general deduced from the wages-fund analysis was yet regarded as valid.

Whichever of the two interpretations is accepted, it remains true that Mill had at least made some progress in wage-theory, primarily on the demand side. Even when the decline of the wages-fund conception was assured, it was the demand aspect which underwent numerous phases of change, while the supply side remained practically unaltered. Even today it is the latter in particular which involves the greatest weaknesses.[1] Finally, although Mill was, in the main, neglectful of the individual supply curve of labour, he did have the following to say about the amount of labour performed by a person working on his own account:

"The peasant must work until he has cleared his rent and the price of all purchased necessaries. After this, he will go on working only if he can sell the produce for such a price as will overcome his aversion to labour"[2]

Had Mill followed this up to a more general conclusion, he must have come to an understanding of the ultimate limit to the short-run elasticity of the labour supply as a whole, resulting from what was later to be called the marginal **disutility** of labour.

The evolution of the wages-fund idea should now be clear. In a later chapter we will see how Mill's 'recantation' of the theory came about. But now the argument of this and the two preceding chapters is drawn together in the discussion of wages and employment from a more general point of view.

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1. Cf. Dunlop: Theory of Wage Determination pp.14-15
2. Principles, p.481

CHAPTER VI: WAGES AND EMPLOYMENT - A FURTHER ANALYSIS

The two previous chapters have been concerned primarily with the exposition of the model with which Mill himself was engaged. It is time now to attempt a reformulation of the notions we have met with and to study the content of the analysis in a more formal manner. The present chapter takes up in greater detail the problems of wages and employment and it will be my main objective to show the relationship between the wages-fund doctrine and the imperfect competition analysis of the labour market as Mill understood it. I begin with the perfect competition wages-fund analysis and proceed by means of a discussion of the labour-supply to the imperfect competition analysis.

At the outset, however, it may be wise to equip ourselves with an understanding of what is meant by 'employment' theory in this context. A theory of employment must provide an analysis of the economic factors determining the level of employment in a given economic situation and with reference to a given social and political framework. These last qualifications are important for they provide at least part of the explanation of the difference between the classical and the Keynesian attitudes to employment and unemployment. Although the bulk of classical literature was produced in the nineteenth century, the background against which analysis was performed was largely that of the late eighteenth century, probably as

a result of the influence exerted by "The Wealth of Nations." This remains true despite the fact that the classical writers were, for the most part, observant of practical changes in their own day. Such changes they accounted for, either by fitting them into the analytical framework with which they had started, or by including them as supplementary observations added to their fundamental theorising. More will have to be said about these matters at a later stage, particularly as they can be made to account for the continual process of theoretical refinement within a given system which is to be discerned in the succeeding writers of the period. But what matters for the moment is that (provided the hypothesis be accepted) it can be seen that although economic society as a whole was altering, and rapidly, the economic literature was slow to throw over the Smithian framework in favour of a more up-to-date scheme, and contented itself with a series of adaptations which must, sooner or later, become completely obsolete and, by its very shortcomings, demand a new 'vision' by means of which analysis might again step forward

I have digressed here to a purpose. Keynes's vision of society was an up-to-date one: that of the later classical authors was not, and what they thought they saw in society was very often a pattern more reminiscent of the late eighteenth century, with incidental items included in patchwork form to satisfy any doubts about the vitality of their analysis.

Perhaps nowhere is this seen more clearly than in their attitude to employment. It is, I think, generally agreed that there is little in the classical literature which deals specifically with the problem of general employment and unemployment from the point of view of economic analysis:[1] certainly there is no proper 'theory'. True, most writers did recognise the existence of growing mechanisation and its tendency to create redundancy of labour, but this was generally regarded as a short-run problem which would eventually solve itself either by a subsequent increase of capital or by a reduction in population (more often a slowing down in the rate of growth of population). On the other hand there does seem to be another way of looking at the role of employment in standard classical theory, by means of the wages-fund approach.

I. The Wages-Fund and Employment

As we have seen, the main characteristic of the wages-fund theory was its insistence on the general rate of wages, a single real-wage rate which must be taken as an average rate calculated in some way for the whole economy at a particular moment of time. The significance of the general rate is obscure. It has no obvious analytical value and there is little indication that those who worked in terms of it

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1. All economists at this time had views on the Poor Laws, relief, etc. but this was seldom related directly to an analysis of unemployment. On the position of Malthus and other opponents of Say's Law see below.

regarded it as anything more than superficial. The general rate was determined by the ratio of the given real-capital stock to the size of the population at any given moment of time and any increase above the general wage rate received by one set of wage-earners could be gained only at the expense of wage-earners elsewhere in the economy. Hence the standard conclusion concerning the futility of trade-union attempts to raise the general level of wages.

By considering the mechanics of this conception in relation to the minimum rate of wages, some conclusions respecting wages and employment are to be obtained. Where W is the general rate of wages (calculated as above), K is the given real-capital stock, and P the population, W = K/P at any moment of time. Let the minimum real wage acceptable to labour be M (that is, the amount of wage-goods just sufficient to provide subsistence for the average labourer and his family). If M is equal to W, equilibrium will obtain and there will be full employment at the minimum real-wage rate. If W is less than M, unemployment will exist, for labourers will refuse to work at a wage-rate less than M and will rather seek charity, relief, etc. As a result, either population, or the rate of growth of population will decrease until equality between M and W is restored. In the more pessimistic vein, the necessary decrease in population relative to capital would be achieved by a rise in the death rate

through starvation and disease. Of course, if capital accumulation is taking place, a slowing down in the rate of increase of population will suffice to restore a full employment equilibrium. If on the other hand N exceeds M population will increase until once again the actual and minimum rates coincide at the full employment level. Thus in all cases it is postulated that - sooner or later - a full employment equilibrium will be achieved by some modification of the rate of population growth. The growth of capital of course had some part to play in the process but in classical thought it was generally population that was the dominant factor.

So far as the main stream of classical thought was concerned there was no such thing as chronic or long-run unemployment of labour. Indeed, there could not be, by the very nature of the assumptions on which the analysis was based. Not that these writers did not recognise the unemployment which undoubtedly existed in their own day: but they viewed it as a short-run problem attributable either to an imbalance between the rates of growth of population and capital (or wage-capital and technological capital): or to a temporary disequilibrium in trade due to rash speculation and the like. These two short run issues apart, in so far as the classical writers had a 'theory' of employment, it was one of full employment stipulating that full employment must obtain in the long run due to the ability of, and necessity for, labour to gear its

rate of growth to the rate of growth of capital and with due allowance for the rate and direction of technological progress. If the Keynesian theory of employment is to be identified by a single concept, aggregate effective demand, the classical 'theory' may be similarly identified by its emphasis on population or, more precisely, the long run supply of labour.

The discussion to this point has been in a generalised and anonymous form and to adapt the construction I have here put on the analysis to the opinions of any particular writer, it would be necessary to add a considerable amount of refinement and detail. Thus reduced to a skeleton form, the analysis does seem to contain some relevance for employment but such is the crudity of the system that there is little to be learned from the 'theory' as it stands. Much of the trouble stems from the labour supply assumptions but for the moment that question must be bound over. The determinacy of the suggested analysis depends on the rigidity of the minimum real-wage rate and once that assumption is removed a new approach to the employment problem has to be broached. But first, we must examine more fully Mill's attitude to the demand for labour, still largely within the wages-fund context.

In Mill's hands, as we have seen, the wages-fund doctrine took on a more precise aspect, as a result of which the theory in its strict form came to an end: by regarding conditions as assumptions, Mill removed the analysis to a higher plane

of abstraction. With Mill, 'population' is to be understood as the supply of 'common unskilled labour of the average degree of hardness and disagreeableness.' 'Capital' is now defined as that part of circulating capital 'which is expended in the direct purchase of labour'; also, this wage-capital no longer constitutes the demand for productive labour alone, the demand for unproductive labour being governed by different principles. Together, wage-capital and the 'other funds' devoted to the purchase of unproductive labour services comprise the aggregate demand for labour in any period. But although Mill clarified these concepts and made explicit assumptions either not recognised before or only sketchily stated, there would still seem to remain the criticism that his analysis of the demand for labour as a whole is based on a fundamental confusion. The demand for productive labour, regarded as a 'stock', stemmed from the mass of capital accumulated at the beginning of the production period while the demand for unproductive labour, deriving from income, was treated as a 'flow'.[1] For the moment,however, it will be convenient to adopt Mill's distinction and divide our discussion of the demand for labour into two sections dealing with productive and unproductive labour respectively.

(a) <u>The Demand for Productive Labour</u>

It is by now sufficiently established that the demand for labour in the classical schema was derived from capital

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1. Cf. also Adam Smith: "Wealth of Nations" - Bk.I Ch.8

and capital was, of course, the stock of goods amassed at the beginning of the production period for productive employment. Since capital was a 'stock', the demand for labour must also, in consequence, be a 'stock'. The original explanation of this conception is obtained from the postulate of a Ricardian-type economy in which capital is composed of corn and wages are paid in corn out of the annual stock. Even in Mill's day the analysis had refined this primitive situation only a little, as we shall see. By following the traditional usage in this way Mill at once imposed a limitation on the theory he was to expound. However, until we have taken the discussion a little further there is little more to be added on that topic.

Until this point in our argument, both in the last and in the present chapter, we have been tacitly assuming that it is the real-wage which is operative in the determination of the wage-level and of the supply curve of labour. And indeed, that was the normal classical assumption. So far as labour, at any rate, is concerned, the decisive factor is the real-wage rate and not the money-wage rate and so long as we are dealing with the classical analysis of the supply of labour it is the real-wage rate that matters.[1] Further, from the cost of production theory of value established by Ricardo and in the main pursued by Mill, the cost of production of any good was determined mainly by the labour expended in its production. More particularly, and this has relevance for

1. Cf. Principles, p.689

the argument which follows, Mill was well aware that price (particularly the price of agricultural produce) as determined by cost of production, depended on cost at the margin of production. Yet when we turn to Mill's view of the demand for labour, we are immediately struck by his argument that it is not the real-wage but the money-wage which is of importance to the employer of labour. Mill, having distinguished wages 'in the sense in which they are of importance to the receiver' and wages as they interest the payer, goes on as follows:

> "Wages in the first sense, the wages on which the labourer's comfort depends, we will call real wages, or wages in kind. Wages in the second sense, we may be permitted to call, for the present, money wages; assuming, as it is allowable to do, that money remains for the time an invariable standard, no alteration taking place in the conditions under which the circulating medium itself is produced or obtained. If money itself undergoes no variation in cost, the money-price of labour is an exact measure of the Cost of Labour, and may be made use of as a convenient symbol to express it." (p.689)

Here we encounter in full the difficulty referred to in the discussion of money in Chapter III above. The conditions which Mill assumes for the value of money to be invariable are not those which would be suggested by a reading of Mill's chapters on money in Book III of the Principles. The safest method of procedure, however, is to accept Mill's point that 'money remains for the time an invariable standard' as the strongest assumption he could make. Thus although Mill plainly conceived of wages being paid in the form of money, he wished to abstract from the complications of purely monetary effects. By assuming away increasing marginal costs in money production and imposing

constant costs, Mill is intent on keeping the analysis in real terms, so that a higher real (labour) cost of producing wage-goods means a higher money cost of these goods to the wage-earner. Mill continues thus:

"The money wages of labour are a compound result of two elements: first, real wages, or wages in kind, or, in other words, the quantity which the labourer obtains of the ordinary articles of consumption; and secondly, the money price of these articles. In all old countries ... the habitual money price of labour is that which will just enable the labourers, one with another, to purchase the commodities without which they either cannot or will not keep up the population at its customary rate of increase. Their standard of comfort being given .... money wages depend on the money price, and therefore on the cost of production, of the various articles which the labourers habitually consume: because if their wages cannot procure them a given quantity of these, their increase will slacken, and their wages rise. Of these articles, food and other agricultural produce are so much the principal, as to leave little influence to anything else." (p.689-690)

Two conclusions of some importance emerge from this passage. First of all, it can be taken as a general condition that wages will be spent in the acquisition of agricultural produce, which we have more generally denoted by 'corn'. The conditions under which agricultural produce was obtained in the classical system were identical - increasing marginal costs being the rule. Secondly, the agricultural labourer would be paid, on the average, a money wage which would just suffice to enable him to maintain himself and an 'average' size of a family at the subsistence level. That is, the farm labourer was paid the marginal cost of production of these necessary items of consumption: his wage was measured, therefore, by the marginal product of his labour, net of the normal profit

gained by the producer. Then, if we assume that perfect competition obtains in the labour market, all other labour will receive the same wage and the wage rate in the system as a whole will be the marginal net product of agricultural labour.

Mill continues on the subject of real and money wages thus:

> "There are two modes in which the Cost of Labour, which is correctly represented (money being supposed invariable)by the money wages of the labourer, may be increased. The labourer may obtain greater comforts; wages in kind - real wages - may rise. Or the progress of population may force down cultivation to inferior soils, and more costly processes: thus raising the cost of production, the value, and the price of the chief articles of the labourer's consumption." (pp.691-692).

The crux of the argument would appear to lie in the role of money in the system. Mill, as we have seen, has assumed that the cost of production of money is constant. Elsewhere he makes it clear that as a general rule industrial products will be produced at decreasing marginal costs - though he does not agree with Senior who enunciated a <u>law</u> of diminishing costs in manufacturing industry.[1] For the moment we may suppose that the cost of manufactured goods (which will be consumed only by capitalists and landlords) remains constant as output expands. Then the cost of production of money and of industrial goods remains constant in terms of each other. Hence, although it is the money cost of wages which is important, superficially at least, to the employer of labour, the real cost of labour to the producer can also be represented

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1. "Principles" p.703

in terms of industrial products: this cost will depend on

(1) the real standard of living of labour, the amount of corn he requires, and

(2) the cost of that corn in terms of industrial products, which will depend in turn on the ratio of exchange between corn and industrial goods.

This second condition is, in general, a reflection of the population-to-land ratio. That Mill was, in effect, attempting to make these points becomes clearer as he goes on to explain the above quotation. His argument can be paraphrased as follows:

In the first case, where the average real wage per head rises, Mill argues that if the increase is caused by a fall in the price of wage-goods, "real wages will be increased, but not money wages, and there will be nothing to affect the rate of profit." Where, however, costs of production remain constant, while the labourer obtains more corn, money wages must be increased and the rate of profit lowered. The producer may not escape this result by raising his price since, on an earlier argument, changes in the general wage level cannot affect values.[1]

In the second case it was supposed that the increase in the cost of labour (to the employer) arose from an increase in population, leading to an increased demand for wage-goods, a rise in their price and an extension of the margin of cultivation which must, in the event of agricultural skill making no

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1. "Principles" pp.459-461. See also below

advance, result in an increased cost of production of wage-goods (or corn). Mill concludes that the farmer suffers in two respects. He has first, to carry on production under less favourable conditions, but since as a farmer he does not share this disadvantage with other producers, he is able to raise his price and gain compensation. Until the rise in price has taken place the increase in output will not be forthcoming. Secondly, higher money wages must be paid to his labourers since their real wage is, by supposition, unaltered. This increased cost is common to all capitalists and forms no ground in Mill's system for a rise in price. The increased money-wages are a "common burthen" to all producers and must be paid entirely from profits (pp.692-693).

Mill's argument can now be restated. In the case of the individual perfectly competitive farmer, (1) a rise in the quantity of corn obtained by the average labourer, its cost of production remaining constant, must mean a rise in wage costs to the farmer in terms of industrial goods: (2) a rise in the cost of production of corn, while the amount of corn received by the labourer remains constant, must again mean a rise in wage costs in terms of industrial goods. The farmer may, in the second case, partly indemnify himself for having to resort to more expensive methods of production by a rise in price, but only so far as the price-increase will bring his rate of profit into alignment with that of the other

capitalists. All competitive capitalists, in both instances, will simultaneously experience a fall in profits in terms of industrial goods and for this there will be no recompense: a rise in price will tend to lead to a fall in demand and competition will soon restore the equilibrium situation with price equal to marginal cost. Also, the cost to the employer of a given quantity of corn will rise in terms of industrial goods and there will be an alteration in the price ratio of industrial goods to corn. Landlords will benefit in two ways: corn rent will be increased as poorer land is cultivated, and the purchasing power of that corn with respect to industrial goods will rise. This effect will be encountered again at a later stage in the argument but for the moment we may turn to a diagrammatic illustration of these two cases.

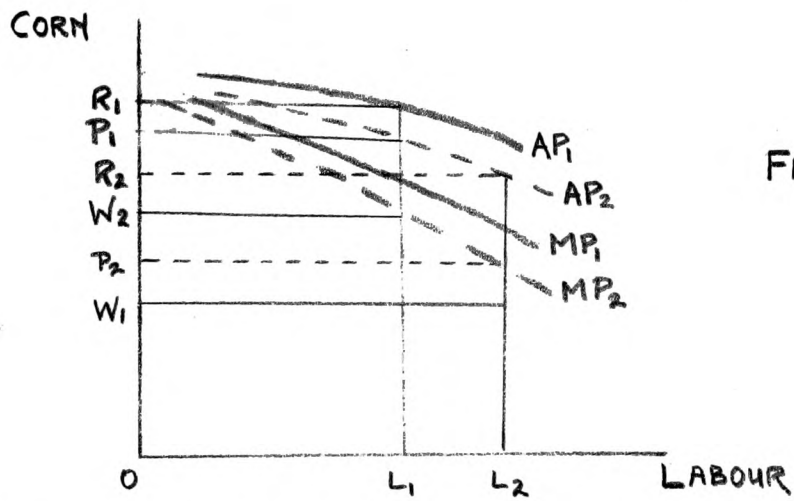


FIGURE I.

In this diagram, only the agricultural sector of the economy is considered. It is assumed that all wages are spent on corn and consumed without remainder. Businessmen and landlords consume

no corn but buy only industrial produce. In Figure I agricultural labour is measured along the horizontal axis, quantities of corn along the vertical axis. With a population in the agricultural sector of OL_1, the average and marginal productivity curves are shown by AP_1 and MP_1 respectively. Output per head is OR_1 so that in the given situation with a real wage per head of OW_1 the relative shares in the total output are represented by OW_1 (wages), P_1R_1 (rent, given by the surplus of average revenue over marginal revenue), and W_1P_1 (profits, being the remainder). Then the ratio of industrial to agricultural workers is shown by R_1W_1/OW_1. The rate of profit in agriculture is P_1W_1/OW_1. This will also be the rate in the industrial sector. The price of corn in terms of labour will be OR_1/OW_1: its price in terms of industrial products will be OR_1/OP_1. Mill's two cases can now be discussed.

(1) Suppose the rise in real wages is shown by a new wage per head of OW_2. Profit per man will fall to P_1W_2 and the rate of profit to P_1W_2/OW_2. There is in effect a double fall here since (a) the price of food in terms of labour falls to OR_1/OW_2 (b) its price in terms of industrial products remains constant. That is, the capitalist with a given quantity of corn can buy less labour than before and only the same amount of industrial goods: and if he employs the same amount of labour as before, he will have less corn to exchange for industrial goods. Also, the ratio of industrial to agricultural population falls to R_1W_2/OW_2 and again there is a double cause in that (a) there

is less surplus to employ labour (P_1W_2 per head instead of P_1W_1); and (b) labour costs more (OW_2 per unit instead of OW_1)

(2) Suppose now that as a result of an increase in the agricultural population to OL_2 the average and marginal productivity curves are AP_2 and MP_2. The relative share of rent will then be R_2P_2 while the share of labour will remain at OW_1. Profits will be squeezed, their relative share becoming P_2W_1 and the rate of profit P_2W_1/OW_1.

Then by arguments similar to those of case (1) above, the proportion of industrial to agricultural labourers will fall to W_1R_2/OW_1 (less than W_1R_1/OW_1).

Also, the price of food in terms of labour falls to OR_2/OW_1, and the price of food in terms of industrial products rises to OR_2/OP_2. (OR_2/OW_1 less than OR_1/OW_1 and OR_2/OP_2 greater than OR_1/OP_1. [1].

Two additional comments may be made at this point. We have assumed that the cost of production of industrial products remains constant but, as we saw earlier, Mill tended to assume that the cost of producing these goods would fall. The correction for this effect would, however, operate in the same direction as the process outlined above. If the cost of production of money is constant, and the cost of producing industrial products falls as that of producing agricultural goods rises, the purchasing power of corn will be doubly enhanced.

Secondly, if we assume that the rate of profit in both cases

1. The relative share of rent is greater in the second situation.

above is the same after the change in wage costs has taken place, it can be shown that in case (2) the end-situation will have a higher ratio of industrial to agricultural population than in case (1).[1].

(b) The Demand for Unproductive Labour

Although Mill pays a good deal of attention to the demand for productive labour, he neglects the unproductive labour aspect. The reason for this neglect is not difficult to explain, for in a perfectly competitive economy with homogeneous labour, the wage rate will tend to equality in all occupations. The ultimate determinant, as we have seen, is the wage in the agricultural sector where the labourer is paid the marginal net product of labour. If we then assume that the labour force is homogeneous and that perfect competition prevails in the labour market, we may say that all labour, in equilibrium, will be paid at a rate equal to that of the agricultural labourer. Although the wage-problem can be 'solved' in such a way, we learn little about the employment situation. We have seen, by previous arguments, that the demand for productive labour was dependent in Mill's system

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1. Let $P_2W_1/OW_1 = P_1W_2/OW_2$.
The ratio of industrial to agricultural workers in case (1) is $R_1W_2/OW_2 = R_1P_1/OW_2 + P_1W_2/OW_2$

in case (2) is $R_2W_1/OW_1 = R_2P_2/OW_1 + P_2W_1/OW_1$

But by assumption $P_2W_1/OW_1 = P_1W_2/OW_2$
Then since $R_2P_2 > R_1P_1$ and $OW_1 < OW_2$, $R_2P_2/OW_1 > R_1P_1/OW_2$
That is, ratio in case (2) exceeds that in case (1).

on the size of the wages-fund. Some explanation of the demand for unproductive labour must now be found.

As I suggested above, Mill is not very explicit about this, but some brief comments can be made. It has already been shown that Mill expressed the demand for unproductive labour as the 'other funds' (apart from capital) devoted to the payment of labour. By 'funds' in this context Mill does not seem to imply a 'stock'. For although he does not in so many words assert that unproductive labour is employed from income (profits and rents after deductions for saving and productive consumption), this seems to be what he had in mind. He divided the annual social product into two parts: that part 'which is destined to be consumed productively' (capital, including replacement and maintenance), and that which 'supplies the unproductive consumption of producers, and the entire consumption of the unproductive classes' (consumption expenditure). The demand for unproductive labour stemmed from the latter, consumption expenditure.[1].

We may now consider the implications in terms of our model. It is assumed that wage-earners consume only corn, while capitalists and landlords consume no corn. The income of the two latter classes, however, accrues as corn, which will either be exchanged against labour-services or industrial goods. How much of each will be demanded will depend on the size of the

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1. The possibility of hoarding is ignored.

surplus for consumption expenditure, the wage-rate of labour (already determined in the agricultural sector) and the price in terms of corn of the industrial goods available. Given these determinants, the consumers will divide their consumption expenditure between industrial goods and labour services so as to obtain maximum satisfaction from a given expenditure of corn. This equilibrium situation may be disturbed during the period in question in either of two ways: (1) the corn-rate of wages may change: (2) the exchange-ratio between corn and industrial goods may alter.

(1) Suppose the corn-rate of wages falls, while the price of industrial goods in terms of corn remains constant. The consumer then has a greater real income measured entirely in labour services, but only the same real income in terms of goods. Many possibilities now arise but the simplest supposition (also the most probable) is that both the income and substitution effects will be positive. Then a fall in the price of labour will lead to an increase in the amount of labour demanded, on both counts. The exact outcome will depend on the relative strengths of the income-elasticity of demand for goods and for services, and on the elasticity of substitution between goods and services. The effects of a rise in the corn rate of wages can be similarly analysed.

(2) Suppose, for some reason, a rise in the exchange-ratio between corn and industrial goods, while the corn rate of wages remains constant. The rate of exchange between corn and

labour does not change, but the price of goods has fallen relatively to corn, and hence to labour. The effect will be the same as in (1) above, with a rise in the corn rate of wages. Assuming again positive income and substitution effects, the amount of goods demanded will be increased, both as real income in terms of industrial goods rises and as goods become relatively cheaper than services. The reverse case can be worked out in a similar way.

(c) The Aggregate Demand for Labour and the Employment Situation

From the foregoing discussion of the demand for productive and for unproductive labour, it can be seen that although decisions relating to the volume of output, the nature of technique, the amount of labour to be used in production, or to be consumed in service form, are all taken in Mill's system before the beginning of any production period, there is no certainty that expectations will be fulfilled. A bad harvest, for example, will have the effect of so altering the terms of trade between corn and industrial goods that there will be no necessity for the planned optimum use of resources to materialise in practice. The actual outcome of short-run deviations from the pattern of expectations on which production and consumption plans are formulated, will depend largely on the flexibility or rigidity of wage-rates and the reactions of producers and consumers to changes in wage-rates.

Mill gives some guidance on his views: in examining the

doctrine that money-wages vary with the price of food (corn), he wrote that "Dear or cheap food, caused by variety of seasons, does not affect wages (unless they are artificially adjusted to it by law or charity): or rather, it has some tendency to affect them in the contrary way to that supposed; since in times of scarcity people generally compete more violently for employment, and lower the market against themselves. But dearness or cheapness of food, when of a permanent character, and capable of being calculated beforehand, may affect wages." (p.346: my italics).

In this passage, Mill clearly draws the distinction between the short run deviation of corn-prices from an expected level, and the price of corn in any particular period during a long-term phase of relatively high or relatively low corn-prices. The latter case, as Mill points out, is susceptible of calculation (i.e. it can be taken into account in the formulation of expenditure plans) whereas the former is not. Mill's argument is, then, that real wages will remain constant in the long run while money wages will, over the trend, fluctuate with the price of corn. But so far as the short run is concerned, it seems more likely to Mill that wages and corn prices will vary inversely. In explaining this, Mill puts forward the view that wages may be affected in either of two ways:

(1) Where wages are already at subsistence level. If, as the result of a bad harvest, corn is in relatively short supply and its price in terms of the invariable standard rises, Mill maintains that the corn-wage rate will at first be reduced and 'a greater number of children will prematurely die; and thus wages will be ultimately higher.' The demand for labour

in terms of corn, that is, will be reduced and labour in competing for employment will accept a wage below the subsistence level. The equilibrium situation will be one of full employment at the perfectly competitive real wage rate, which will be below the normal subsistence rate. Hence Mill's gloomy conclusion about the rise in the death rate.

The fall in the demand for labour here deserves further analysis. Capitalists and landlords both receive less corn in the shape of profits and rents than was expected. The farmer-capitalist will have less corn to pay wages in the next period or less corn to exchange for industrial goods: the industrial-capitalist will have to pay a higher price in terms of industrial goods in order to obtain a given corn-fund for wages in the next period. If in the first instance, labour refused to work for a wage lower than the subsistence rate, the demand for labour in the capitalist sector will be diminished. In the case of the landlords, although they receive less corn absolutely, the value in industrial products of the corn will rise, and goods will tend to be substituted for labour in consumption. There would in these circumstances, be an overall decline in the demand for labour, and unemployment would result. But this supposes a wage-rigidity which is not present in Mill's shortrun example. Where labour is determined to obtain full employment, the corn-rate of wages will fall by competition for employment until all labour is

employed. In other words, as the corn-wage of labour falls a given stock of corn to be used as wage-capital will support more labour, and also in the consumption sector labour will be substituted for goods until full employment is reached. (But if the elasticity of substitution between goods and labour in consumption is relatively low, it is conceivable that full employment might not be reached, at least in that period, no matter how low the wage-rate falls, while still remaining positive).

(2) Where the wage-rate was previously above subsistence level.

In this case, Mill argues, a rise in corn prices would not necessarily deprive labour of its necessities but "though they could bear, physically speaking, to be worse off, perhaps they would not consent to be so." (p.346) Then wages would again rise in the longer run, but not by increasing death-rates: instead, the birth-rate would fall. In such a case, Mill concludes, "wages do adapt themselves to the price of food, though after an interval of almost a generation." (p.347) In the short run, a population which had come to value a standard of living above subsistence level, would have to succumb to a lower real wage rate, but by adjusting its rate of growth would be able once more to achieve full employment at the original wage-rate. Such is Mill's analysis of the second example, and as he points out, Ricardo was similarly aware of the ability of population to adjust its size to

comply with a certain living standard in the longer run.

But Mill does go on from this point to indicate his disagreement with Ricardo who had regarded the minimum standard as a constant over time. The nature of this disagreement and its consequences will be discussed presently as an aspect of the labour-supply question, but for the moment two other parts of Mill's analysis of the perfect competition model are worthy of attention.

Two common arguments at the time were that 'wages are high when trade is good' and that 'high prices make high wages; because the producers and dealers, being better off, can afford to pay more to their labourers.' Mill discusses these in turn. In the first instance, it is pointed out by Mill that the capital which is of importance to labour is that capital only which is actively used, and since capital is not always fully employed, the demand for labour will be less than the potential: "A manufacturer, finding a slack demand for his commodity, forbears to employ labourers in increasing a stock which he finds it difficult to dispose of; or if he goes on until all his capital is locked up in unsold goods, then at least he must of necessity pause until he can get paid for some of them." (pp.344-345). In that case, "The capital remains unemployed for a time, during which the labour market is overstocked, and wages fall." (p.345) In itself, this analysis is just as we would expect from Mill, but what is remarkable is that he goes on to say that "If we suppose,

what in strictness is not absolutely impossible, that one of these fits of briskness or of stagnation should affect all occupations at the same time, wages altogether might undergo a rise or fall." (p.345). Mill would seem, firstly, to be denying the principle of Say's Law of Markets, which he upholds rigidly elsewhere, and secondly, to be putting forward the view that general wages may be vastly different according to the level of business activity. This is not to say, of course, that the wages-fund doctrine itself is impugned. It would still be legitimate to say that the general wage rate is determined by the ratio of capital to population or wage-capital to labour supply. But it does show that so far as employment and wages are concerned, the stock of capital itself is not the important factor, but the rate of turnover of capital: from that point it is but a short step to the renunciation of the wages-fund analysis as an explanation of wages and employment.

The second issue, relating to high wages and high prices, depends on rather similar arguments. Mill has already admitted that a brisk demand, causing temporary high prices, causes also temporary high wages. But, he continues, "high prices, in themselves, can only raise wages if the dealers, receiving more, are induced to save more, and make an addition to their capital, or at least to their purchases of labour." (p.345) The point is still maintained, however, that it is through the increase of capital, and not by the high prices per se that -

wages are increased.

The main points emerging from this discussion of Mill's analysis of wages and employment in a perfectly competitive economy can be briefly summarised as follows. The economy is continually tending to a full employment equilibrium at the wage-rate necessary to the labouring population. Whether capital is accumulating, constant or even declining, population will always tend to adjust its rate of increase in such a way that the ratio of the wage-capital plus the 'other funds' used to hire labour services to the labouring population is just equal to the minimum wage rate acceptable to the average labourer. In other words, the equilibrating force always comes primarily from the supply side in the long run. As for the short run, short period variations in the demand for labour, due to good or bad harvests or changes in the general level of business activity, will tend to depress wages since the labour supply, being perfectly competitive, will reduce the real wage rate to the level at which full employment can be obtained. Because of the stipulated flexibility of the real wage rate, full employment can always be achieved by labour both in the short and in the long run. Finally, it is important to remember that it is the whole economy that is perfectly competitive, not merely the labour market. Were it not that each producer was faced with a perfectly elastic demand curve for his product, it would be possible (and this is all that is necessary) for him to offset a strong pressure for wage rises by an increase in the price of

his good, without necessarily suffering a reduction in his profit rate. Mill's analysis, therefore, while more meaningful than the empty capital/population doctrine of the wages-fund theorists, still remains within the precincts of that doctrine. That this was by no means his final analysis of the wage-employment situation, we shall see in the next two sections.

II. The Supply of Labour.

One of the main results emerging from the foregoing discussion is that the perfectly competitive labour market will always produce full employment, there being no rigidity in the wage rate demanded by labour. The possibility of such inflexibility and its consequences can be seen in two ways. It might be supposed, firstly, that while the labour supply was infinitely elastic in the long run above a certain minimum wage rate (which might be well above subsistence level), labour would refuse to work at a wage rate lower than that minimum level. The second possibility is that there is imperfect competition in the labour market and in the commodity market, so that organised pressures might be brought to bear on employers in the attempt to raise the wages of individual groups of workers.[1] In effect, both these cases have a common bond in that they both reflect conditions attached to the labour supply.

According to the usual neoclassical analysis, the process by which a full employment equilibrium was to be obtained or

1. Or, alternatively to prevent a fall in the wage rate.

maintained was by appropriate adjustments of the levels of saving and investment. In the normal classical analysis on the other hand, the processes of saving and investment were largely automatic, given an adequate rate of profit, and the adjustment needed for full employment was agreed to be one of labour supply. So far as Mill is concerned in these matters, two main problems are to be identified. First, there is the long run elasticity of the labour supply as a whole at a given real wage rate: and second, there is the question of the short run elasticity of the supply of labour.

Ricardo, while, admitting that the wage rate might be above 'subsistence' level, regarded it as a constant rate over time. Mill took issue with him in the following way: "in the application to practice, it is necessary to consider that the minimum of which he speaks (i.e. Ricardo), especially when it is not a physical, but what may be termed a moral minimum, is itself liable to vary." (p.347) It was possible, Mill argued, that a fall or rise in food prices would have the effect of raising or lowering the 'permanent' standard of living of labour.[1] But by this admission, Mill removes some of the determinacy of the classical system. So long as it could be assumed that the labour supply was perfectly elastic in the long run at a given and constant wage rate, and so long as the

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1. Mill also argued that only substantial rises in wages would have the effect of raising living standards, since small increases would have insufficient effect on the attitude of labour to the choice between having more children or enjoying better living conditions. "Principles" pp.348-9

average real wage per head was constant in terms of corn, in the strict Ricardian manner, each labourer would be obliged to consume that corn without remainder to maintain himself and his family at what was regarded as the minimum standard of living. The conditions under which the supply of corn could be increased were well known, and the long run consequences for the distributive shares in the national produce and for the future of the economy as a whole (via capital accumulation) could be analysed. But with Mill the idea of a minimum begins to lose its force, since the wage-level may vary. When, for example, the 'general' level of wages rises above the hitherto established minimum, as a result of the rate of increase of population lagging behind the rate of capital accumulation, at some point labourers will no longer be content to consume only corn, but will require other goods, produced under different production conditions from those of corn: they may even acquire the habit of thrift. Traces of such ideas, though practically unknown in earlier classical literature, become increasingly apparent in later stages of the period and in Mill's thought a good deal of importance is attached to them. The stringent relationship between population and capital becomes loosened as a result and, because of the reformulation of the supply side of the theory of wages, the entire problem, both in itself and in its relation to economic growth, stands in need of rescrutiny. The system of analysis founded upon the concept of a minimum wage rate has its keystone knocked away, the analysis is removed from the realms of the predeterminate and the scene is set for subsequent

developments away from the subsistence and wages-fund theories.

The other point of importance in Mill's analysis of the labour supply in his attitude to trade unions. The effect of 'combinations' in his opinion, was to limit the competition of labour for a given portion of the wages-fund of the whole society, and thereby to increase the real share per head of labour in the organised trades. Again the emphasis is on the supply side. The demand was, to all intents and purposes, given, although as we have seen, there are qualifications even there. What was necessary, therefore, was some limitation on the competition of labour for employment. The consequences of such artificial limitations to labour supply will be seen in the next section.

Two important conclusions emerge from this discussion. First of all, once the assumption of perfectly elastic labour supplies in the long run at a constant real wage rate is abandoned, it may still be argued that no chronic unemployment will obtain in the long run, but it must be conceded that the previous analysis of capital accumulation and the progress of the distributive shares requires reconsideration. Secondly, once it is admitted that in the short run the wage rate is no longer highly flexible, and that labour will not always be prepared to work at the fully competitive wage, the short period postulate of full employment has to be given up.

Mill admitted qualifications to the perfect competition assumption both in the short run and in the long run. The

rest of this chapter is devoted to a consideration of the short run employment analysis, while in the next chapter some of the implications for the longer run will be discussed.

III. Wages and Employment in the Imperfectly Competitive Economy

A comprehensive review of Mill's writings shows that he conceived of the contemporary economy as one in which elements of perfect and imperfect competition were to be found, both in the commodity and in the factor markets. In the Principles, even after his formal renunciation of the wages-fund doctrine, the shadow of the wages-fund concept still overhangs the analysis of wages and employment, and it is significant that even in the final editions he was content to leave phrases which suggest the presence of the wages-fund notion. The shadow was allowed to persist because the qualifications circumscribing it reduced it to a harmless and tenuous fiction. Even in the earlier editions of the Principles as we have seen, Mill had abandoned the perfectly competitive assumptions which were essential to the strict wages-fund doctrine and its corollaries. Our immediate task must be to consider in what way the wage and employment analysis was altered by the conception of a 'mixed' economy, containing perfect and imperfect markets.

We may begin by supposing an economy in which certain industries are perfectly competitive, including the wage-goods industry which produces a homogeneous product, namely

corn. Other industries will be monopolistic or oligopolistic and it will be supposed that in neither of these classes of competition (for even a monopolist is in some sense a competitor) is the seller necessarily maximising short run profits. Where there are a few independent sellers, for example, serving a particular market, each has some influence on price. But he has to take account of his price policy on that of each other seller. A rise in price might mean a loss of custom, a fall in price might lead to price war. Similarly, a monopolist might be hesitant to attempt to increase profits by a rise in price for fear of diverting demand to possible (though somewhat distant) substitutes. In the labour market, it will be assumed that there is no agreement, tacit or overt, between employers and that competition for labour is free and uninhibited. But in certain trades there will exist trade unions such that all workers employed in that trade will be union members. Other trades will be completely unorganised.

We can now proceed to apply Mill's arguments of the last chapter to this situation. Two main possibilities are to be identified.

(1) A Rise in the Price of Wage Goods.

The effects of a rise in the price of wage-goods have to be considered with respect to three classes of labour-users. Employers of trade union members will be faced, almost certainly, with a demand for increased money wages in order that the real wage may be maintained. (This involves the

classical assumption, undoubtedly shared by Mill, that it was the real wage rate that mattered to labour. Keynes's criticism of this assumption is probably true where price rises of a minor character are concerned but normal practice would seem to indicate that trade unions lay a good deal of stress on real wages). Employers faced with such a demand for increased money wages will usually only be able to comply with union pressures without loss of profit if the price elasticity of demand for their product over the relevant price range lies between zero and unity. According to Mill's analysis it seems virtually assured that workers in that case will obtain an increase in money wages, though not necessarily a rise such as will restore their original real wage rate. The competitive situation between oligopolists will be unchanged, a proportionally higher price being charged all round.[1] On the other hand, those producers operating in highly competitive conditions may in some circumstances be able to raise prices to offset a wage rise, since the demand curve for the industry as a whole may be imperfectly elastic. Where, however, there are close substitutes produced by non-unionised labour that cannot enforce a wage rise, producers will not normally grant a wage increase since even a small price increase may divert demand to the substitutes.[2]

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1. Some oligopolists may take advantage of an advertised wage rise to raise prices more than in proportion to the price increase, in view of the fact that outsiders cannot determine the extent of the rise in costs.
2. There is also the case pointed out by Mill where a rise in money wages is granted but less labour is employed. The redundant labour may remain unemployed or join the competition for the remainder of the wages-fund.

Secondly, there is the effect of a rise in food prices on employers using non-unionised labour. Money wages in this case are likely to remain constant, so that real wages fall: the unorganised labour can afford to buy a reduced share of product of the wage-goods industry.

Finally, there are the employers of unproductive labour, which we may assume to be non-unionised. Here the effect of the rise in the price of food will take place through the subsequent rise in the prices of other goods: unproductive consumers suffer from a fall in real disposable income, and the tendency will be for less labour to be employed unproductively at the original money wage rate.

Considered as a whole, the situation created by a rise in food prices due to a scarcity of food will be that while some organised trades will retain the status quo of real wages, the rest of the labour supply will be forced to compete for a smaller quantity of wage goods. If all labour is determined to find employment, the average real wage (excepting those trades in which labour is able to resist a reduction in real wages) will fall to the fully competitive level, a process which is likely to involve a reduction also in money wages which may encourage unproductive consumers to substitute labour for goods in their expenditure. From this kind of analysis, it can be seen how Mill's argument is worked out. By maintaining a constant absolute share of the supply of wage-goods, organised labour reduced the share left to

unorganised labour, and therefore depresses the real-wage rate of the latter. The rate of increase of labour as a whole will therefore slacken, to adjust the total labour supply to the prevailing demand.

(2) The Cyclical Pattern of Demand

The second case of importance recognised by Mill is that where demand for a particular commodity exceeds or falls short of the planned output. Mill, as we have seen, pointed out that where demand was 'slack' the producer may at once stop producing or may go on to build up stocks. But sooner or later, unless demand revives, he will become short of liquid capital, and labour will be redundant. Then 'the labour market is overstocked, and wages fall.' The redundant labour, in other words, is forced to seek other employment and in so doing will reduce the average wage rate for the economy as a whole. Further, Mill proceeded to say that all occupations at the same time might suffer from a failure in effective demand, and in that instance there would almost necessarily be a large pool of unemployment. The point implicit in the argument here is not that there is a large number of men competing for a small wages fund, but that there are too many men competing for too few jobs.

Alternatively, the demand for commodities might exceed the normal rate of output: capital can then be turned over more rapidly and the original 'wages-fund' boosted by the proceeds of the increased sales (probably also there would be

a rise in prices). It is still possible, of course, to uphold the strict letter of the wages-fund doctrine. It could be argued, for example, that the normal period for the turnover of a given capital stock was one year - this was James Mill's stated conviction. But if demand was such that capital was turned over twice in one year or once in two years, it might still be argued that the wages-fund was tied to the length of the period of production so defined, and that labour must always compete for employment from that given fund. Once variability is introduced, however, the entire structure of the wages-fund crumbles: the concept of the wages-fund as a stock must be abandoned and the payment of wages must be regarded as a flow, not just a flow from a given stock throughout the period, but a flow from the inherently variable flow of receipts from sales.

There is little point in summarising the subject matter of this section. It is clear, I think, from the evidence that Mill did not in any sense uphold the rigorous form of the wages-fund doctrine as it had been stated by McCulloch and James Mill. Mill's perception of the imperfectly competitive environment of his own day and his recognition of the variability of effective demand forced him to acknowledge that the wages-fund concept, while having a limited utility in abstract analysis, had to be summarily abandoned when a realistic analysis of the wage and employment situation was attempted. As yet, in the earlier editions of the Principles, a wages-fund notion was still in evidence, but it was not of the same character as the conception expounded by earlier

writers.

In what way Mill finally and explicitly abandoned the wages-fund doctrine we shall see in Chapter VIII below.

CHAPTER VII
MILL'S THEORY OF ECONOMIC PROGRESS

1. The Nature of the Problem

The problem of capital accumulation in relation to economic growth has been resurrected in recent years and a return made to the 'courageous' form of analysis characteristic of writers from Adam Smith down to John Stuart Mill. Two reasons can perhaps be suggested for this revival of interest: the assimilation of the Keynesian employment analysis and the subsequent recognition that full employment without economic growth is difficult to attain; and, more practically, the present state of world tension which stipulates growth almost as a sine qua non of survival.[1] To the classical writers on the other hand, interest in economic growth was a natural consequence of their opinions on the proper scope of political economy. It is, I think, generally agreed that the aim of what may be called the Ricardian economics was the analysis of the distribution process as the national income increased. In other words, it was assumed that the national income was increasing, at least in the more mature capitalist countries, and the ultimate object of economic inquiry was to show the effects of this progress on the relative aggregative shares in the national income. But there was another aspect of the problem arising from the findings of the initial analysis, for according to the classical argument, as growth or capital accumulation progressed the effect on the income shares would be such as eventually to choke off further net accumulation and bring the development process to a halt. The stationary state had then arrived.

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1. A somewhat similar view is expressed by Mill: "For the safety of national independence it is essential that a country should not fall much behind its neighbours in the increase of output and accumulation (p. 749) Cf. also Professor W. W. Rostow's concept of growth through 'national repression' or fear of it.

The general outline of the traditional analysis is sufficiently well known and there seems little point in considering detail for its own sake, for although there are issues on which Mill's views diverge from those of his predecessors he was, on the whole, largely in agreement with the principles on which that analysis was based. Thus although it will be necessary, in the course of the present chapter, to make a brief survey of Mill's analysis I shall, for the most part, be concerned with certain specific points and the relation of the theory as a whole to more recent excursions into the theory of growth and development.

It is first of all essential to realise that although the classical writers were dealing primarily with what they regarded as a 'mature' capitalist economy, already on a path of development, their conception of 'maturity' was vastly different from the modern connotation of that term. Indeed, to the present-day economist the classical analysis has apparently more relevance to the problems of emergent or underdeveloped territories than to the modern industrial system of, say, a European country. At first such a conclusion may seem a trifle strange, for the British economy of the mid-nineteenth century was a fairly well established industrial community, in advance of most (if not all) of its rivals at the time. But as I have already had occasion to observe, the economic system envisaged by the classical writers, at least in their fundamental analyses, was not necessarily a replica of the one in which they lived. There was, so to speak, a lag between the industrial development of the country and the economists' vision of that economy. I shall have more to say on this topic at a later stage but the main point at present is that the conceptual system of the classical economists was hardly an accurate representation of the economic framework of their day. The economy visualised by Mill was much more correct in relation to Britain at the end of the eighteenth century. It is for this reason more than any

other that we can find a parallelism between the modern discussion of growth in underdeveloped countries and the classical examination of long-run capital accumulation.

Another matter now arises. Contemporary theories of economic growth can be broadly divided into two main categories. First, there is the group of studies analysing the process of growth with particular reference to underdeveloped areas, and which include in their scope institutional and other environmental factors influencing the development potential. Secondly, there is another form of analysis on a higher plane of abstraction, consisting in the construction of model of growth, excluding from consideration many non-economic variables and almost without exception relating to the growth of a mature capitalist economy, well-established in its habits and institutions. The classical procedure falls wholly into neither of these categories: instead it participates in the character of both, as can be seen by posing two questions. First, how is the process of economic growth set in motion and, once started, how is it kept going? Such is the question that might be asked by an underdeveloped country in search of growth The other question is, once the process of growth is started, here will it take us if left to its own momentum. This is the question asked by countries of a mature capitalist nature: It is also similar to the question asked by the classics in general.[1] The answer obtained by the mature economies, as much on the basis of practical experience as on the analysis offered by their economists, was not altogether optimistic. For the growth process was characterised by chronic instability in the sense that 'natural' or laissez faire growth did not guarantee either full employment or the absence of cyclical fluctuations. Hence more recent

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1. Cf. Mill : Principles p. 696.

enquiries have turned to the problem of how a high rate of growth can be made compatible with full employment and steady progress untrammelled by the characteristic boom-slump phenomena of laissez-faire development and the tendency toward secular stagnation. The classical answer to the second of the questions posed above tended to waive the unstable nature of what was for them a relatively short run phase of growth and instead attention was diverted to the ultimate trend of economic progress in the very long run. Mill was no exception to that tradition and although, like the other members of the classical groups particularly from Say onwards, he did not overlook the presence of periodic 'crises' on business activity, he was primarily concerned with the overall nature of economic progress. In that respect, the classical writers were probably closer to the semi-institutional, semi-theoretical kind of enquiry which prevails today in relation to the development of emergent economies.

On the other hand, in tracing out the natural path of economic growth, the classics encountered an ultimate stumbling block to further accumulation in the tendency for the rate of profits, which was the prime incentive to private saving and investment, to declime. Although Adam Smith differed from the Ricardians and Malthusians in his explanation of the trend, they were all agreed on the inevitability of secular stagnation. That notion was revived, of course, by Keynes's General Theory, although once more the explanation differed. What matters for the moment, however, is that the conception of stagnation in the classical growth analysis has undoubtedly more relevance for the well developed capitalist system (and the models characterising such a system) than for the under-developed country: the problem of the latter is not how to keep steady growth going, but how to set itself upon a path of growth.

It can be seen, then, that one part of the classical theory pertains to the problems of emergent countries, the

other part to potential problems of the mature economy. As a result the assessment of classical literature must necessarily take separate account of each part. In this chapter I will begin with a discussion of Mill's theory of the development process as a whole, going on from that point to study in more detail his conception of the initial, and then the ultimate stages of economic growth.

One other point, by way of acknowledgment, has to be made. My conception of what is involved in Mill's theory of economic progress has been influenced by two published articles of Professor W. A. Lewis.[1] This is not to say that I am in entire agreement with Professor Lewis or that I necessarily accept his views on development theory, as will perhaps become apparent in later pages of this chapter. But his approach to the problem seems to me to have considerable advantages for the present purpose, since it has, for example, some affinity to the approach adopted by the classical writers in general. I have, accordingly, followed a line of thought suggested by Professor Lewis's arguments in the two articles mentioned.

I begin with a review of Mill's conception of economic progress as a whole.

II. Mill's Theory of Economic Progress

If the classical literature as a whole was unrelenting in its pursuit of the understanding of the very-long run

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1. (i) "Economic Development with Unlimited Supplies of Labour" M.S. May 1954.
(ii) "Unlimited Labour" M.S. Jan. 1958.

equilibrium it was a precondition of that understanding that the growth process itself should be analysed. Adam Smith, for example, had set himself the task of discovering 'the nature and causes of the wealth of nations'. What was wealth, and how was it increased? These were the questions handed down to subsequent writers and, even if they underwent some modification in the course of transfer, they remained at the centre of classical analysis. But to put the matter in more particular form we must ask what was Mill's conception of wealth and how he thought the growth mechanism operated. To Mill, wealth was "all useful or agreeable things which possess exchangeable value." (p. 9) To increase wealth was to increase the number of those useful or agreeable things and Mill was aware that the purpose in producing these objects was ultimately that of consumption. Taking a further step, we recall that consumption might be productive or unproductive. Since labour is (at least initially) assumed to be earning only subsistence wages we may assume that the wage is consumed in an entirely productive manner. Only a small part of rent, however, will be consumed productively: profits on the other hand require further analysis. In our discussion to the present stage, we have assumed that no unproductive consumption takes place from profits. What was not consumed productively by the capitalist was automatically saved and invested. Such an assumption is all very well until we have to take into consideration a rate of profit which is approaching the level, institutionally determined, at which no

new net saving will occur, ceteris paribus. To Mill, of course, it was always possible for capitalists to consume unproductively, no matter how high the prospective rate of profit and for the moment we may take it that the proportion of profits saved will depend on the prospective rate of profit as compared with the rate at which net saving would be zero. In section III below it will be assumed that no unproductive consumption takes place (i.e. in the early stages of the growth process): and in section IV (dealing with the later stages of growth) it will be postulated that capitalists may consume profits as the prospective rate of profit declines.

Meanwhile, it can be said that so far as Mill was concerned, the greater share of profits and rent will form the net produce, the maximand in the growth process.[1] It is of no consequence at present that the net produce may be distributed between the owners of the factors of production. (including labour) in various ways. Mill's views on that subject we consider presently. Our concern now is to see in what way the net produce may be expected to increase and also the 'natural' course of distribution in conditions of economic progress. The problem, so reformulated, accords almost precisely with the implicit object of the analysis of the Principles and it can usefully be taken as the point of departure.

1. We have already seen (in Ch. II above) that Mill regarded the size of the net produce as the index of a nation's prosperity.

Book IV of the Principles, entitled "Influence of the Progress of Society on Production and Distribution," opens with a discussion of economic progress in general, after which Mill proceeds to the effects of progress on value and prices. As we know, his 'general' theory of value was based on cost of production in the most difficult conditions necessary to produce a given rate of output. Costs of production will tend to decline as man's 'power over nature' increases, as new inventions are evolved and applied and as trade between nations is extended. But opposing this tendency for costs of production to decline is another force, thus described by Mill:

> "When, however, population increases, as it has never yet failed to do when the increase of industry and of the means of subsistence made room for it, the demand for most of the productions of the earth, and particularly for food, increases in a corresponding proportion. And then comes into effect that fundamental law of production from the soil ... that increased labour, in any given state of agricultural skill, is attended with a less than proportional increase of produce. The cost of production of the fruits of the earth increases, ceteris paribus, with every increase of the demand." (p. 702).

So far as the production of manufactured articles is concerned, continues Mill, no such law of diminishing returns is encountered. Instead there is a tendency - as we already noted Mill could not agree with Senior who gave it the force of a law - for costs of production in manufacturing to decrease. And in these two great forces, one illustrating the limitation imposed on man by what Adam Smith had called the 'niggardliness of nature,' the other exemplifying man's attempts to gain increasing control over nature, Mill saw the ultimate determinants of the course of economic progress.

Going on to discuss the effect of progress on price fluctuations, Mill concluded that variations in price arising from alterations in 'real' demand and supply (as opposed to speculative buying and selling) may be expected to become more moderate; but he cannot see that speculative fluctuations will be in any way diminished, and may perhaps tend to become more exaggerated. From this point Mill goes on in Chapter III to the question of the influence of industrial and population growth on the relative shares in the national income. It is his belief that in the very long run, provided population continues to increase pari passu with capital, the law of increasing costs from agricultural production will prevail, leading ultimately (how, we shall see presently) to a decline in the rate of profit and a subsequent cessation of net capital accumulation. Hence we need only note his conclusion:

> "The economical progress of a society constituted of landlords, capitalists, and labourers, tends to the progressive enrichment of the landlord class; while the cost of the labourer's subsistence tends on the whole to increase, and profits to fall. Agricultural improvements are a counteracting force to the last two effects; but the first, though a case is conceivable in which it would be temporarily checked, is ultimately in a high degree promoted by those improvements; and the increase of population tends to transfer all the benefits derived from agricultural improvement to the landlords alone."[1]

In the fourth chapter Mill takes up in more detail the theory of the declining rate of profit. He denies Smith's

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1. "Principles," pp. 723 - 4. For the exception mentioned see ibid. pp. 717 - 720.

view that this decline is merely the result of 'the competition of capitals':[1] he points rather to the effects of continued capital accumulation which, by making room for population growth, forces the intensive and extensive margins of cultivation ever upward and outward, leading to an increase in rents and an increase in the money cost of a given stock of real wage goods. Profits are therefore squeezed, the net rate of return declines until eventually it coincides with the minimum rate of profit below which new net savings and investment will not be undertaken. (We have already seen that saving in Mill's system is primarily a function of the expected rate of profit on capital.)[2] The downward trend of the profit rate will be prolonged and occasionally reversed by several other agencies, including technological progress, the wastage of capital in times of commercial crisis, and the foreign investment of domestic capital. Because of the certainty that accumulation will continue until the minimum rate of profit is reached Mill finds (in Chapter V) that there is no need to be alarmed about the effects of Government borrowing for valid unproductive purposes since such action results in a further postponement of the arrival of the stationary state. Further, in the same chapter, he adopts a similar argument to bolster his earlier conclusion that although technological progress may

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1. A similar criticism of Smith is to be found in an early essay by Mill : see W.R. Jan. 1825, p.226.
2. Cf. above Ch. IV.

cause some short-run technological unemployment, in the longer run the scope for employment (or for higher real wages per head) will be expended.

Finally, and somewhat curiously in view of his justification for the postponement of stationary state conditions, he differed from other classical writers in welcoming the advent of the stationary economy. In one of his rare moments of self-revelation in the Principles Mill writes:

> "I confess I am not charmed with the ideal of life held out by those who think that the normal state of human beings is that of struggling to get on; that the trampling, crushing, elbowing, and treading on each other's heels, which form the existing type of social life, are the most desirable lot of human kind, or anything but the disagreeable symptoms of one of the phases of industrial progress." (p.748).

The stationary state would remove these disturbing and (for Mill at any rate) undesirable characteristics. Besides, it was his view that what was required at that time in the mature society was not increase of wealth and further accumulation, but a better distribution of existing wealth.[1] Again, a society which was economically stationary would not by any means be stationary with respect to 'human improvement'. Having already learned something of Mill's valuation of such improvement in the highest sense, we can better appreciate why he looked forward without trepidation and with some hope to the stationary condition of the economy.

The Fourth Book concludes with the long and celebrated chapter 'On the Probable Futurity of the Labouring Classes'.

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1. Cf. "Principles," p. 749.

The content of this chapter is largely outwith the scope of our present discussion and the primary concern in the following pages will be the first six chapters of Mill which form the theoretical nucleus of the problem under consideration. I begin with a consideration of the initial stages of growth and the origin of the tendencies which retard the rate of growth.

III. The Early and Middle Stages of Growth.

Having now summarised Mill's conception of the overall process of economic growth, I may be more selective and attend to more specific matters. At the outset two important points have to be made. Firstly, the classical writers in general, and Mill in particular, were largely unconcerned with the early stages of the growth process. It was presumed that growth had already started and analysis began from that supposition. Secondly, the classics were not interested in growth for its own sake. They were not attempting to show how growth could be maximised, and this is a matter which has several disadvantages from our point of view. We know that Mill regarded the net produce as the index of a nation's prosperity: the greater the net produce, the more could the society spare for unproductive purposes. From one point of view, then, it could be said that the net produce was the maximand in the long run process of economic development. But we must consider the consequences of that attitude for the spirit of the classical analysis itself.

The net produce is a result of the superior productivity of the productive sector of the economy, in which wages are reproduced with a surplus. Therefore, to increase the net produce, a society must seek to expand its productive sector. Ih our system the productive sector is composed of a wage goods sector and an industrial sector each of which produces a surplus over wages. That part of the surplus accruing to capitalists will, at least in the early stages of growth, be reinvested, while the part accruing to landlords will be consumed, partly in the form of industrial goods, partly labour services. But on Mill's own admission, the ultimate objective in increasing the net produce is to increase the amount of unproductive consumption (by all three classes, so far as distribution permits). Yet if landlords are intent upon consuming labour services even in the early stages of growth, it may not be possible to have as large a productive labour force as is desirable from a growth point of view. Admittedly on the present assumption that productive employment takes priority and that unproductive consumers obtain their service requirements from the remaining labour supply, no conflict arises. But that assumption has eventually to be removed so that in allowing normal competitive practices to take over, we are faced with an apparent contradiction in the motives of capitalists and of landlords.

From a modern viewpoint what is required is that we

should be able to say that a certain sector (say the industrial sector) is the key to the development process, and we must set about discovering in what ways its output can be increased. In fact that is very much the procedure followed by Professor Lewis in his 1958 article, in which he introduces a capital-goods sector and stipulates that employment and output in that sector are to be expanded. But the fact that classical writers neglected, for the most part, the role of the capital goods sector in their growth analyses merely reflects their lack of concern for maximisation as such. They were interested, as I have said, not in growth for growth's sake but in the analysis of growth as a means to another end, an understanding of the mechanism by which the stationary state would be brought about by changes in the pattern of the aggregate distributive shares in the national product.

Since for the moment we are interested in the classical system as such, and not (except indirectly) in its applicability to modern development theories, we must be content to accept the classical vision in spite of the strictures it imposes on our own outlook.[1] We must then accept that where capitalists are attempting to increase (if not to 'maximise') the net produce, they may be hindered in their efforts by a strong pressure of demand for labour

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1. It is here that the merit of Professor Lewis's articles is to be found, for by slight modifications of the classical model he has shed much light on the problems of underdeveloped countries.

services from the landlords. But we can at least simplify the analysis by assuming that in the earlier stages landowners, being an enlightened class, recognise that it is in the long-run interests of the economy as a whole that they should minimise their consumption of services and confine their unproductive expenditure mainly to luxury goods produced in the industrial sector. Thus at the beginning of the development process it is the industrial sector that must be expanded and we may now inquire what conditions are necessary to that end.

Two main possibilities exist: (i) with a given supply of wage goods, labour may be transferred from the unproductive to the productive sector, the wage rate being unchanged; (ii) the output of wage goods may be increased, so that a greater labour force can be maintained, part of which will be employed in the industrial sector. Evidently both possibilities require an increase in the rate of capital formation. In case (i), since the supply of wage goods is given, an increase in the wage bill of the productive sector will necessitate a reduction in the consumption of wage goods elsewhere in the economy. The only other consumers of wage goods are unproductive labourers and as we are assuming that in the interests of growth landlords curtail their consumption of labour services, capitalists will be able to increase the amount of productive labour they employ. Two effects are possible here: landlords may become rentiers, in which case there may be a fall in the rate of interest, perhaps giving

an extra stimulant to investment; or landlords may merely substitute industrial goods for services, in which case the corn price of industrial goods is likely to rise. In any event smaller employment by landlords will be offset by increased employment by capitalists and more labour will produce a net surplus, so that the aggregate net produce is increased. The process of expansion will be cumulative so long as there are adequate investment opportunities of acceptable rates of profit.

Case (ii) really suggests the proposition that an increase in the output of wage goods is necessary if industrial output is to be expanded, in economies where the consumption of wage goods by unproductive labour is already minimal.[1] As Professor Lewis has pointed out,[2] the proposition provides an immediate answer to the question whether a developing economy should concentrate first on the production of capital goods, or of consumer goods. Capital goods can be given priority only so far as the consumption of wage goods can be cut. Where no such reduction in consumption is possible, or beyond the point of minimum consumption, capital formation in the industrial sector must proceed pari passu with expansion of the output (or supply) of wage goods. Mill himself recognised the importance of this proposition in its relation

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1. E.g. where there is only a small unproductive labour force engaged by landlords, rentiers, etc., the majority of the population being employed in low productivity 'peasant' agriculture, possibly with much disguised unemployment.
2. Loc. cit. (ii) p. 7.

to poor countries:

"It is not in poor or backward countries that great and costly improvements in production are made. To sink capital in land for a permanent return - to introduce expensive machinery - are acts involving immediate sacrifice for distant objects..." (p. 97). And the conditions required for such long term investment are not to be found in backward countries. Again,

"Productive labour may render a nation poorer, if the wealth it produces, that is, the increase it makes in the stock of useful or agreeable things, be of a kind not immediately wanted; as when a commodity is unsaleable, because produced in a quantity beyond the present demand; or when speculators build docks and warehouses before there is any trade. Some of the States of North America, by making premature railways and canals, are thought to have made this kind of mistake; and it was for some time doubtful whether England, in the disproportionate development of railway enterprise, had not, in some degree, followed the example. Labour sunk in expectation of a distant return, when the great exigencies or limited resources of the community require that the return be rapid, may leave the country not only poorer in the meanwhile, by all which those labourers consume, but less rich even ultimately than if immediate returns had been sought in the first instance, and enterprises for distant profit postponed." (p. 51).

In these passages Mill makes it quite clear that he regarded investment in durable capital in the industrial sector undesirable from the social point of view in capital-deficient countries. The problem, however, is not solved merely by showing that Mill or any other classical economist anticipated a modern view, or even a situation which has relevance for currently developing economies. The problem is whether the classical writers were correct and it may be argued, for example, that a scheme of railway or other transport development, or irrigation and water conservation projects, may not only be socially desirable though it adds nothing in the very short run to the consumption or export output of the economy, but may in fact be the only expedient way of drawing labour

from the disguised unemployment industries, or of instituting a social and economic framework in which development can proceed unhindered by social conventions and ties.

Summing up the argument to this point, we can perhaps say that the conclusion to be drawn is largely that of Mill's first proposition on capital: industry, or productive employment, is limited by the formation of capital and since the expansion of the net produce depends primarily on productive employment, the need is for an increase in the rate of capital accumulation. Mill's views on the distribution of capital between consumption goods and capital goods (or industrial goods) industries have been discussed. Also, so long as investment opportunities do not decline, the expansion process will be cumulative, since the net produce and the share of it going to capital will continue to increase and to be reinvested.[1] The next part of the discussion must take account of Mill's views on the decline in the rate of profit and its effects on induced investment and the progress of the economy.

The foregoing argument has been based on the assumption that the labour supply will continue to increase in proportion with the increase in capital so that the average real wage remains constant. Also, so long as diminishing marginal returns are not encountered in agriculture, it is likely that

1. Again this reflects the constant returns argument of Mill's long run theorem in his first fundamental proposition.

the money wage will be unchanged.[1] But Mill was aware that this situation might not endure, for either of two reasons. First, increasing costs may be incurred as agricultural output expands. And second, there may not in fact be 'unlimited labour supplies' at a constant real wage. These possibilities are discussed separately.

(1) Increasing Costs in Agriculture.

After a few preliminary exercises in the partial equilibrium method of analysis, Mill turns[2] to the case in which capital and population are increasing side by side and 'with equal rapidity': that is, each labourer obtains the same real wage as before. Technological change is ruled out. The process then is: increased population - increased demand. for food - rise in money cost of wage goods - resort to lower productivity land. Rents will rise in a two-fold manner: rent in kind (corn rent) will increase, and rent in terms of industrial products (or exports or the invariable monetary standard) will increase because of the rise in the value of agricultural produce. Money wages will also increase and since the rise in wage costs will be common to all branches of industry (on the perfect competition assumption) the rate of profits must be depressed. Mill is quite explicit on the latter point. Aggregate profits may yet be increasing, but the rate of profits will decline.

1. In fact this seems legitimate enough since the withdrawal of labour from low productivity peasant agriculture may mean a reduction in the amount of disguised unemployment, and there will be no significant decline in output from the peasant sector of the economy.
2. "Principles," pp. 714 - 5.

At this stage in the analysis we must turn to the counter-effect of technological progress. Mill makes a distinction between the effects of technical advance in the production of wage goods and of luxury goods. Luxury or industrial goods present no great problem to Mill, for the particular goods affected are reduced in price and consumers of these items experience a rise in real income. Although the real value of profits and rent may rise there is no change in the rate of profits since the value of existing capital, after allowance has been made for price reductions in certain trades, will have risen proportionally.[1] The case of improved means of producing wage goods was the more complex problem in Mill's view and he goes into some detail which cannot be repeated here. Nevertheless it is worth noting that he identified two kinds of agricultural improvement: those which saved labour, enabling a given output of food to be produced at less cost but on the same area as before: and those which enabled a given area of land to yield a greater product than before, using less labour again.[2] In the second instance, if a greater output is not required, the margin of cultivation will be drawn in and, in Mill's words, "the market will henceforth be regulated by a better description of land than what was previously the worst under

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1. It should be mentioned that to Mill there was no real difficulty in this calculation, but in view of recent discussions of capital evaluation, his belief that capital could be measured by a simple assessment of its general purchasing power must seem a little naïve.

2. "Principles," p. 716.

cultivation." (p. 716).[1] Mill goes on to say that both types of improvement tend to reduce rent: in the first instance the same amount of corn rent will accrue but the real value of the corn will have fallen. The second type will reduce rents still further, always assuming that there is no simultaneous risein the demand for wage goods, making it profitable to continue producing on the least productive land. In this second instance both the amount of the corn rent and its value (in terms of industrial products) will be reduced, since a smaller area will be cultivated and the output will have less real purchasing power than before the improvement.[2]

Two main conclusions derive from Mill's analysis. Because the growth of capital and population is steady and continuous, while the rate of technical progress in agriculture is low[3] and the innovation process 'jerky', the marginal cost of wage goods will rise over time: and, real wages remaining constant, money wages must rise. Rents also will become an increasing proportion in the national income

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1. Mill also makes the assumption that these improvements take effect suddenly, giving no time for capital or population to increase.

2. That rents had not in fact fallen, Mill explained away by maintaining that improvements had not been sudden, but gradual (p. 719).

3. AdamSmith was of the contrary opinion, believing that there was more than adequate technical improvement in agriculture, so that rents diminished as a share in the national dividend. Cf. "Wealth of Nations" Bk II. Ch. 3.

and with the compression of profit margins the rate of profit will decline and the rate of capital formation will decelerate. But that is a matter for the next section.

The second conclusion is more germane to the earlier stages of growth. We have seen how, on Mill's analsis, it becomes increasingly costly to expand the output of wage goods, and such expansion is likely to be necessary for a long term development programme. In his discussion Mill has omitted induced changes in technique, as money wages rise. Admittedly the distinction between autonomous and induced technical change has recently come under criticism.[1] The supposed substitution of capital for labour does not presuppose any change in technical knowledge but merely indicates that a change in relative factor prices makes it profitable to adopt a technique hitherto not worth while. But it is interesting to consider Mill's analysis in terms of the relationship between capital accumulation and the rate of absorption of new techniques, which is illustrated by Mr. Kaldor's 'technical progress function.' From Mill's discussion of innovation in agriculture, it seems that the failure of the agricultural sector to maintain a steady rate of growth was due, not to the lack of 'technical dynamism',[2] the ability of a society to absorb and apply new techniques,

1. Eg. N. Kaldor: "A Model of Economic Growth." E. J. Dec. 1957 (LXVII) pp. 591 - 624. esp. pp. 595 - 598.

2. "Principles" pp. 696 - 7. Here Mill applauds the contemporary ability to adapt scientific discoveries to industrial purposes.

but to the sporadic nature of the stream of agricultural inventions. This does not apparently hold in the industrial sector where both the flow of inventions and the rate of absorption of technical progress were steady and rapid.

Restating Mill's view of agricultural development from that point of view, we may say that the rate of capital accumulation in that sector exceeded the rate of growth in productivity so that, in accordance with Kaldor's analysis,[1] the rate of growth of capital in the wage goods sector tended to be slowed down, and the rate of profits fell. To maintain a steady rate of growth in the agricultural sector (the essential condition of cumulative expansion in the whole economy) it would be necessary to increase the flow of inventions to the agricultural sector. But the flow of inventions is probably to be regarded as an extraneous force: it wasnot the willingness or capacity to absorb new techniques that was lacking, but the type of invention which could be applied in agriculture. The remedy was therefore largely outwith the control of society and the failing could be written off as another instance of nature's niggardliness. It may be worth adding that, in so far as the economy was dependent entirely on domestic agricultural output, when the output of wage goods failed to increase further, the amount of labour to be employed in the whole economy would be limited and further growth could be achieved only by the further transfer of

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1. loc. cit. p. 598.

of unproductive labour to the productive sector.[1] Thus a failure on the part of the wage goods sector to increase beyond a certain point, in the absence of technological progress and of access to wage goods from abroad, brings to a standstill the overall growth of the economy.[2]

(2) The second case, in which temporary increases in real wage rates are used to consolidate a higher standard of living for the labouring classes, is disposed of more easily. Population, instead of increasing, as Mill puts it, 'with equal rapidity' to capital, remains either stationary or increases at a rate less than that of capital formation. Even if real wages have been exceptionally low, and at a genuine subsistence level, wage rises will not be indefinitely used to purchase more corn, as Adam Smith's familiar comment on the narrow capacity of the human stomach illustrates. Of course it might be argued that when producers realise that labour is no longer prepared to increase its supply unlimitedly, and turns wage increases into better living standards, the process of factor substitution will set in and labour will derive no benefit.[3] But if labour is sufficiently determined

1. This is Mill's view. Cf. "Principles" p.732.
2. But presumably technical progress in the industrial sector would still permit total output to be increased gradually.
3. This would argue that the rise in wages induced 'deepening' of capital, whereas with a constant wage rate capital would only be 'widened'. But deepening only occurs to the extent that wages actually rise.

to raise its real wage and curtails its supply (either by increasing less quickly or by the combination methods[1] discussed in the last chapter) it will eventually succeed in its aims. The expansion of the capitalist sectors will come to a halt, for the rise in wages, even if it is only a relative rise due to a change in the terms of trade between wage goods and industrial goods, must mean a fall in profits, so that the rate of accumulation declines.[2] Capital accumulation catches up with population in the sense that the labour 'surplus' previously unemployed or employed in the unproductive sector, is brought into the productive sector by the increased capital available. Output from the productive sector can no longer be increased by absorption of a labour surplus which no longer exists and a new phase in the development process must be admitted. The implications of this radical change in the conditions of growth will be discussed presently but for the moment we turn to the later stages of growth and the stagnation thesis.[3]

IV. The Later Stages of Growth and the Stationary State

The trend of the preceding argument has brought us, by the very nature of the classical analysis, at every turn

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1. Capitalists may even raise wages to forestall the intrenchment of powerful union organisations.

2. Cf. "Principles" p. 735. But in so far as labour saves a portion of its increased wages, as Mill assumes it will, this tendency will be partially offset.

3. Cf. sect. IV below.

to the ultimate breakdown of the growth and accumulation processes. My purpose now is to inquire further into the forces postponing the rate of decline in profit and to consider Mill's opinions on the lower limit of the rate of profit. The mechanism by which the decline is brought about is now relatively clear. As capital increases, so in general does population, and if the real wage per head remains constant or even falls slightly, it becomes necessary for additional land of poorer quality to be brought into cultivation: money wages and rents rise, and the rate of profit declines. In the long-run the rate of profit expected from new investment corresponds with the minimum rate, below which no new net savings will be made. The process of growth is at an end, and the stationary state has been reached.

So stated, the analysis shows many of its faults, but for the moment it is more instructive to inquire how long the 'long run' will be: how long, in other words, and by what means the advent of the stationary state may be delayed.

The cause of stagnation in the Ricardian analysis, the essence of which was upheld by Mill, originated in the supply side. There was no possibility of 'general overproduction' such as was argued for by Malthus, Sismondi and Chalmers, the three main defenders of the 'under-consumption' thesis. Mill's argument ran as follows: even supposing capitalists had reached a point of consumption satiety but, from mere habit, continued to save and invest, they would still make over their

purchasing power to labour. Then, Mill contends:

"until the working classes have also reached the point of satiety - there will be no want of demand for the produce of capital, however rapidly it may accumulate; since, if there is nothing else for it to do, it can always find employment in producing the necessaries or luxuries of the labouring class. And when they too had no further desire for necessaries or luxuries, they would take the benefit of any further increase of wages by diminishing their work; so that the overproduction which then for the first time would be possible in idea, could not even take place in fact, for want of labourers." (p. 560).

A 'failure' in aggregate effective demand was an unlikely possibility, in Mill's opinion. The source of stagnationary tendencies lay in supply, in the fact that continually increasing population brought about increasing marginal costs in agriculture, and a decline in the general rate of profit in the country, so that new net investment, which depended on the rate of profit, would fall and ultimately cease. It was, in effect, a failure on the part of nature to provide adequate supplies of high productivity land which caused the profit rate, first in agriculture, then in general, to decline: and in so far as continued growth via accumulation was dependent on unlimited labour supplies in the long run, the diminishing returns of wage goods production would ultimately bring the capital accumulation process to a halt. Thus if we are to seek a means of postponing the prophesied stagnation we must seek it not in the stimulation of demand, as in the Keynesian recommendations, but in maintaining an adequate margin between the ruling profit rate and the minimum.

Let us consider, then, Mill's summary of the counteracting forces. First is the 'wastage' of capital and resources

ensuing from a period of 'commercial crisis'. When several years have passed without a crisis, Mill says, so much additional capital is accumulated that the rate of profit becomes very low,[1] but "the diminished scale of all safe gains inclines persons to give a ready ear to any projects which hold out, though at the risk of loss, the hope of a higher rate of profit; and speculations ensue, which, with the subsequent revulsions, destroy, or transfer to foreigners, a considerable amount of capital, produce a temporary rise of interest and profit, make room for fresh accumulations, and the same round is recommenced." (p. 734).[2]

But the periodic destruction of capital is hardly a satisfactory means of off-setting the secular stagnation trend. Second in Mill's list came 'improvements in production'. If inventions made possible the cheapening of wage goods and if the minimum standard of living of labour was not simultaneously raised, profits would also be increased. For with a fall in the price of wage-goods, and a subsequent increase in population, money wages would ultimately fall, while output and profits would be raised.[3] On the other hand, if population did not increase, and the rise in real wages became established, there would be no check to the fall in the profit rate.

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1. Mill took this as evidence of the proximity of the stationary state in his own day.
2. For Mill's explanation of the phases and causes of the revulsion see "Principles," Bk. III ch. 12.
3. "Principles," p. 735.

The next stage in Mill's argument is important in that it seems to present a fundamental difference between his, and the normal classical view of the minimum rate of profit. The analysis is as follows:

When improvements have the effect, not of reducing the prices of wage-goods, but of cheapening luxury-goods (consumed by capitalists and, presumably, landlords, the cost of labour to the producer undergoes no change, and the profit rate remains constant on that count. What does happen is that the innovation "lowers, or tends to lower, the minimum itself.[1] In the first place, increased cheapness of articles of consumption promote the inclination to save, by affording to all consumers a surplus which they may lay by, consistently with their accustomed manner of living; and unless they were previously suffering actual hardships, it will require little self-denial to save some part at least of this surplus. In the next place, whatever enables people to live equally well on a smaller income, inclines them to lay by capital for a lower rate of profit. If people can live on an independence of £500 a year in the same manner as they formerly could on one of £1,000, some persons will be induced to save in hopes of the one, who would have been deterred by the more remote aspect of the other. All improvements, therefore, in the production of almost any commodity, tend in some degree to widen the interval which has to be passed before arriving at the

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1. i.e.the minimum rate of profit.

stationary state: but this effect belongs in a much greater degree to the improvements which affect the articles consumed by the labourer, since these conduce to it in two ways; they induce people to accumulate for a lower rate of profit, and they also raise the rate of profit itself."[1] The importance of this passage lies in the fact that in general the classical writers regarded the minimum rate of profit in any society as constant, even in the long run, being determined by the particular dispositions and institutions of the country. Mill apparently considers that with a rise in real income people will not increase their consumption (more precisely it should be said that consumption will not increase by the full amount of the rise in real income) but will save the 'surplus' whether or not it reduces the rate of profit (or interest) below what is regarded as the 'established' minimum level. To put the matter another way, innovations of the kind described will bring items of consumption previously outwith the scope of those who benefit by the innovation into the range of possible consumption choices: and as a result the time pattern of consumption may be altered, causing a revaluation of the rate of profit that is minimal to savers, potential[2] or actual, and at least the possibility of a fall in the minimum rate of profits. We

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1. "Principles," p. 736. In the last part of the paragraph Mill seems to be implying that labour does save, or at least will be induced to save if an increase in real wages is obtained.

2. 'Potential' as in the case of wage-earners who may now, with a rise in real income, find it worthwhile to save.

may represent this diagrammatically as in Figure I below:

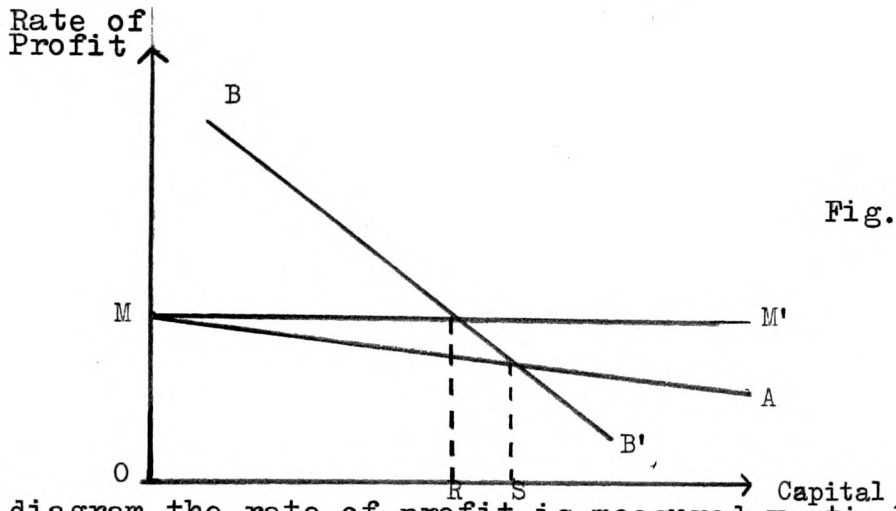


Fig. I.

In this diagram the rate of profit is measured vertically, the amount of capital horizontally. OM represents the minimum rate of profits below which no new net investment will be made, under the usual classical assumptions. BB' traces the path of the actual rate of profit as capital accumulation and population growth proceed. The stationary state would then be reached when the amount of capital accumulated is OR. But on Mill's argument the minimum rate of profit will decline by the process discussed above, and the course of the minimum rate may be taken as that of MA. In this case the stationary state will not be reached until some amount of capital (OS) greater than OR has been accumulated. Thus because of the effect of innovation on the minimum rate of profit, the advent of the stationary state is postponed. It should also be added that the path of the actual rate of profit will not be smooth, as shown in the diagram, but will be characterised by upward movements as the effect of

innovations on the actual, not the minimum, rate of profit.

Considered by Mill as equivalent in effect to the processes of innovation is the acquisition of commodities from abroad at prices less than those incurred by domestic production. Particularly does this apply to wage-goods, for unless the labourer obtains, and keeps (by not increasing the size of his family) the whole gain, the cost of labour to the producer is lessened, money-wages fall and profits are increased.[1] In the case of luxury-items, the only cause of postponement of the stationary state would be the possibility of a fall in the minimum rate of profit.[2] Mill is somewhat pessimistic about the possibility of obtaining an increasing supply of wage-goods, especially corn, from European countries and America: and he concludes that unless Britain was to export capital to these territories, capital which would be employed in the production of corn, the sources of a relatively cheaper food-supply would rapidly be dried up.[3]

Finally, Mill turns to the 'perpetual overflow of capital into colonies or foreign countries, to seek higher profits than can be obtained at home'. This operation has

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1. "Principles" p. 736.
2. Ibid. p. 737.
3. In a letter to Walter Coulson, Mill wrote: "neither do I think that the cheapening of food (by importation) necessarily lowers wages. When it does so, it is only gradually, by giving a stimulus to population, unless there is already a surplus of unemployed labourers supported by Charity." (22nd Nov. 1850. "Letters of J. S. Mill I, p, 155). The argument of the text would seem, therefore, to assume tacitly full employment. Mill goes on in his letter to say that if a fall in wages does occur it will not be by the full amount of the fall in the price of food, since wages will be spent on other items than food

two effects, in his opinion: first of all, it removes part of the capital increment which would otherwise have reduced the rate of profit; and secondly, the exported capital may serve to set up new colonies which will provide cheaper agricultural goods, or to increase the agricultural productivity of older countries. The greater the export of capital, therefore, the longer will it be possible for domestic accumulation to be continued. What is chiefly important about this point of Mill's, is his argument that for some time the effective minimum rate of profit will be that at which it becomes more profitable to invest abroad than at home. In Mill's words,

> "As long as there are old countries where capital increases very rapidly, and new countries where profit is still high, profits in the old countries will not sink to the rate which would put a stop to accumulation; the fall is stopped at the point which sends capital abroad." (p. 739).

Mill's conception of this process is not, perhaps, very precisely stated. Presumably allowance would have to be made for variations in risk attached to foreign investment, so that it is not so much the actual rate of profit expected from foreign investment that matters, but the rate of return net of risk premia and wages of superintendence. In other words, at the margin of investment the decisive factor will be the comparative interest returns between home and foreign investment. When it becomes marginally more profitable to invest abroad than to pursue domestic investment, the effective limits of the decline in the rate of domestic profit at home and abroad are equalised.

By these means, therefore, Mill believed that the arrival of the stationary state in the more mature countries could be postponed, although not indefinitely. The effect of continued capital accumulation and its accompaniment of increased population in reducing the rate of profit was, in his opinion, overriding in the very long run, absorbing all the possible outlets for new investment until the actual and minimum rates of expected profit coincided.

Another interesting and unusual feature of Mill's analysis of stationary state conditions was his recognition that even when stagnation has set in, there may be further, spasmodic progress. At any rate this would seem to be his view in the earlier stages of the Principles when he writes that

> "When a country has carried production as far as in the existing state of knowledge it can be carried with an amount of return corresponding to the average strength of the effective desire of accumulation in that country, it has reached what is called the stationary state; the state in which no further addition will be made to capital, unless there takes place some improvement in the arts of production, or an increase in the strength of the desire to accumulate." (p. 172).

The picture here presented is one in which the stationary state has been reached but where, as it were, the society may 'bump along' the minimum level of profit before finally coming to a halt, due either to new discoveries or to an institutional change in the minimum itself, which make possible an extended accumulation of capital.

Finally, some comment is required on the minimum rate

of profit itself. It was Mill's view that some saving would be undertaken 'even if capital yielded no profit', for purposes of safeguarding the future either of those who saved, or of their children: but saving of this nature has'not much tendency to increase the amount of capital permanently in existence.' (p. 729). Again, we have seen in a previous chapter that 'there is in every country some rate of profit, below which persons in general will not find sufficient motive to save for the mere purpose of growing richer, or of leaving others better off than themselves.' (p. 729). But although Mill recognises that 'there are always some persons in whom the effective desire of accumulation is above the average, and to whom less than this rate of profit is a sufficient inducement to save', the minimum rate of profit is determined not by these persons (who would be 'marginal' savers). For in Mill's opinion the <u>average</u> degree of abstinence was decisive in determining the minimum rate, since those who had a high propensity to save 'merely step into the place of others whose taste for expense and indulgence is beyond the average, and who, instead of saving, perhaps even dissipate what they have received. (p. 729). It would seem, therefore, that Mill believed the <u>average</u> abstinence, not the 'marginal'abstinence of savers was the determinant of the minimum rate of profit, beyond which no further net accumulation would be entered upon.

On the whole, Mill's analysis of the advent of

stationary state conditions presents some important deviations from the traditional view. But in common with his classical contemporaries, Mill was over-pessimistic about the closeness of the stationary state conditions, despite the fact that there were, in his total conception of the growth process, adequate reasons for expecting the accumulation of capital to proceed for a considerable time.

V. Some Consequences of an Imperfectly Elastic Labour Supply.

The crux of the orthodox classical analysis of economic growth and ultimate stagnation was diminishing returns in agricultural production, which checked the growth of wage goods output and ultimately brought to a standstill the growth of population which was considered essential to continued expansion of the real net produce. Mill, however, although in some measure adhering to the unlimited labour condition, went out of his way to show that the labour supply might not be perfectly elastic at a given real wage in the long run. The consequences of that admission though not fully appreciated by Mill himself, were fatal to the determinacy of the classical system as a whole. That, at any rate, is my submission and some substantiation of the argument must now be attempted.

Ricardo, Malthus and the other classical economists, with the major exceptions of Senior and Mill, were adamant that population growth must keep up with capital accumulation, so that the wage rate would remain constant and capital could

not 'catch up' with labour supply in the sense described above. Adam Smith, writing in the pre-Malthusian era, had contended that capital might catch up with population.[1] Senior had argued that the 'prudence and foresight' of the human race would prevent their living eternally in a state of poverty. Mill put his faith on three possibilities: an acceptance by labour of the 'prudential check' to population: emigration: and a policy (advocated by Mill with, on his own admission, little hope of success) for the raising of a class of small proprietors by a distribution of common land among 'responsible' members of the labouring class.[2] Mill was still convinced that labour could multiply more rapidly than the output of agricultural produce: but he recognised now that labour did not increase so rapidly. Once that point has been admitted, the perfect elasticity of the labour supply in the long run becomes obsolete, and it becomes possible for capital to catch up with population, the productive sector expanding until the labour 'surplus' no longer exists. The wage rate begins to rise because the demand for labour, even allowing for the adoption of more capital intensive techniques, is increased while the labour supply does not increase, or at any rate not so quickly. As a result, the pressure on the wage goods sector is lessened.

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1. "Wealth of Nations," Bk. I. ch. 8.

2. Cf. "Principles," pp. 381 - 4. In the 1865 edition Mill added a paragraph (p. 384) in which he observed a gratifying rise in emigration. His tone is optimistic and his belief is evident that the measures advocated previously were no longer pressing.

The marginal propensity to consume wage goods will not be unity, and other items become included in the labourer's budget, including saving, and expenditure on industrial goods which are produced at constant or decreasing cost, and not at increasing marginal cost. In other words, with the slackening of population pressure, however brought about, the necessity of extending the margins of cultivation becomes less.

In particular, all three factors of production become 'scarce' in the sense that they are all limited in supply, and the predominant process of capital 'widening' becomes one of capital 'deepening'. (It may be suggested that the more detailed examination of changes in the production function, as carried out by the neo-classical writers, was a consequence of their working under conditions of imperfectly elastic supply of all three factors of production, whereas in classical literature on the whole (though there are exceptions) the induced changes in technology and in the production function could be ignored, there being no need to substitute capital for labour as a result of wage increases.)[1]

Another point worthy of attention is that Professor Lewis in his 1958 article notes that Ricardo and Malthus were wrong in maintaining that population growth would keep up with accumulation, because medical knowledge in their day was not adequate to permit population to increase faster than

1. Autonomous changes in technology came about by inventions which showed how a given stock of capital could issue in greater profits.

2 per cent per annum, whereas capital can easily increase at a greater rate. Mill, on the other hand, was (wrongly) in agreement with other classical authors on the point that population growth could keep up with capital accumulation. But Mill maintained that although population had this power, it might not use it, and by reducing its rate of growth, would allow capital to catch up with labour supply. Lewis on the other hand, maintains that population growth was limited by nature, not by intention, and so capital would catch up with population by an imposed restraint on numbers rather than by a deliberate restraint.

In the end, therefore, Mill's continued reminders that population might not 'consent' to exercise its full powers of increase serve only to destroy the key to the operation of the whole classical model. Once the wage rate rises, because of a restricted labour supply, the whole distributional problem has to be reappraised. For before, it had been possible to argue in general terms that the share of wages was given by a constant average wage rate multiplied by the number of labourers; rents were given by the difference between the socially necessary marginal product of land and the product of superior soils; profits were the remainder. The share of wages was the keystone in the distribution problem: it has now been made indeterminate by Mill's attempts to present a more realistic

picture.[1] Further, the classical analysis of capital accumulation was largely dependent on the distribution solution, which has now been destroyed. The first problem to be tackled, therefore, in the effort to return to an 'inquiry into the nature and causes of the wealth of nations', is necessarily that of distribution. Once a new answer is provided to the distributive problem - and this is what the neo-classical writers set out to do - the problems of growth can once again be taken up.

It must be conceded that this presentation of historical sequence is gravely oversimplified and I do not intend that it should be taken as more than a very impressionistic version of the phases through which thought has proceeded. For one thing, it is certain that the distinctions between the two systems were not explicitly recognised by the writers who are crucial to the end of one system and to the start of the other. Mill was not aware of the complications his innovations introduced: Jevons was even less cognisant of the illegitimate grounds for many of his criticisms of classical method. But it is not part of my purpose to maintain that the transition from one system was a deliberate one, a step taken consciously and with all the implications understood and detailed. That is just not true.

What I do wish to maintain is, firstly, that by looking at the problem in this light we can begin to obtain

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1. This point is discussed in more detail in Ch. IX below.

some understanding of the reasons for the particular course of economics in the second half of the nineteenth century. Mill had attempted, with a curious mixture of success and failure, to present a more realistic version of the Ricardian model. In so doing Mill showed up some of the inherent weaknesses of the Ricardian system and set the task for later writers of solving the problems he (primarily but not exclusively) had exposed. Secondly, I think it valuable to establish the bases of these two phases of analysis, for unless the fundamental character and assumptions of both systems are realised criticism becomes haphazard and in many instances misleading. For precisely this reason, the lack of understanding of the tenets of classical doctrine and the failure to appreciate that the classical and neo-classical systems rested on different foundations and sought to answer different problems, by far the greater part of the criticism launched against the classical literature becomes groundless. Two alternative systems of thought were identified as one, and the conclusions of the first, the classical system, were put to the wall; whereas a more enlightened procedure would have been to recognise the validity of each system and to learn from the two lines of thought, considered interdependently, but not intermingled.

I propose to return in the following chapters to the question of the relationship between the classical and the neo-classical systems. This present chapter, however, brings to a close my discussion of Mill's fundamental 'model'

of the economic system. I have, as was intimated at the beginning, allowed only one major deviation from the basic system to enter into the analysis, Mill's admission that the labour supply might not be perfectly elastic in the long run at a constant real wage. The reason why this deviation had to be allowed into the discussion in the first part of the study must now be clear. I wish now to turn my attention to the latter stages of Mill's career as an economist and to consider in what way his later opinions (which, in some places, clashed quite openly with those of his earlier years) modified or further disrupted the system borrowed, and adapted, from Ricardo.

Having studied how Mill established himself as an economist, we must now consider him in his role as the elder statesman of economics.

P A R T II

MILL THE ELDER STATESMAN OF ECONOMICS

CHAPTER VIII : CRITICISM AND REVISION

I. The Aftermath of the "Principles"

The 'decline' of the classical system is by no means clear cut. The 'revolutions' wrought by Adam Smith in 1776 and by Keynes in 1936 were quite identifiable even at the time and the stamp of orthodoxy was quickly transferred from the 'old' to the 'new' economics. But the marginal 'revolution' is less readily identifiable in the context of its own time. What virtually amounted to a 'subjective utility' approach to the theory of value, though not adorned with the later technique of marginal analysis, had thrived in Trinity College, Dublin between 1832 and 1863,[1] but had been ignored by most English authorities. Jevons in 1862 delivered a paper to the British Association in which he set out the principles of his 'final degree of utility' approach to value theory later to be embodied in his Theory of Political Economy of 1871. But, faced with opposing forces, the classical system demonstrated its strength, though no resurgence of vitality, by lingering on into the 1880s, sustained by men like Nicholson and Sidgwick. There was, in fact, no tangible revolution in English thought, and the work begun by Jevons was eventually set out in comprehensive form by Marshall, although the latter was perhaps unfair to Jevons, giving him less than his due. But then Marshall was much more concerned to maintain the continuity of the truly English line of thought and, whether we accept

1. Cf. Economica Aug. 1945 The Theory of Value 1832-63 R.D. Black

Shove's[1] view, that there existed a substantial link between Ricardo and Marshall, or Schumpeter's,[2] that the bridge was between Mill and Marshall, it must be accepted that the classical, not the Jevonian tradition, was the influence permeating Marshall's thought. Jevons was a severe opponent of the classical system, and particularly of Mill's Principles, while Marshall was strongly sympathetic to the former orthodoxy. The difference between the classical and marginalist - or in its more general form, the neo-classical- systems would certainly have been more clearly delineated, and the essentially different problems tackled by those systems perhaps recognised more rapidly, had Jevons's views prevailed at once. But as it was every effort was seemingly made to preserve the sanctity and integrity of the classical system when that system had been, not destroyed exactly, but supplanted by an alternative which demanded different assumptions and conditions. Where the change was in fact one which required the acceptance of two alternative systems, each dealing with its own special problems - the one with growth, the other with distribution - the only change explicitly recognised was one of emphasis.

But we have not yet properly reached the stage of our discussion at which the more general issues of the evolution of analysis can be taken in hand. For the moment it is enough to say that Mill's work gained immediate renown, as can be

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1. G. F. Shove: "The Place of Marshall's Principles in the Development of Economic Theory" E.J. Dec. 1942
2. J. A. Schumpeter: "History", p.836.

seen from the favourable reviews received by the Principles[1], and from Mill's own comments in the Autobiography.[2] The impetus of the Principles seems to have been such that it virtually paralysed active thought, for in the decade immediately following its publication the output of new theoretical works of any merit or originality is quite negligible, though it has to be admitted that in the late 1850s H. Fawcett, who was never original, T. Cliffe Leslie and J. E. Cairnes were earning a reputation for themselves primarily by contributions to the periodicals of the day. What progress there was came from the non-theoretical side: a judgment which holds good at least down to 1865. In 1857 Newmarch's two final volumes of the History of Prices begun by Tooke appeared and in the same year Cairnes published his important Character and Logical Method of Political Economy - a work which did not, like the earlier speculations on methodology in the 1820s and 1830s, mark the 'maturity' of the subject, but which had a definite practical purpose in view, namely to discredit the style of the numerous economic essays, lacking both in vigour and analytic form, which apparently dominated the contemporary scene.

The influence of the Principles lingered on for half a century after its first publication, but from 1865 onwards the soporific effects began to wear off, and new developments took

1. Frazer's Magazine Vol XXXVIII No. 225. Edinburgh Review Vol. LXXXVIII No. 178. Westminster Review Vol. XLIX.
2. Mill wrote: "It was, from the first, continually cited and referred to as an authority .." op.cit. p.200.

place, indicating a revival of the critical spirit which had flourished in the second and third decades of the century. The new contributions were made by authors of much ability, Cairnes and Thornton being the principal figures. Cairnes's first contribution took the form of a batch of manuscript notes sent to Mill while the sixth (1865) edition was being prepared. The notes cover a wide range of subjects but easily the most important section is that on the rate of interest. Thornton's efforts to infuse new life into the subject occur mainly in his book On Labour (1869) in which the wages-fund doctrine is severely criticised:[1] for reasons to be discussed presently, Thornton was also obliged to present a critique of ordinary supply and demand analysis in relation to the theory of value. In reviewing Thornton's book, Mill himself finally renounced the wages-fund analysis, though reservations were made, and on the theory of value few of Thornton's criticisms were found to be convincing, in Mill's view. Further on the question of value, but this time relating to the cost of production aspect, Cairnes put forward some new ideas, later substantiated in the Some Leading Principles (1874). As is evident from the correspondence between Mill and Cairnes, however, Mill was not altogether convinced by

1. A work similar in character but dwarfed in intellectual stature which has to be mentioned here is F. D. Longe's "Refutation of the Wage-Fund Theory" (1866). Longe complained that neither Thornton nor Mill had observed his priority but as Schumpeter suggests, neither of the greater figures is likely to have read the work. Cf. J.A. Schumpeter, History pp.669-670 and ft. note. p.669.

Cairnes's reasoning.

In the remainder of this chapter, three main topics have to be considered, together with their implications for the preservation of the classical system itself, particularly as it had been revised by Mill: these topics being respectively, the rate of interest, the theory of value and the final abandonment of the doctrine of the wages-fund. It is my intention in dealing with these matters to confine the scope of the present chapter primarily to the presentation of the new trends in thought during the period in question, 1865-1872. The two succeeding and final chapters will attempt to link these developments with the solid core of classical theory, and also to ascertain the implications of the changes for the then current outlook on the future of economic analysis. In any event there are several reasons why the work done in this period by these three writers in particular should receive some detailed attention. The developments themselves are of considerable interest and are indicative of a new and more enquiring spirit than had been observed in English classical economics since 1848, although unfortunately little was done to follow up the suggestions in later years, either by the new school of marginalists or by the valiant but largely ineffective upholders of the orthodoxy now departed. Further, practically no attention has hitherto been paid to the work of this period, which is all the more surprising in view of its evident importance for the link between the classical and neo-classical systems. By attempting to provide a brief summary

of the discussions I hope to be able to remedy the previous tendency to neglect the suggestive work of the time and to shed a little light on the link between the two schemes of thought.

II. The Rate of Interest

In dealing with the rate of interest and with Thornton's work on wages, what we are concerned with is Mill's reaction to the criticisms, and for that reason we must confine ourselves to a brief presentation of the criticisms themselves. On the rate of interest I have already discussed the detail of Cairnes's notes elsewhere[1] and on the whole only the broad outlines have to be accounted for here.

The outstanding section of Cairnes's notes is that on the rate of interest. As we have observed, theoretical economics from Smith to Mill had been mainly centred on the real economic processes discernible when the veil of money had been withdrawn. General opinion had it that changes in the money supply would not affect the real economic factors and there was a divorce of monetary theory, analysing short run disequilibria, and the hard core of traditional economics, concerned as it was with the interaction of the 'real' factors of production and distribution. Cairnes, though brought up in the orthodox classical atmosphere, and on the evidence of his main theoretical work, the Leading Principles, himself a hardened thinker in the classical style, was yet able to see though the

1. O.E.P. Feb. 1959. Mill & Cairnes on the Rate of Interest

one-sidedness of the non-monetary approach. In analysing the determination of the rate of interest Cairnes shows that he is dissatisfied with the received doctrine of the neutrality in the longer run of the money supply variations.

The Ricardian approach to interest determination was to say that the natural rate of interest bore a fixed relation to the natural rate of profit while the market rate of interest fluctuated continously around that level as a result of changes in the demand for and supply of loanable capital. It was recognised of course that changes in the money supply would affect the rate of interest in the short run, but these changes in the amount of money were more often regarded merely as changes in the amount of loanable capital. Attention was thus diverted from the monetary to the real aspects of the interest phenomenon. Mill, after maintaining in the Unsettled Questions that the interest-profit relation in the longer run was variable, made his main contribution to interest theory by asserting the argument that the difference between the natural rates of interest and profit was due to the social characteristics in relation to either business life or rentiership. Also he put forward the argument that the fluctuations in interest in the short run were attributable primarily to the bankers. But still the habitual classical tendency to override the monetary processes in favour of the real was upheld, and money lent by bankers was continually referred to by Mill as loanable capital.

Cairnes had three main criticisms to make of Mill's analysis:

"It cannot be denied (he wrote) that the thing lent is money - the medium of exchange; but you say that though money passes formally, in reality it is capital which in such transactions is passed from hand to hand. I maintain, on the contrary, (1) that in the case of a large class of loans 'capital' does not pass in any sense other than that in which the word is identified either with the medium of exchange or with commodities consumed unproductively - that is to say, in which either 'capital' and 'currency' or 'capital' and 'non-capital' are unfounded; (2) that where in a certain sense 'capital' may be said to pass - i,e. where the money borrowed is employed in the purchase of 'capital' - this does not entitle us to call the money 'capital' ... according to this way of speaking, all that portion of the circulating medium which is employed in effecting exchangesof capital should be called 'capital'; (3) that the straining of nomenclature, as is done in such explanations, is prejudicial to a clearer apprehension of monetary phenomena... (and this may cause us) ... to perceive but obscurely, the operation of some powerful, but not obvious, influences on the course of the Money Market."

In all three criticisms Cairnes is making a superficial set of points in that they are all connected with terminology. But to regard his comments as nothing more than superficial would be wrong. His whole critique is informed by an understanding, not altogether perfect but at the very least more balanced and constructive than the usual approach, of the monetary influences on the relations between real factors in the economy. The evidence for this assessment of Cairnes lies particularly in his substantiation of the third criticism but one point emerging from the second criticism must first be noted. Mill, using the standard classical text, had maintained that money was not demanded for its own sake but for the uses to which it could be put. Cairnes argued against this, that

Mill's usage was guilty "of comprising and in fact confounding, under the same description two perfectly distinct acts - acts which are often separated by a considerable interval of time. The lending of the money produces a certain effect - an effect which is realised whether the subsequent purchase takes place or not; the purchase also when it takes place produces an effect, but this effect would be quite the same though the money had not been borrowed. A nomenclature which precludes the possibility of distinguishing effects distinct in character, and separated in point of time, must I think be pronounced essentially vicious."

The original classical foundation for the argument that borrowing and investing seems to depend on two conditions: first, that there are no 'hitches' or bottlenecks, and second, that 'much will be given for the use of money when much can be made by it' (the notion originating in Smith and receiving a full statement in Mill's fourth essay on Profits and Interest) with its corollary that businessmen would borrow only when they saw an immediate prospect of profitably employing the loan. Borrowing and investment in productive employment were therefore practically simultaneous, and the possibility of substantial liquid balances was able to be neglected. The real processes of saving and investment and the relationship between the rates of interest and profit could be given undivided attention, the monetary aspects of these phenomena having insufficient time to cause any disequilibrium. What Cairnes succeeded in doing

here was to draw attention to the possibility that large cash or liquid balances might in fact be held by businessmen or others, and in the expansion of his third criticism he brings this possibility to bear on the determination of the rate of interest.

As Cairnes sees it, the fundamental issue is to establish the true relationship between the rate of interest and the productive powers of capital. The relationship is introduced in this way:

"(1) the productive powers of capital are the conditions which render it possible that interest should be permanently paid: consequently the productiveness of capital sets the limit within which the rate of interest over long periods must confine itself; (2) since 'more will be given for the use of money when more can be made with money' the rate of interest will rise and fall with the rate of profit. (a footnote is appended). A tendency, however, which as you point out in your letter of 1st December (just received) need not by any means necessarily be realized in fact, since other causes, such as those existing in the U.S. to which you advert, may more than neutralize it, leaving as the result a rate of interest in some places higher than others where profits are higher."

Cairnes, however, while admitting that the nexus between interest and profit, thus stated, is of vital importance, submitted that the received theory placed too much emphasis on it, unduly neglecting the monetary aspects. The rate of interest in Cairnes's view was "<u>temporarily</u> not limited by anything, but the actual pecuniary means of borrowers at the time of effecting the loan, and does not, with any general conformity, follow the fluctuations in the rate of profit..." Instead, Cairnes submits the proposition that the rate of interest in the short run depended on "the demand and supply

of the community in relation to the amount of its money (using t the word in a large sense to include circulating medium of every kind which practically possesses purchasing and paying power, according to the purpose for which the loan is made) disposable on loan."[1]

Cairnes points out that his opinion, so stated, is opposed to Mill's as expressed in the conclusion that "An increase of the currency has in itself no effect, and is incapable of having an effect on the rate of interest."[2] Cairnes on the contrary maintained that an increase in the currency would nearly always affect the rate of interest. The new currency, he agreed, would either be (1) lent or (2) spent. (1) Opposing Mill's distinction between a note issue as currency or as loans Cairnes takes the view that as loans the issue must be loans of currency, not of capital, so that "The supply of money disposable on loan being increased, while the demand by hypothesis remains the same, the rate of interest falls." (2) Where the currency comes into the hands of those who will spend it, the rate of interest will be affected in the opposite way. As Cairnes describes the process:

> "For the effect of an augmentation of the currency by means of purchase is to raise prices. Now as prices rise, the pecuniary needs of borrowers will increase, the demand for money on loan will therefore increase; but the supply of disposable money according to our hypothesis remaining as before, the rate of interest will rise."

And, as Mill had previously recognised, where the depreciation was 'so rapid as to be perceptible' those in possession of

1. In the original, the whole text outwith the bracket is underlined, but the italics here demonstrate the difference between Cairnes's view and Mill's original view, which stressed the 'capital' angle.
2. (over)

money will be unwilling to lend so that, in Cairnes's words, "at the same time that the demand for money on loan will increase, the supply will diminish; both changes operating in the same direction - towards an elevation of the rate."

Cairnes's thesis, then, commences from the fact that whether or not it is assumed that loans are employed productively or otherwise the loan is one of money, not capital, and it makes no difference even if the money lent _might_ have been used productively elsewhere.[1] Since also the rate of interest in the short run is determined by the money in the hands of the bankers 'disposable on loan', it is not capital but money which is lent and the rate of interest therefore depends not on the demand for and supply of loanable capital, but that of loanable _money_. Further, it is evident that Cairnes conceives of the fluctuations in the interest rate being governed by 'flows' of lending and borrowing whereas, as we have seen, Mill was ambiguous on this point and may in fact have been guilty of a confusion between stocks and flows. In short, Cairnes much more than any other classical theorist propounded the basis for the 'loanable funds' theory of interest determination although since these notes have only recently become accessible and since there is no hint of this strand of thought in his _Leading Principles_ we cannot ascribe to him any responsibility for having initiated that theory. Although he did little to develop the liquid balance approach

2. (Contd.) _Principles_ 5th ed. vol ii p.197. (note the correction of this view: Ashley ed. p.647.

by which a man might borrow money not to be used immediately in production and although he did not work out the implications for the theory of interest he did at least leave the possibility open and further, he pointed out the relation between interest fluctuations and the desire for liquidity - the 'pecuniary needs', as he phrased it. Summarising his section on interest Cairnes wrote:

> "If I were asked to characterize it by a word I should say that it regards the rate of interest as essentially a 'monetary' phenomenon; whereas it has hitherto been represented as expressing a relation of capital as distinguished from money. Monetary science, in short, as a department of political economy, resolves itself according to my notion, into two leading departments - prices and the rate of interest; or as we might describe them, the value of money in relation to commodities, at a given time and its value in relation to itself at different times."

This passage leaves no doubt that Cairnes realised the full implications of his analysis.

Mill's reaction to Cairnes's notes was at once immediate and curious. Although making reservations about other suggestions of Cairnes he was able to say of the section on interest that "I entirely agree with your explanation of the phenomena"[1] Despite this wholehearted acceptance Mill failed to incorporate Cairnes's ideas into the Principles. The possible reasons for that omission we shall have to examine in due course but the first step is to examine the changes which were made in the new edition. Two main changes are directly attributable to Cairnes's comments.[2]

1. Economica, Nov. 1943 "J.S. Mill & J.E. Cairnes", by G.O'Brien p.280.
2. There is a third major change which has no relation to Cairnes's notes. Cf. Principles p.642.

1. The first alteration consists in an insertion at pages 644-645 (Ashley edition). Until that point in the analysis, says Mill, the treatment has been opposed to the then popular view that the rate of interest concerns only money. Although still maintaining that the line he has taken is predominantly correct, he is now willing to admit that a man may borrow to repay a previous debt, in which case "what he wants is not purchasing power, but legal tender, or something which a creditor will accept as equivalent to it. His need is specifically for money, not for commodities or capital. It is the demand arising from this cause which produces all the great and sudden fluctuations of the rate of interest." (p.644 my italics).

But although Mill here seems to catch hold of the approach suggested by Cairnes, his subsequent arguments indicate that he has caught hold only of the letter, not the spirit of Cairnes's exposition. Having observed the role of the demand for cash in commercial crises, Mill reverts to the argument that 'though money alone was wanted, capital passes; and it may be said with truth that it is by an addition to loanable capital that the rise in the rate of interest is met and corrected." (p.645). Mill adds that "there is a real relation which it is indispensible to recognise, between loans and money. Loanable capital is all of it in the form of money. Capital destined directly for production exists in many forms; but capital destined for lending exists

normally in that form alone." (p.645). Had Mill truly accepted Cairnes's teaching, he could not have repeated this view (except from some other motive) that loanable capital was composed solely of money, and yet uphold the traditional view. Mill seems to waver between the alternatives of orthodoxy and unorthodoxy and comes down properly on neither side, though there is an evident bias towards the former. It may be doubted whether Mill properly grasped the import of Cairnes's arguments but it may be nearer the truth to say that while Mill was prepared to grant conditional validity to the monetary approach his tendency was towards the 'real' interpretation of the interest phonomenon, via the capital-interest nexus.

2. Ashley in his edition of the Principles regarded the next alteration as an 'expansion' of two earlier paragraphs but in fact the 'expansion' included a change in doctrine which has much importance. In previous editions Mill had argued that only where currency depreciation was believed to be temporary would an increase in the money supply be capable of affecting interest. In that case Mill had asserted that "people certainly might be willing to lend the depreciated currency on cheaper terms if they expected to be repaid in money of full value."[1] In the sixth edition it is maintained that the 'permanent amount of the circulating medium' can affect only prices, not the rate of interest. But although "the greater or

1. Principles 1st ed. Vol. II p.185

less quantity of money makes in itself no difference in the rate of interest, a change from a less quantity to a greater, or from a greater to a less, may and does make a difference in it." (p.645). Both before and after 1865 Mill was able to argue that "The rate of interest, then, depends essentially and permanently on the comparative amount of real capital offered and demanded in the way of loan; but is subject to temporary disturbances of various sorts from increase and diminution of the circulating medium..." (p.647) The difference between the two positions, before and after 1865, is that Mill had previously allowed temporary deviations from the real equilibrium rate of interest as a result of money supply alterations, but he had also argued that these monetary effects would have no long run effects on the level of the rate of interest: whereas in the new edition he is prepared to admit that these monetary effects may alter the level of the interest rate in the long run. Monetary effects which were previously allowed to have no influence on the 'real' factors in the economy are now seen to have some effects in that connection. But the kind of effects allowed by Mill to changes in the money supply was not the same as those illustrated by Cairnes. To Mill it seemed that changes in the money supply, as with the flood of gold following on the Australian and Californian discoveries, or with the issue of currency by government, would affect interest rates by altering the distribution of wealth between rentiers and capitalists.[1] In other words monetary

1. Cf. Principles p.642.

changes took effect on the real economic factors and processes by influencing the institutional set-up whereas Cairnes had tried to establish a much more direct connection between banking activities and the real factors, especially the amount of capital in existence.

Mill is not entirely clear on his own position with respect to the theory of interest and it is difficult to assess his position. The major problem arises undoubtedly from his attempting to retain his previous views in the face of a new approach. By trying to amalgamate the monetary and real approaches to interest theory he fails to explain either version satisfactorily. There are two possibilities in estimating Mill's contribution. It could be argued, first of all, that he accepted and understood Cairnes's views but that he thought it more advisable to uphold so far as possible the orthodox exposition he had previously supported. There is some justification for such an interpretation in the evident conservatism of the Principles, on which I shall have some comments to make hereafter. But a more convincing explanation is simply that Mill failed to realise the significance of the monetary approach to interest, perhaps even that he failed to understand not merely the broad implications of Cairnes's suggestions but also much of the more detailed analysis. The chapter on interest, as it stands in the sixth edition, is a patchwork, the main part of which confirms the real analytic method, the remainder bearing signs of hurried repair work to

make allowance for those monetary aspects of the theory which had evidently convinced Mill. The pre-1865 editions of the Principles and Cairnes's section of the notes on interest are in direct opposition to each other. The chapter on interest in the sixth edition is a poor attempt to compromise between the alternative solutions.

While on the subject of profits, it may be worth taking note of some correspondence between Mill and Cairnes in 1864-65 relating to the rates of profit and interest in the United States and in Britain. In the first five editions of the Principles Mill included the following passage: in the United States, the labourer "enjoys a greater abundance of comforts than in any other country of the world, except some of the newest colonies; but owing to the cheap price at which these comforts can be obtained (combined with the great efficiency of the labour) the cost of labour to the capitalist is considerably lower than in Europe. It must be so, since the rate of profit is higher; as indicated by the rate of interest, which is six per cent at New York when it is three or three and a quarter per cent in London"[1] Mill touched off the discussion in a letter to Cairnes (Dec.1 1864):[2]

"I have hitherto been under the impression that (the rate of mercantile and manufacturing profit in the U.S.) is much higher than in England because the rate of interest is so. But I have lately been led to doubt the truth of this impression, because it seems inconsistent with known facts respecting wages in America. High profits are compatible with a high reward of the labourers though low prices of necessities, but

1. Cf. "Principles" Bk. II Ch. XV.
2. Cf. Economica Nov. 1943. pp.279-280.

they are not compatible with a high cost of labour; and it seems to me that the very high money wages of labour in America, the precious metals not being of lower value there than in Europe, indicates a high cost as well as a high remuneration of labour."

In America, Mill went on, there was practically no lending class, but a very large borrowing class, so that the loan market would be hardly supplied from 'native sources', and large demands for loans would be supplied primarily from the European money market, necessitating a high rate of interest to 'tempt foreigners'. Mill ends by asking Cairnes for his opinions. Replying, Cairnes admits that he had previously taken the high rate of profit in America for granted. The high rate of money wages, he submits, is not conclusive to Mill's argument. "The precious metals may not be lower in value in America than in Europe, but their cost is certainly lower; the only question is whether it is so much lower as to render the high rate of money wages which prevail consistent with a rate of profit also higher than, or as high as, in this country". (Dec.6 1864) Cairnes proceeded to make enquiries about the rate of profit in America. One authority had promised to obtain a statement on dividends in the United States and Cairnes remarks that if an 'adequate reserve fund against risk' be set against the dividends, "might they not be taken to represent the net profit on manufacturing undertakings? and would not railway reports give us the same element for this kind of investment? Combining these with the returns of a few more industrial departments, might we not

obtain the average net profit on investments of a permanent kind (which would of course be quite distinct from the interest on mercantile bills?); and, this obtained, should we not have a basis for comparing American with English profits?" [1] In the end, however, Cairnes suggests that this elaborate formula might not be any more successful than a well-informed guess!

III. The Theory of Value

The theory of value here appears in both its aspects of market price and natural price. That it should appear at all is perhaps surprising since the particular theme of classical analysis which I have been mainly concerned with is related only indirectly to questions of value. But there are two reasons why the renewed discussion of value theory in the last years of the classical period should get some attention now. The first reason is that Thornton in questioning the doctrine of the wages-fund, was induced to take a step back into the realms of value theory where he thought he could identify faults in the orthodox supply and demand analysis of market price. Having indicated these errors he was then prepared to criticise the wages-fund theory of wage determination which, as we have seen, rested on supply and demand analysis in conditions of perfect competition. Secondly, the revision of price theory took a form similar to that of other reassessments going on in allied fields, and it is important for my purpose to trace the progress of the new critical trend. It

1. Cairnes to Mill Dec. 25, 1864.

should be added that the greater part of the present examination of value theory will deal with market price.

In the first edition of his Principles Mill had contended that there was no further work to be done on value theory: the main problems had been solved and all that remained for him was the task of pulling together the strands and adding the finishing touches. Like all good heretics[1] Thornton in his book On Labour presented the case as strongly as possible.

"There is no alternative but to cut the supply and demand theory adrift... the theory is not simply imperfect, but radically and intrinsically unsound."[2]

His argument rested on his disputing one of the fundamental conditions of the received theory, the condition that goods are offered for sale 'unreservedly'. In fact, Thornton maintained that producers and dealers would not always accept the price offered for their goods but would often withhold their supply. To support his argument he examines several cases of market conditions all of which can be reduced to forms of imperfect competition involving exploitation of one bargaining party by the other. Because such instances were readily identifiable Thornton drew the conclusion that since supply and demand were not always equalised and that therefore the supply and demand solution to price determination must be rejected. Seeking an alternative, he noticed the influence of prospective supply and demand as estimated by the dealers. Each dealer, he

1. Thornton used this word of himself and we are reminded that the theory of value had indeed appeared to be settled once and for all.
2. op.cit. p.44 (2nd ed.)

thought, would form his own estimate of the actual and future state of the market and the price to be expected. By comparing the expected price with that at which he imagined he could get rid of his whole existing supply, he would assess the price he should quote. Then the lowest price thus calculated would be the ruling price for the market, and the force pressing into conformity was to be identified as competition, which in itself was unregulated, except perhaps by individual necessity and discretion. So, Thornton triumphantly concluded, there can be no 'law' of price.

Mill's reply to Thornton appeared in the Fortnightly Review, May 1869.[1] Considering that Thornton's work constituted a strong attack on issues which Mill had regarded as settled, the review is remarkably conciliatory. Mill was prepared to agree that the 'law of supply and demand' was not 'the entire law of the phenomenon'. The phenomenon could not help obeying it but there was 'some amount of indeterminateness in its operation.' There must be a supplementary law which determines the locus of price within the limits set by the main law, and Thornton had done the service of identifying that secondary law, thereby making a useful addition to value theory. In examining Thornton's case studies Mill notes that the markets discussed are in some sense limited: but

"where buyers are counted by thousands, or hundreds, or even scores; in any considerable market - and, far more, in the general market of the world - it is the next thing to impossible that more of the commodity should not be asked for at every reduction of price."[2]

1. "Thornton on Labour and its Claims" Reprinted in D.D. Vol iv, which is the reference here adopted

Mill's argument can be restated as the proposition that where there is a large number of buyers, the demand for the good in question will in most cases be elastic with respect of price: not inelastic as in the cases used by Thornton. And Mill simultaneously takes a step forward to the statement of the conditions necessary for perfect competition to obtain. In those instances where there is more than one price which will equalise supply and demand, Mill goes on, price will depend largely on the initiative of the market. As a rule initiative of price rests with the sellers so that when "several prices are consistent with carrying off the whole supply, the dealers are tolerably certain to hold out for the highest of these prices..."[1] But where buyers are also able to wait the problem reduces to "whether sellers or buyers hold out longest; and depends on their comparative patience, or on the degree of inconvenience they are respectively put to by delay."[2]

Mill's position at this point was that in certain market situations there is a range of prices within which supply and demand could be equalised. The actual price fixed would be decided by the relative bargaining strengths of the buyers and sellers. The conclusion he draws is that Thornton's contribution was a supplement to the existing theory, not a replacement for it. But so far no really significant progress has been made and indeed Thornton's ideas proved to be greater in suggestive value than in their own intrinsic and somewhat pedestrian merit.

Cairnes was not satisfied by Mill's new exposition of the

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1. ibid. p.41.
2. ibid. p.41.

supply and demand analysis. While having to agree that "the quantity demanded and the quantity supplied are evidently ... always equal at the moment of sale (for it seems to me that your qualifications cover all Thornton's hypothetical cases)... I contend that the doctrine thus qualified amounts to an identical proposition, while I cannot see that it throws any light on that for the elucidation of which alone a theory in the case is needed - the conditions which (govern) temporary prices. The qualification to which I refer is contained in the statement - Reserving a price is to all intents and purposes withdrawing supply."[1] By not accounting for any supply for which a demand was not found, Cairnes thought, Mill 'made demand the measure of supply' and vice versa. Worse, it seemed to Cairnes, this way of thinking distracted attention from some important influences on market price. It was Cairnes's view that "the imaginary purchaser will not improbably take into his calculation the existence of supplies, not in the market at all, but which he knows to be in the country; or even... of supplies which, though not in the country, he knows to be procurable from other countries."[2] Other factors also, such as supplies now being produced abroad, the 'facilities for maintaining stock' and the durability of the good in question will all have their effect on price: "they are the constituent elements of the opinions of vendors and purchasers, which opinions, coming into contact in the higgling

1. From a letter by Cairnes to Mill 23rd May, 1869. (Reprinted in Economica Nov. 1943) p.283
2. ibid. p.284.

of the market, are the proximate causes of market price."[1] Concluding, Cairnes thought that the supply and demand analysis of market price was insufficient, that what was required was some more general solution: but in the end he wonders if the game is worth the candle. A theory of market price in itself seemed to him of little moment.

Mill's reply, dated 23rd June, 1869,[2] challenges Cairnes's evaluation. The proposition as laid down "does not define, nor did it, as I stated it, affect to define the causes of variations in value. But it declares the condition of all such variations, and the necessary modus operandi of their causes, viz: that they operate by moving the supply to equality with the demand, or the demand to equality with the supply. The numerous considerations which you notice as influencing the minds of sellers are, all of them, considerations of probable future demand and supply, modifying the effect which would take place if nothing but present facts were considered. Now it appears to me important to point out that these prospective considerations operate by inducing the sellers either to convert a possible present supply into an actual one, or to withdraw an actual present supply into the region of merely possible ones, and that in either case the relation of the price to the actual supply and demand is constant, i.e. the price is that which will make them equal."

If this amicable controversy is to be summarised, it must be said, I think, that Mill and Cairnes were unconsciously

1. ibid. p.284.
2. ibid. pp.284-5.

defending slightly different positions. For Mill, what mattered was the equilibrium and the forces directly acting to produce it. This is brought out by his consistent return to the same point about the price which brings supply and demand into equality. Cairnes on the other hand is more concerned with the factors acting on the equilibrating forces themselves, and was determined to bring these into the theory. To Cairnes, Mill's proposition that price would bring supply and demand into equality was a mere identity, following from Mill's definitions of supply and demand. Where the truth of the matter lies cannot be positively ascertained; but if we allow the evidence of other discussions on Mill's awareness of the distinction between equations of equilibrium and identities, as in his exposition of the equation of international demand,[1] an extension of the ordinary supply and demand analysis, we may conclude with Professors Viner and Schumpeter that Mill did indeed grasp the concept of equilibrium and that he was not merely defending a tautology.[2]

The subsequent developments by Jevons in his Theory and Cairnes in his Leading Principles are notable for two reasons.

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1. Cf. "Principles" particularly p.592.
2. Cf. J. Viner: "Studies in the Theory of International Trade." p,537. J.A.Schumpeter "History" p.609. Also Bastable: "Theory of International Trade" (4th ed.) p.180. For opposite views, cf. Shadwell: "System of Political Economy" (1877) Graham: "Theory of International Values Re-examined Q.J.E. 1923.

There is, first, the evident relationship which emerges between the thought of Jevons and the earlier discussion of market price by Thornton and Mill: the fact that Jevons's work received more attention in 1871 than had his earlier paper may be partly due to the relevance of his arguments for the previous opposition of opinion. Then, secondly, in developing the ideas suggested by Thornton, both Jevons and Cairnes clarified particularly the formal properties of the perfect competition assumption, and also made some contribution to the theory of 'anticipations' - or expectations, though I am hesitant in using the latter in view of the Keynesian connotation of the term: all that I would argue for is that both Jevons and Cairnes took explicit account of the uncertainty of the future as it affected market dealings through speculation; and that had this aspect been retained in the standard core of analysis, and further broken down, instead of being submerged in the general supremacy of the marginalist principle, the Keynesian discussion of expectations would not have appeared so novel. These two points, a formal theory of markets and the anticipations line of thought, as treated by Jevons and Cairnes, require brief delineation.

(1) Perfect Competition

Jevons was first in the field in 1871. In his Theory he made the point that 'the Market' did not denote locality but merely signified an area in which constant exchange of information was possible[1]. A market was theoretically perfect "only

1. Theory (4th ed.) p.85.

when all traders have perfect knowledge of supply and demand, and the consequent ratio of exchange."[1] There must also be no 'conspiracy', and exchanges will take place 'for the slightest apparent advantage'. Elsewhere in his Theory Jevons points out the necessity of the 'perfect divisibility' condition.[2]

Cairnes on the other hand made more of the time element in market theory and in fact anticipated Marshall's later discussion of the very short (market) period and the standard short run period. This is instanced in the following passage:

"By 'supply' as affecting market price, I would understand the quantity (of a commodity) intended for sale wherever it exists which the dealers in the particular market know or believe to be available, to meet, within certain limits of time, the demand which falls within the range of their dealings; and by 'demand' a strictly analogous conception, namely the desire, so far as accompanied by purchasing power, anywhere existing for the commodity which, in the opinion of the dealers in the market, admits of being satisfied within certain limits of time by the attainable supply; the 'certain limits of time' in each case being the period intervening between the time of sale and that at which fresh supplies can be brought forward from the ordinary sources of production."[3]

Cairnes was less interested in the conceptual apparatus itself than in the state of 'industrial and commercial competition' and the benefits or otherwise to be gained from active or limited competition than in the formal properties. Even Jevons, however, as we shall see in the next chapter, was influenced by the actual market structure of his day. As events materialised, neither of these writers was able to provide an adequate statement of perfect market conditions

1. ibid. p.87
2. ibid. p.120
3. "Leading Principles" p. 104: my italics.

and it was left to Edgeworth in his Mathematical Psychics to clothe the skeleton left by Jevons. But in so doing Edgeworth diverted attention away from the 'observational' aspects of perfect competition: and the 'empiricism', which gave rise to the whole discussion, was, as we shall see, of no small importance.

(2) 'Anticipations'

In drawing attention to the fact that future supplies as well as present stocks would have effect on market prices, Thornton started off a new line of reasoning which was more fully explored by Cairnes and Jevons. Both Mill and Cairnes had touched on the question in their correspondence without adding very much to the theory. Jevons in his Theory was content to note that in taking stock of the future, uncertainties had to be accounted for, on the basis of probabilities. Putting the matter rather clumsily, he wrote:

> "In selecting a course of action which depends on uncertain events, as, in fact, does everything in life, I should multiply the quantity of feeling attaching to every future event by the fraction denoting its probability... In all industry directed to future purposes, we must take similar account of our want of knowledge of what is to be."[1]

Cairnes was a little more constructive. He directed attention to what he called the 'proper price' of a good, defined as "the price which suffices to adjust in the most advantageous way the existing supply to the existing demand pending the coming forward of fresh supplies from the sources of production."[2] Cairnes uses this concept of 'proper market price' to state his disagreement with Mill's view that the

1. "Theory": p.36.
2. "Leading Principles" p.109.

'actual market price' is that which equalises supply and demand in a given market. To Cairnes it seemed that demand and supply in his sense were equalised by the proper market price: "To this price the actual market price will, according to my view, approximate, in proportion to the intelligence and knowledge of the dealers"[1] What Cairnes seems to have been seeking for, therefore, was a measure of the fulfilment of anticipations. Then, although mistakes were often made in speculation by dealers which led to oscillations in trade and commercial crises, Cairnes was able to conclude that "under all circumstances the price in the market is determined by the opinions of dealers in the market, founded upon their knowledge of demand and supply ..."[2]

In conclusion, it has to be said that these suggestions arising out of the reconsideration of market price theory were limited in scope and fell short in formal development of later requirements. They did nevertheless constitute some advance and were sufficient to show the premature nature of Mill's claim, made only twenty years before in the Principles, that the problems of value theory had now been solved. By 1871 Mill was faced with a revolt from Thornton and Cairnes, together with the development of a new analytic technique by Jevons. Indeed worse still was to follow, for in 1872 Cairnes mounted a new attack on the cost of production branch of value theory.

The evidence here is scanty in comparison with corres-

1. ibid p.109 ft. note. 2. ibid p.110

pondence on other subjects but it appears that Cairnes was making the point that cost of production should not be regarded as comprised of wages and profits, but of labour and abstinence. In other words he was reverting to the 'real cost' basis of value theory. Mill was of the opinion that the difference was merely verbal, but as he admits, the strength of Cairnes's conviction that something more than terminology was at stake forced him to believe that there was 'still something material' to be learned. Mill was prepared to admit that both the 'wages and Profit' and the 'labour and abstinence' approaches were admissible. However, "when we go down to the fundamentals of the matter, the cost to society, as a whole, of any production consists in the labour and abstinence required for it. But, as concerns individuals and their mutual transactions, wages and profits are the measure of that labour and abstinence, and constitute the motives by which the exchange of commodities against one another is immediately determined."[1]

Once again, Mill and Cairnes were at odds over a question which had long since seemed settled once and for all time. The most striking characteristic of the cost of production debate is that neither writer seems to be really aware of the foundations of their disagreement, although Mill in the last quotation seems to be coming to grips with the problem. However, it would appear that in this case as in the earlier discussion of market value, the important matter is not the

1. Letters of J.S.Mill (ed. H.S.Elliot) Vol. ii Dated 15th May 1872.

detail of the discussion itself: instead, the controversy is symptomatic of the trend of the times, in its questioning of previously accepted and established notions. It is only in that respect that either of the value theory debates has relevance for the present study. There is a sense in which it could be contended that the failure of the remaining classical authorities to understand the merit of Jevons's contribution indicates the poverty of classical insight at this date. But to leave the matter there would, I feel, be to do a serious injustice to Mill, Cairnes and Thornton. Rather it should be said that in the 1870s these writers were gradually recognising the need for revision in their analyses in view of certain changes in the institutional framework, or at least in view of the fact that such changes, dating from earlier years, had now been brought to their notice. Also, so far as the Jevonian theme is concerned, the latter day classics regarded it as an approach, perhaps useful in its own way, but certainly not appropriate to the current state of political economy. The basis for such an assessment emerges clearly from Cairnes's statement on Jevons's Theory of Political Economy that "I think there is a good deal of utility in it... (but) I own I have no faith in the development of economic doctrines by mathematics."[1] Mill himself wrote of Jevons that he was "a man of some ability, but he seems to have a mania for encumbering questions with useless

1. L.S.E. Collection

qualifications, and with a notation implying the existence of greater precision in the data than the questions admit of... It is one pre-eminently at variance with the wants of the time, which demands that scientific deductions should be made as simple and as easily intelligible as they can be made without ceasing to be scientific."[1]

In the two chapters following there will be more to be said on the implications of the doubts, emerging in the 1860s and 1870s, about the overall validity of the established economic analysis but for the moment the crucial point about the revision of value theory is the application of Thornton's critique to the doctrine of the wages-fund, and the subsequent reappraisal of the theory of wage determination. It is to that question that we now proceed.

IV The Wages-Fund

Thornton's criticism of the wages-fund doctrine was based on his revision of supply and demand analysis. Having once shown, to his own satisfaction, that the supply and demand analysis was inapplicable to many market situations, it was a logical step to examine next the application of his new analysis to wage theory. The main point of his argument on the theory of market price, it will be remembered, was that supply (or price) was often reserved: this was deemed to be characteristic of most ordinary markets. Competition was then imperfect: the initiative lay with the sellers, and in the cases with

1. Dec. 5th 1871. Economica Nov. 1943 loc.cit p.274.

which he deals exploitation in one form or another of the consumers is the end result. But in the case of unorganised labour, such is the condition of the average worker that no such 'reservation' of price is possible. Two reasons are suggested by Thornton for labour's inability to reserve supply: 'labour's inability to keep' and the 'habitual poverty of labourers'.[1] The price of non-unionised labour is then forced down by the collusion of customers interested in buying cheaply. The conclusion follows quite easily that there is a large number of labourers seeking employment from a comparatively small number of employers, and the conditions of labour supply being such as to reduce the bargaining position of labour, labour is exploited. Further, even though there are times when labour is in short supply relative to demand, and employers actively compete for labour, these times are few and far between: as Thornton put it,

> "When labour is very abundant, masters sometimes, of their own accord, pay more for it than they need do. When it is very scarce they generally agree among themselves not to pay so much for it as competition would have compelled them to do."[2]

Although employers did not always exercise their power of exploitation to the full, employers working in combination had practically absolute control over the wages of unorganised labour, with the nether limit only of the minimum on which a man could exist. Thus, concluded Thornton, the price of labour was not determined by supply and demand, nor yet by competition which, he had maintained, determined the price of other goods:

1. op.cit. pp.98-99.
2. op.cit.pp.107-8.

instead the determinant in the case of labour was combination among the masters.

A most important aspect of Thornton's teaching relates to the wages-fund doctrine and the efficacy of trade union activities. As I shall argue below,[1] it is necessary to distinguish between the theory of the wages-fund and the practical conclusions drawn from it. So far as the theory was concerned, as stated by Thornton, the fundamental fallacy was that as wages fell, proportionally increasing quantities of labour would be demanded. Thornton disagreed with the assumption, stated in modern terms, that the demand for labour was of unitary elasticity with respect to price. While prepared to admit "that there is at any given time a certain amount, the whole of which may possibly, and more than which cannot possibly be expended on labour," he was not willing to agree that the employer, merely because labour was cheap, would hire labour to the full extent of his 'wages-fund'.[2] Any surplus from the wages-fund would be saved or consumed.[3]

So much for the basic theory: what now of the conclusions drawn from it? It would seem immediately to follow that there is no determinate wages-fund, and that Trades Unions would not necessarily, in seeking and obtaining higher wages, depress the wage rate in unorganised sectors of the labouring community. That being so, the entire edifice built on the foundations of the wages-fund concept would be razed. Thornton

1. Cf. Ch. IX. II
2. ibid. p.85
3. ibid. p.88.

did not, however, go as far as this. In fact he still maintained that "Unionism cannot keep up the rate in one trade, without keeping it down in others."[1] But this view, despite its initial similarity to the former conclusion, was in fact a milder and more encouraging warning to the unions. For Thornton had pointed out six types of case in which action for higher wages was likely to be successful (and these six cases covered a wide range of possibilities). His point was merely that in conditions of stagnating trade, claims for higher wages could hardly be successful: and that by using the weapon of limiting the labour supply in a particular trade and gaining higher wages, a trade union was preventing the labouring community at large from sharing in the gain.[2]

Mill, in reviewing Thornton's book,[3] restated Thornton's objections to the received wage theory in his own words but the form of the argument is materially the same. Mill's statement of the orthodox wages-fund theory is worth noting: by the old theory,

"There is supposed to be, at any given instant, a sum of wealth, which is unconditionally devoted to the payment of wages of labour. This sum is not regarded as unalterable, for it is augmented by saving, and increased with the progress of wealth; but it is reasoned upon as at any given moment a predetermined amount. More than that amount it is assumed that the wages-receiving class cannot possibly divide among them; that amount, and no less, they cannot but obtain. So that, the sum to be divided being fixed, the wages of each depend solely

1. op. cit. p.310.
2. There was, however, no indication now that union actions would make the rest of labour worse off, except where the product in question was a primary article in the ordinary labourer's consumption pattern. loc. cit. pp.307-310.
3. Fortnightly Review May 1869. Also D.D. iv. pp.25-85. from which the present references are taken.

on the divisor, the number of participants. In this doctrine it is by implication affirmed, that the demand for labour not only increases with the cheapness, but increased in exact proportion to it, the same aggregate sum being paid for labour whatever its price may be."[1]

That is to say, the demand curve for labour throughout its entire length would always, on the wages-fund theory, take the shape of a rectangular hyperbola, the price elasticity of demand being unity at all points on the curve. This idea had not been explicitly stated in Mill's earlier exposition of the doctrine. Thornton had now succeeded in showing that, ex ante, the wages-fund was not fixed in size. As Mill proceeds he states clearly that at the start of the production process the capitalist has a stock of 'accumulated means', all of it potential capital: but out of this he has to advance his own and his family's expenses, in the same way as the wages of labour. These advances are paid back out of receipts as they accrue - "it need scarcely be observed that his profit is made as his transactions go on."[2] But this is precisely the point which had not hitherto been acknowledged.

Putting the matter into perspective, we can say that profits had been considered to accrue at the end of each period, as a stock: wages were paid out of this stock, as a flow, together with the remainder of the capitalist's private expenses, and the stock was replaced with a profit at the end of each period. Considered as a presentation of the capitalist system as it actually operates, the old view would not fit in

1. loc. cit.p.43.
2. ibid p.45.

with the facts. But considered as an operation within a conceptually convenient system of analysis there was little to be objected to. Only, so far as the wages-fund was concerned, and so far as it was used as a tool for the analysis of wage determination in the real world, this method of approach was liberally strewn with pitfalls. However, as Mill had used the technique in the Principles, quite explicitly stating that the analysis was based on restricting and artificial assumptions, there was little wrong with the procedure in itself, and stated together with the imperfect competition analysis of the labour supply and the markets for the final product, (an analysis which should have shown the redundancy of the wages-fund concept in any case) there is nothing materially objectionable. Thornton had merely pointed out that the wages-fund approach to wage theory did not accord with practices in contemporary wage settlements, and that as such it not only made no serious contribution to the understanding of economic processes but was positively misleading in the conclusions it drew respecting the activities of trades unions.

To return to Mill's reaction to Thornton: while accepting that the latter had made a contribution to the theory of market price without, however, having revolutionised the theory, Mill wrote of the new contribution to wage theory that "it does not merely add to our speculative knowledge; it destroys a prevailing and somewhat mischeivous error .... The power of Trades' Unions may therefore be so exercised as to obtain for the labouring classes collectively, both a larger share and

a larger positive amount of the produce of labour."[1] It is evident that Mill regarded Thornton's assertion, that trade unions could succeed in raising wages above the existing rates without encroaching on the share of other labourers, as the most important aspect of his work. Equally evident is the fact that Mill regarded this revision as pertaining solely to the demand aspect of the question. The analysis of the labour supply remained intact, in his opinion.

Over all, there can be no doubt that Thornton had made a valuable contribution both to the theory of market price and to the theory of wages, but there are several strange points about the impact his work made on the contemporary scene. Mill had expressly used the wages-fund analysis as one depending on certain abstract assumptions. He had supplemented it by an analysis of the labour supply and the relationship between the commodity market and the labour market, which virtually superseded the wages-fund doctrine. Senior had earlier pointed out that the whole sum of working capital need not be accumulated before production begins, and Mill had approved of his analysis. In a letter to Henry Fawcett as early as 1st January 1866, on Fawcett's recently published book "The Economic Position of English Labourers", Mill wrote:

"The chapter which, on the whole, I least like is the one on wages, tho' it will probably be more praised than any of the rest: but I think I could show that an increase of wages at the expense of profits would not be an impracticability on the true principles of political economy."[2]

Thornton has now provided what should probably be regarded

1. ibid. pp.47-48. But Mill also seems to have accepted Thornton's warning about the impotence of unions in times of stagnation. Cf. ibid. pp. 74-75. 2. Letters vol ii(over

as a valuable supplement to the wage theory of the time: what he shows is exactly what Senior had asserted over thirty years earlier, only now Thornton has drawn more practical conclusions about the wage-raising policies of trade unions, which Senior, writing in a period of far less active and less powerful unions, could not fairly have been expected to do. The main issue, however, which requires to be clarified, is that both Mill, in his discussion of non-competing groups and of the wage-flexibility in imperfectly competitive trades, and Thornton, in his more general review of imperfect competition and exploitation in the labour market itself, were taking steps towards a more realistic theory of wage bargaining and determination than had hitherto existed. It is abundantly clear from their writings that both authors recognised a lower and an upper limit to the rate of wages. Where they differed, prior to Mill's review of Thornton, was in the way they stated their opinions on what constituted the upper limit to wages. In the Principles Mill had held that limit to be determined by the price elasticity of demand for the good produced by the labour in question; Thornton in turn pointed out that combination between employers, either tacit or overt, prevented the upper limit from being reached except in a few insignificant cases: the upper limit being technically the capitalist's entire wealth minus allowances for necessary personal expenditure, the purchase of materials and equipment and the maintenance of existing plant.

2. (contd.) (ed. H.S.R. Elliot).

In the end, however, both approaches can be resolved into facets of the as yet unformulated analysis of imperfectly competitive markets. The great lack in the whole discussion is the failure to attend to the influence of substitution between factors as their relative prices alter.

The curious nature of Mill's conversion to the Thornton argument is further marked by Cairnes's reaction to the affair. In a letter to Mill dated 23rd May, 1869, Cairnes had written:

> "All that you have said on the subject of the wages-fund seems to me excellent. The conception, as now delineated, is, so far as I can see, invulnerable; while it retains all that is required to serve as a basis for a theory of wages."[1]

Yet in his Leading Principles Cairnes seems to have entirely reversed his opinion. There, having quoted the essence of Thornton's critique, Cairnes asserts that he would never have believed that anyone had subscribed to such an interpretation of the wages-fund had not Mill accepted Thornton's objections. As it is (he goes on) "I can only say that this is not the sense in which I have myself understood the doctrine (and I first learned it from Mr. Mill's pages)..." And in a footnote Cairnes adds: "Mr. Mill's acceptance of Mr. Thornton's argument on this point (i.e. Thornton's refutation of the idea that the demand curve for labour has unitary price elasticity) is the more perplexing as he has himself, in more than one passage of his work, strenuously disclaimed that notion of an economic law against which Mr. Thornton's reasoning is directed."[2] (Cairnes's own interpretation of the wages-fund is interesting.

1. See "Economica" Nov. 1943 loc.cit. p.283
2. Op. cit. p.182 and ft. note.

He regarded the rate of wages as 'the industrial outcome' or 'concrete expression' of the supply of labour. And the determinants of the national wages-fund were 'the total capital of the country... the nature of the national industries; and the supply of labour ..."[1] What Cairnes seems to have been driving at was that the ratio of the wages-fund to the whole capital of the country would be determined by the technology of industry and the supply of labour. At one stage Cairnes even gets to the point that "the inevitable consequence of the progress of the industrial arts ... is to cause a steady substitution of the agencies of inanimate nature for the labour of man."[2] Cairnes's argument is perhaps confused, but at least his notion of the wages-fund (rather as an ex post concept, not ex ante) did lead him on to interesting speculations.)

All this exchange and revision of opinions with the latent conflicts of ideas, is singularly confusing to the commentator, and I do not at present feel that the dilemma is to be easily solved or that it is worth while dwelling on the matter too long. What does seem to emerge is a strengthening of the notion I have already suggested, that Mill's recantation of the wages-fund doctrine was not a straight forward volte-face in face of completely novel ideas. But that problem can be better discussed in a more general context.

Three main problems of a general nature can now be set in

1. op.cit. p.173.
2. op. cit. p.176 my italics.

relation to the refutation of the wages-fund doctrine. First, what was the impetus which caused the problem of wages to be reconsidered? Second, why did Mill make no allowance for the recantation of the doctrine in the last edition of his Principles? Third, was the recantation a simple inversion of faith, or is it true to say that Mill had virtually abandoned the wages-fund doctrine earlier and was now adding his weight to a movement which promised to scourge the theory once and for all? The answers to all these questions can, I think, be given briefly, though the implications of the answer to the first comprise part of the subject matter of the next two chapters.

The immediate significance of the re-appraisal of wage theory is that it represented an examination of the facts of the labour market in relation to the accepted theory, which was found wanting. As I shall later argue, this check on the actual market mechanism was symptomatic of the current trend in economic thought.

Secondly, the well known failure of Mill to incorporate the new version of the theory of wages in the seventh edition of his Principles is explained in the Preface to that edition (1871). Mill wrote that recently "there has been some instructive discussion on the theory of Demand and Supply, and on the influence of Strikes and Trades Unions on wages, by which additional light has been thrown on these subjects; but the results, in the author's opinion, are not yet ripe for incorporation in a

general treatise on Political Economy."[1] The Principles was a conservative work and Mill's case for the exclusion of the interim conclusions on value and wages would seem to be that until the discussion had been properly rounded off, and the phenomena explained properly to the approval of the participants it had no place in a standard treatise on economics.

The third question, concerning the nature of the recantation of the wages-fund doctrine by Mill must remain one of surmise rather than assertion. As I have argued the case, it would seem reasonable to suppose that Mill, having already half renounced the wages-fund doctrine as a practical conclusion about wage-determination, was prepared to accept the burden of blame for having promulgated the theory, in the hope that by so doing he would hasten the demise of theoretical results which were distasteful to him. To put the matter thus plainly is perhaps to exaggerate. Although Mill in the earlier editions of the Principles had softened the harshness of the wages-fund theory by stating it with its proper assumptions, it can hardly be doubted that he thought the conclusions applicable to at least a part of the wage determination process. In view of his sympathies with labour, he could hardly have welcomed the results to which his theoretical speculations unerringly drew him. When Thornton expressed his dissatisfaction with the received view, and simultaneously provided an adequate basis for that dissatisfaction, there might seem every excuse for believing that Mill, whose reput-

1. Principles (Ashley ed.) p.xxxi.

ation was secure, would take on his shoulders the blame for the popularisation of a false lesson. The evidence I have presented, both as regards the manner of his exposition of the wages-fund doctrine in the Principles and his remarks on Fawcett's explanation of the problem, together with his early approval of Senior's analysis and his immediate conversion by Thornton, seems to lend weight to that interpretation, as does Cairnes's later puzzlement about Mill's recantation. The possibility must still be left open, nevertheless, that Mill had remained attached to the wages-fund doctrine as an explanation of the majority of wage bargains existing in his day. My own opinion, however, lies the other way.

There ends my review of the main changes in theoretical outlook in the final period of Mill's career. All that now remains is to discover the significance of these developments both for the final estimation of Mill's analytical economics and for the decline of the classical economics as a whole.

CHAPTER IX: THE CLASSICAL MODEL - REPAIR OR REPLACEMENT?

I. The State of Economic Opinion

The evidence has now been presented: the verdict is awaited. I have tried to show what I believe was the central theme of Mill's economic writings as presented in the Principles. Some of the inherent weaknesses of that model as Mill left it have been demonstrated. And in the last chapter were to be seen signs of a new awakening. Three main questions remain to be answered: What was the significance of the revisionary process? What conclusions can be drawn about the relationship between the classical and neo-classical systems? - a question which comprises also the subsidiary inquiry into the reasons for the fall of the classical system. Finally, it must be asked what was Mill's role in the transition from the old orthodoxy to the new.

The renewed questioning of established principles by Thornton and Cairnes, with the supervision and active participation of Mill, is indicative of an implicit recognition that all was not well in the field of economic analysis. But there is much more explicit evidence on the unsatisfactory nature of the science at the time. So far as the survivors of the classical tradition were concerned, there is no evident sign that they were altogether despairing of their own style of approach, though Cairnes had a good deal to say on the chaotic state of political economy in general. But if serenity continued to rule on the surface, the underlying doubts nevertheless existed. Cairnes

had initiated the process by his dubiety about the 'real' analysis of interest. His own tendency would have been to overthrow the old segregation of real and monetary analysis and by regarding interest as 'a monetary phenomenon' to establish a link between the two sectors of analysis. Cairnes caused further concern by his discussions with Mill on the theory of profits, together with the attempts to discover the 'true' rate of profit obtaining in the United States. In value theory he not only failed to be convinced by Mill's attempted integration of Thornton's criticisms into the body of received doctrine but he branched off sharply from the Ricardian analysis of natural value by once again broaching the real cost[1] avenue of inquiry. Finally in throwing his remaining energies into a series of methodological excursions, he seemed to sense the growing revolution of the time and to seek almost desperately for some justification for the work already done.

Thornton, too, had contributed his share for, although he began with what might have developed into an alienation from the Mill - Fawcett - Cairnes camp, it would appear that Mill's gracious acknowledgment of previous error - at least in wage theory if not in value theory - reduced Thornton to a still grumbling but much pacified travelling companion.

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1. Of course, in Bk.I of Mill's "Principles" there had been every indication of a real cost approach to value theory. But Mill seems to have divorced BK.I for Bk. III and so the real cost approach from the simple cost version. This may help to explain why Mill thought Cairnes's revival of real cost unnecessary. Cf. also A. Marshall: "Mr. Mill's Theory of Value" Memorials pp.126-127

Meanwhile Mill, though failing to instigate any new controversies bar the somewhat spurious issue of the comparative profit rates in the United Kingdom and in the United States, contrived to keep abrest of current movements and to govern the course of the debates. But even if in the ultimate phase he made no innovatory contributions, if he was not responsible for introducing new slants on old problems, he had already laid the foundations for the degeneration of the classical system. The loosening of logical rigour by the admission that labour would not always multiply up to the limits of subsistence is a particular instance of the way in which the quest for generality led to inconsistency and ultimate decline. But there is quite a different manner in which Mill helped to achieve the downfall of the system he was so intent upon perfecting. For by attempting to combine in a single work what seemed in his opinion to comprise the soundest and most intellectually convincing doctrines chosen from a wide sweep of thought, and by providing a textbook which could, at any rate for the time being, be granted the stamp of authority by public opinion, Mill gave to economics a breathing space in which progress could be assessed, and also a launching ground for new speculations. The Principles became a rallying point for the late classical thinkers and a focal point for the criticisms of the new school growing up in the sixties and seventies. Mill did economics the invaluable service of collating the individualistic work of the previous thirty years in such a way that a general evaluation of them could be made: and, though it is almost certain that he himself could not see the new directions

the subject was to take, he showed the newcomers where their work was most urgently required. It might have seemed by the mid-1860s that he had succeeded too well, that by managing not only to fit into a single system a large number of often conflicting ideas but also to give that system a tone of consistency, Mill had lulled economic originality into complete torpor. The initial impetus once provided, however, complacency was rapidly swept away.

Jevons,[1] and perhaps Hearn[2] apart, the classical writers were the first publicly to admit the failings of the old system. The acknowledged weaknesses were of minor significance, perhaps, in themselves, but taken together they represent a marked trend, the objective of which was not to overthrow the existing scheme of analysis but merely to amend prevalent inaccuracies - errors primarily of observation.[3] There is no doubt, however, about the verdict of the new set of economists on the current condition of the science.

In the Preface to the first edition of his Theory of Political Economy (1871) Jevons wrote:

"I believe it is generally supposed that Adam Smith laid the foundations of the science; that Malthus, Anderson and Senior added important doctrines; that Ricardo systematised the whole; and finally, that Mr. J. S. Mill filled in the details and completely expounded this branch of knowledge. Mr. Mill appears to have had a similar notion ..." And again, "it is to the neglect of Economists to obtain clear and accurate notions of

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1. In his paper, "Notice of a General Mathematical Theory of Political Economy." (1862) An address to Section F of the British Association.
2. In his "Plutology".
3. I use this word in a particular sense. See below, Section II.

quantity and degree of utility that I venture to attribute the present difficulties and imperfections of the science ..."[1]

Bagehot had this to say of contemporary economics:

"It lies rather dead in the public mind. Not only does it not exert the same influence as formerly, but there is not exactly the same confidence in it."[2]

In 1877 the Quarterly Review had cause to mention "the stagnant pool of English economics."[3] Alfred Marshall had his contribution to make also. He took note of the two main charges which had been laid against classical economics, the neglect of facts and 'the tendency to indulge in excessively abstract reasonings.'[4] But the chief faults as Marshall saw them were the neglect, not of facts in general, but of a large group of particular facts and an important method of studying those facts, together with the tendency to regard man as 'a constant quantity'.[5] Again, speaking in 1896 he expressed the opinion that "Economic science as I first knew it, just thirty years ago, was more confident than now: partly because it was less active... Its general propositions and general principles were bold and peremptory..."[6]

Many other examples of dissatisfaction with the condition of economic thought could be provided but the main point is clear. The poverty of the subject was recognised. Even Cairnes, in the opposite camp, had cause to complain in 1870 that "it is not denied that the science has done some good, only it is

1. loc. cit. pp.vi, vii.
2. "Fortnightly Review" (1876) p.216.
3. loc. cit. p.108.
4. Inaugural lecture at Cambridge. 1885. Reprinted in "Memorials" (ed. A.C. Pigou) p.153
5. ibid, p.154
6. "The Old Generation of Economists and the New" "Memorials", p.295.

thought that its task is pretty well fulfilled."[1] As for the source of the trouble, however, agreement was by no means so complete. The difficulties of the time were separately attributed to doctrinal error, faulty formulation, false method, the arrested development of peripheral studies. the deceptive discovery of sound policy, the diversion of economists to public platforms, the anarchy of dilettantism and the despotism of authority.[2] Probably each one of these diagnoses has some degree of truth in it, but what must now occupy our attention is the reaction of the remaining pillars of classical wisdom to the new realisation that the last word in theoretical economics had not yet been spoken.

II. The Attempts at Revision: the New Empiricism

In Chapter VIII above, stock was taken of the trend of classical thought in the years 1865-1872. There the detail of the arguments was presented on its own, and it is time now to try to understand the basis of the arguments. The discussions are largely self-explanatory. Their importance lies not so much in the intrinsic analytical content of the contributions as in their suggestiveness for further analysis. The topics singled out for revision by Cairnes and Thornton do not immediately suggest any correlation. Market price, wages, the rate of profit, the monetary approach to interest theory and, ultimately,

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1. Inaugural lecture at London. Reprinted in "Essays on Political Economy" (1873) p.240.
2. Cf. S. G. Checkland: "Economic Opinion in England as Jevons found it" M.S. Vol.19 (1951) p.149.

economic methodology present no striking common link. But it can, I think, be strongly argued that, if not in the topics themselves, at least in the nature of the new attitude towards those questions, there is a single unifying principle, that of observations or empiricism.

Here I must digress a little. As we have seen, Marshall was not convinced by the line of reasoning which attributed the failings of classical economies to lack of observation: the chief fault was certainly not that history and statistics were ignored. It was rather that

> "The people whom they knew were chiefly city men ... our economists (were led) to work out their theories on the tacit supposition that the world was made up of city men." And again, Marshall wrote that "their most vital fault was that they did not see how liable to change are the habits and institutions of industry. In particular ... they had not the faith, that modern economists have, in the possibility of a vast improvement in the condition of the working classes."[1]

Marshall, then, drew an implicit distinction between observation with reference to statistical studies, and observation as relating to the link between institutional data and theory. It is this distinction which seems to give a clue to much classical thought. Statistics existed, perhaps not always reliable and accurate: but no matter, they were little used in any case.[2] Or possibly it would be more correct to say that in so far as they were used they produced results which remained unrelated to theory. The tendency to divorce statistical methods and results from theory was symptomatic of a more general attitude.

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1. "The Present Position of Economics" Memorials, pp.154-5
2. The main exception is the "History of Prices" by Tooke and Newmarch. But even its importance is limited as it appeared fairly late in the period, the last two volumes being published as late as 1857.

Not only statistics, but institutional date in general, and the rapid changes in the social and industrial environment of the day, were cut off from the main lines of theoretical inquiry. Again it would be untrue to say that no attention was paid to such changes: it is merely that they were never integrated into the traditional analysis. Ricardo's detailed numerical examples might just conceivably have been applicable in his own day. Many of Mill's examples were obsolescent. Yet Mill in the Principles also took note of the decline in custom at the expense of competition (p.246), the growth of emigration (p.384) the rise in the standard of living of the labouring population (Bk.IV ch.7) improvements in transportation (p.384) and in communications (p.696 All these changes were 'observed' but not integrated into the theoretical system, despite the obvious implications.

The purpose of this digression should now be clear. The classical literature was not wanting in observation either in the sense that statistical researches were absent or in the sense that the institutional changes of the time went unnoticed. What was lacking was the attempt to relate such changes to the already established body of doctrine which had, in the very beginning, been based on the current social framework. To caricature the sequence of events: over the years the theory of the given framework, the analysis of the principles underlying and operating within a particular social system, had proceeded unbrokenly: changes in the data were duly observed and fitted into the literature but not the system: by Mill's time it was almost as

if the economic analysis of a once given set of institutional data had been completed, and when in the late 1860s the significance of the achievement had been assimilated, heads were raised from study only to discover that the whole framework had altered. I repeat: that is a caricature of events. But I would submit that in essence it is a true description.

To say that the classical writers suddenly became aware of the obsolescence of their framework is to exaggerate. A truer assessment would probably be that they began to realise the inadequacies of their analyses and at once set about the process of revision. Very briefly an outline of the relationship between observed events and the adjustment of analysis can be suggested.

Cairnes's initial doubts had concerned the theory of the rate of interest. In his discussions of currency and interest in the manuscript notes sent to Mill, there are numerous allusions to the Bank Charter Act of 1844. Cairnes also acknowledged a debt to Tooke whose interest in monetary management had been revived by that Act. And yet another influence, quite separate in character but irrevocably linked with the monetary approach to interest theory, was the effect of the Australian and Californian gold discoveries. Cairnes went on to justify the validity of his analysis by tracing out the consequences of the influx of gold into the United Kingdom. It would appear, therefore, that there are gounds for discerning in Cairnes's new approach a definite relationship with the events of the time: a conclusion that is further substantiated by the fact that Cairnes's Essays on the Gold Question of 1873, in which there is evidence of

a similar schematic technique *via* monetary analysis, were written in the years following 1859.

Much more complex is the relation between market price theory and contemporary events. Thornton, it will be recalled, had approached wage theory by way of a re-examination of supply and demand analysis. But if the impetus to revision stemmed from Thornton, the main advances on his position were, as we have seen, carried out by Jevons and Cairnes. Two main lines of advance have been identified: the progress towards a formal theory of markets, and attempts to integrate into the established supply and demand analysis psychological characteristics of the market, including at least a suspicion of the expectations aspect. Both writers had accepted the hints thrown out by Thornton about the effects of competition on market price determination, but whereas Thornton had maintained that price was 'determined' by competition, Jevons and Cairnes recognised in competition a *condition* of price determination. Different competitive market structures would give rise to different price results. The next step was to show under what conditions the ordinary supply and demand analysis would hold good, and what additions or alterations were necessary for a 'general' solution. Jevons succeeded in establishing both the foundations of the general solution that was shortly to gain currency, and also the skeleton of the preconditions for perfect competition. Cairnes made little headway with the perfect competition analysis, especially as he had Jevon's efforts to aid him, but there is more hint of the

'anticipations' strand of thought in the Leading Principles than in Jevons's Theory. Again, Cairnes was less interested in the formal perfect competition properties than in the 'live' operations of competition in wholesale and retail markets, whereas Jevons's central theme was rather the application of the marginal technique to supply and demand analysis, despite the fact that he did at times take note of actual market operations in his attempts to define 'the market'.[1]

Two separate influences were at work, therefore. There was, first of all, the new observation of market structure and phenomena, which involved a review of the current analysis of market forces in the light of the actual market conditions of the day. And secondly, there was the 'antonomous' development of analysis, the growth of theoretical understanding not from the study of contemporary markets but from the newly grasped significance of abstract ideas, such as competition, equilibrium and speculation. If, latterly, it was the second of these influences which won the day, being brought to maturity at the hands of Edgeworth and Marshall, it was the first with which Thornton and Cairnes were primarily concerned. Mill himself, while nodding assent to the work of his two followers, was nevertheless always attempting to revert to the more abstract conceptions, the importance of which hardly seems to have occured to the others. Where Mill failed, however, was in not seeing the way to make the most of the new developments, even on his own plane of abstraction, and also in his inability to grasp the

1. Cf. "Theory": pp.85, 92.

implications of Jevons's technique.

How, then, does all this fit into my 'observation' argument? The clue is given by Cairnes's attack on Adam Smith, who had not been aware that "it often happens that intelligence received during the holding of a market respecting supply in some remote quarter of the world affects price..."[1] Cairnes thereby made the mistake of attributing to Smith's day an environment which had not in fact developed until well into the nineteenth century. Mill, in 1848, had observed the trend, and noticed the tendency of improvements in communications "to assimilate more and more the whole country to a large town."[2] But even at that time transportation and communications were developing only internally and the international applications of the new scientific discoveries only began to emerge in the 1850s and 1860s. Then the steamship became more common and commercially important, increasing the speed of mail and samples of crops etc. initially, later that of cargoes. There was also the growth of telegraphic communications, again internal in the beginning but eventually linking England with India and ther America, the latter in 1866. As a result, market practice was radically altered. Buying and selling afloat, trade in forward deliveries, a vast growth in speculative enterprise: these, although not altogether unknown hitherto, had been limited to small sections of world

trade.[1] They now became major factors in commercial dealings. To Thornton, therefore, writing in 1869, the scene witnessed was very much changed from that in Mill's day (1848). Mill had visualised the advent of a national market and hence a greater competitiveness: but by 1869 the national market had largely been succeeded by an international market, at least in selected commodities, and this trend was to be further augmented by the use of refrigeration, making possible a more extended trade with primary producing nations. As a result of these developments, new influences on market structure and behaviour must have become apparent to the observers of the day, and it is at least arguable that the revival of interest in the theory of market price at the time is attributable to the alterations in marketing methods - particularly as the new analysis followed up the lines of speculation and competition highlighted by the developments.

The third notable advance of the late sixties is the final abandonment of the wages-fund doctrine. In considering the wages-fund it is essential to distinguish between the proposition itself and the practical conclusion drawn from it. The proposition, properly stated, is that in conditions of perfect competition both in the labour and in the commodity markets, the average money wage of labour will be determined by dividing the wages-fund (considered as a stock given at any moment of time) by the

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1. A vivid description of this development in the cotton trade is given by S. Dumbell: "The Origin of Cotton Futures" (E.J. Economic History Supplement, May 1927). The influence of speculation in market dealings begins to appear in Tooke and Newmarch's "History of Prices" in Vol. V. published in 1857. But the discussion was still primarily confined to domestic markets. cf. loc. cit. pp.88, 166-8.

number of labourers seeking employment at that time (once again a stock). The wages-fund represented the demand for labour, the number of labourers the supply of labour: and the theorem thereby reduced to a problem in 'supply and demand'. The conclusion drawn by the majority of economists and lay observers was that given the current demand and supply of labour, the average wage rate was uniquely determined, so that if trades unions attempted to raise the wage rate of a given group of labourers, they could do so only by withdrawing funds from the payment of wages to other labourers. Trade union actions could not possibly alter the predetermined average. Having once separated out the theorem (or identity, as it is in the form given it by Mill in 1848) from its effects, the significance of Thornton's refutation can be better understood. Thornton's main charge was that the demand for labour was by no means representable by a fixed fund: the demand for labour exerted by each employer was in some sense specific so that continual reductions in the money wage rate would not lead to corresponding increments in the number of labourers required. The demand for labour was not of unitary elasticity with respect to the price of labour.[1] Realising this, employers found that by combining, either tacitly or openly, they could depress the wage rate and still obtain the amount of labour required for their productive operations. The balance, the difference between the total wages actually paid out and the wage bill that might have been paid had the strength

1. As we have seen, it is difficult to find an explicit mention of this assumption in the earlier literature. And Cairnes positively refuted the idea.

of the demand for labour been tested to the full, could then be added to the expenditure of the employer on non-productive items.

What Thornton was saying was virtually that competition in the labour market was far from perfect, that the supposed 'competitive' wage rate was not paid, and that not only could trades unions by altering the conditions under which labour was supplied raise the average wage rate to its 'competitive' level, but they could even, by exerting their bargaining strength to the full, raise the wage rate above that level. The only real limit to the wage rate, with a given labour supply, was the total wealth of capitalists in aggregate. There were, therefore, several wage rates at which the quantity of labour supplied and demanded would be equalised, and a determinate solution could be obtained only by knowledge of the facts of the individual case, especially the relative bargaining strength of the two parties, labour and capital.

Whether or not Thornton's statement of the orthodox theory is a fair one, the fact remains that he was induced to refute the old doctrine and it has now to be asked why he was led to see matters in a new light. There seems no doubt whatsoever, on the evidence of his book, that Thornton was brought to his critique by observation of the events of his time. It is quite wrong, of course, to say that it was the advent of Trade Unionism, pure and simple, which gave rise to his doubts. The existence of trades unions, even in their modern form, was no new thing. What was novel was the change in the role of trade unionism and in the social and legal attitude to the union. The

change is convincingly explained by Professor G. D. H. Cole, in whose opinion the Chartist movement, with its hostility to capitalism, ultimately collapsed in 1848 - a significant date in the present context. Before that date existing trade unions had operated sporadically, often suspect of luddite tendencies, and regarded by many, even some of the radical economists, as a social danger.[1] Once the fear of open revolt had disappeared, however, and the activities of most unions became limited to strike action and picketing, public and even legal opinion began to take a more sympathetic approach. In 1867 a Royal Commission on Trade Unions was set up: and the periodicals of the sixties contain much evidence of a new attitude to the labour movement.

Two quite different facts favoured the growth of unionism and the success of their wage-demands. The 1860s was a prosperous period and it became common practice to press wage-demands only when the trade concerned was doing well, though Thornton has some severe criticisms to make of the unions who persisted in pushing wage claims when trade was bad. Again, the passing of the Limited Liability Acts of 1855 and 1862 had freed the ordinary entrepreneur from the task of providing most, if not all, of his own capital, so that the supply of capital became more abundant and the entrepreneur was less disposed to reject outright claims for higher wages, especially when it was to his advantage to keep his capital fully employed. All things considered, then, the 1860s were favourable to the growth of trade unions

1. McCulloch is one example, for in his "Essay on the Circumstances which Determine the Rate of Wages and the Condition of the Labouring Classes"(1826) he had been in favour of the repeal of the Combination Laws, but was disapproving of the activities of many unions. Cf. also "The Theory of Economic Policy": Professor L. Robbins. pp.103-110.

now acting as organisations within the capitalist system. As Professor Cole has it, it was a period of 'acclimation to capitalism', when the workers cease their revolt against the capitalist order and 'pass to the task of organising their forces within it.[1]

The course of events is reflected in much of Thornton's work. His book is characterised by a vast amount of empirical date-gleanings from the reports of commissions, eye-witness accounts of union activities (not all approved by Thornton), studies of trade union methods and objectives. In particular, he had noticed and analysed, the ability of unions successfully to press for wage rises in times of prosperity and looked approvingly on those unions who paid attention to the circumstances of the trade. In short, Thornton's work presents every evidence of having been influenced by the trends of his time and as such, stands as a prime example of the kind of movement I have been trying to identify: a reappraisal of economic analysis in the light of a renewed observation of the social and economic structure.

Very much the same conclusion is to be drawn from the work done by Cairnes in his Leading Principles. In his two weighty chapters there on Trade Unions, he illustrates his attentiveness to contemporary movements, the effects of strikes, and the new literature of the day relating to unions and the conditions of labour.[2] In fact, in his Preface, Cairnes wrote:

1. Cole, "A Short History of the British Working Class Movement" Vol. I 1798-1848 (1925) p.13
2. Among the most important new works are:
"Work and Wages": Brassey. "Condition of the Working classes in Foreign Countries" (1871) - a Government Blue Book.

"Though the main purpose of the book is... to aid the improvement of economic theory, I have nevertheless embraced every opportunity that offered of bringing theoretic doctrines into comparison with the facts presented by modern industry and commerce. I have in this way been led to examine the power and pretensions of Trades-Unions, the efficacy of Strikes, and other practical questions involved in the relations of labour and capital..."[1]

The interest aroused by the comparison of profit rates in this country and in the United States requires little adumbration. Here again there is a questioning of a long since established economic principle, a questioning arising out of a growing awareness that the history of profits in the two countries might not agree with the standard analysis.[2]

Finally, brief notes may be made on the revival of methodological explorations by which Cairnes made his name, particularly in his Character and Logical Method of Political Economy (1859). There was, in Cairnes's opinion as expressed not only in that work but in the Preface to his Leading Principles a solid core of established doctrine fringed by the axiomata media, the intermediate principles relating the eternal generalisations to the real world. His own task was conceived to be that of advancing the understanding of these intermediate principles. In noting that economic thought was becoming dominated by statistical methods[3] he seemed to be asserting that it was not in that way that the axiomata media would be better understood: rules of arithmetic were superseding the 'canons of inductive reasoning', which he himself regarded as being the means to

1. "Leading Principles" Preface, p.2
2. In the event the evidence received by Cairnes seemed to confirm that the rate of profits was higher in the U.S. but Cairnes thought the reasoning of his correspondent "somewhat shaky." Letter to Mill, 24th Jan.1865 (In the British Library collection.)
3. "Character and Logical Method", p.5.

satisfactory explanation of economic processes at large. As Professor Checkland has phrased it: "Cairnes took over the classical model of society, and used his discussion of method to establish its primacy. So positive was he of his central theses that he assigned to statistics, not the task of testing them, but only the links between them and the world."[1]

Cairnes, then, was writing in 1859 before the new 'observational' trend in economic thought had properly got under way. But even at that time he had noticed the growing tendency to adopt statistical methods which in principle he approved, provided they were directed not at the core of received doctrine but at the relations between that doctrine and events in the real world. That attitude is reflected throughout the Leading Principles where the tenets of classical analysis were accepted without question or hesitation, but where also observational methods were admitted in so far as they could hope to shed light on the trends of the time, viewed from the central and unchanging pinnacle of established truth. Cairnes's excursions in methodology were, therefore, symptomatic of the nature of the science at the time, and his aim was to divert the new statistical method to its 'proper' course, leaving the kernel of classicism intact.

Enough has now been said to establish the grounds of my case that there is a common thread binding the new approach to economic analysis. To have made this point is not, however, to assert that the 'revival' of economic thinking in the late 1860s

1. S.G. Checkland. loc.cit.p.163. Cf. also Cairnes: "Character and Logical Method", p.85.

was completely the result of the new empiricism, and it is no part of my purpose to affirm anything of the sort. My opinion is simply that this observational trend played some part in moulding the form of the revisionary spirit. The attempts to instil new life into economic thought, so far as Cairnes, Thornton and Mill were concerned, were all aimed at preventing the collapse of the classical system. Why these attempts should have failed, despite the suggestiveness of some of the contributions, is a question with many possible answers. But in what follows I shall try to indicate what seem to have been the main reasons for the decline of the system.

III. The Exodus of Classical Economics

Two separate classes of explanations can be suggested for the decline of the classical system of economics. First, there are the 'internal' causes, the inconsistencies, inaccuracies and degenerate elements inherent in the system. Secondly, there are the 'external' causes, relating not to the analytic content of the classical model itself but to the relation of the model to the new conditions of the day. As I shall later argue, there are grounds for supposing that these two sets of causes may not be entirely unconnected but for the present they are best kept separate.

A. The Internal Causes

The outline of the development of the classical system can be presented thus: Adam Smith supplied the basis for the model by his account of economic principles which for the first time

gave a logical starting point for economic analysis: Malthus added the population principle to the system and the whole was presented in its full formal rigour by Ricardo: Senior later added the concept of abstinence and Mill, finally, summed up the whole of the earlier developments as they seemed to stand in 1848. To picture the growth of a complex theoretical system over seventy years in that way is perhaps to invite ridicule; and Jevons indeed put the historical development in just that form, adding only that Mill had believed that in summing up he was virtually saying the last word. Such an outline does have the advantage, however, of indicating the main points in the route taken by classical economies.

The peak of the classical achievement was undoubtedly the work of Ricardo who adopted the Smithian foundation and integrated the Malthusian population thesis into it so as to present a consistent and coherent model of what were, in that day, the main economic processes. Both before and after Ricardo, however, there were many others who made their own individual contributions to current controversies without, however, doing very much to improve on the Ricardian formulation.[1] Mill's own purpose seems not to have been to develop Ricardo's system but merely to restate it in such a form as to include the main additions to knowledge since Ricardo's time. In that purpose he was, by any standards, singularly successful. But in the process Mill introduced one

1. In fact, many of the attempts to clarify Ricardo's meaning, even by his closest disciples, led to the disrepute of the subject; which invites the question how many of Ricardo's followers <u>really</u> understood him.

new provision in particular, which was sufficient to bring about the downfall of the classical model. That element was the acknowledgment that labour might not always multiply up to the limits of subsistence, a point on which we have previously commented without, however, considering the full effects of its admission.

The classical model was consistent so long as virtually unlimited supplies of labour at a constant subsistence wage were assumed to be available. Given that condition, the analysis of production, distribution and economic progress followed simply and logically in the Ricardian style. Without it, the system as a whole becomes indeterminate within the range of classical analytical technique. The key to the distribution problem lies in the solution to the wage problem, what governs the share of labour in the national dividend. The first step in the classical distribution analysis was to exclude the rent factor which was easily accounted for.[1] So long as the average real wage per capita of the labouring population remained at subsistence level, the total share of labour in the national dividend could be determined. The residue, after wages and rents had been deducted was profits. The total reward to the productive factors, land labour and capital, was therefore equal to the total value of their product and the accounting problem was solved.

Further, the share of profits in the national income was important for the continued net accumulation of capital and the economic growth of the country concerned. So long as the

1. I am speaking here in general terms. The more detailed Ricardian analysis follows.

prospective rate of return on invested capital remained above the level of profit that was considered by the society, on psychological and institutional grounds, to be minimal, net accumulation of capital would continue, a larger labour force could be supported, and the national output would grow. The solution to the distribution problem was therefore crucial to the analysis of the growth mechanism.

Once it is admitted, however, that the labour supply is not perfectly elastic in the long run, and that the average real wage per head may rise above subsistence level, or that the subsistence level itself may rise, the distribution analysis breaks down, and with it the theory of accumulation. Then before any further progress can be made, new techniques of analysis have to be introduced to render the system determinate.

The key to the determinacy of the system as a whole is the determinacy of the shares going to labour and capital in the agricultural sector after rent has been deducted from total agricultural output. That is, confining ourselves for the moment to the agricultural sector only, we can say that, given the produce minus rent, the problem is to determine the shares going to labour and capital. There is a single equation containing four unknowns: output, wages, rent and profits. Ricardo's method was to take output as given; rent also could be determined as the difference between the product on average land and that on marginal land. Two unknowns remain, wages and profits. But wages, meaning the average real wage per head could also be taken as given by the subsistence theory of wages: it being of no

account that with Ricardo it is a moral subsistence, not a physiological subsistence. What does matter is that the wage is fixed, and that it is fixed in terms of corn. The share of profits is then determined as a residue, the rate of agricultural profits is also simply identified since corn appears both as input and output.

For this solution to hold good two conditions are required: wages must be fixed in terms of corn; and wages must all be spent on corn.[1] These two conditions may be distilled into two implicit problems: the necessity of having each labourer actually consuming a fixed quantity of corn so that with a given corn output the size of population (or labour supply) is at once known; and the role of the evaluation of the real wage goods basket.

Mill's abandoning of the first condition means that if wages rise permanently above the given subsistence rate in terms of corn, wages are no longer a datum in the Ricardian equation. As long as the real wage rate is fixed as a specific quantity of corn consumed without exchange or leakage (by saving, for example) there is a constant relationship between the wages-fund as a whole (the entire corn-output of the agricultural sector) and the supply of labour. Population is then a unique function of real wages. In that case the corn rate of profit can easily be derived. For given an unchanging wages-fund/population nexus, the agricultural profit surplus is determined and hence the corn rate of profit, since corn appears as input and output. But with a rising supply function of labour, there is no way of determin-

1. These two conditions are noted by Mr. Kaldor: M. Kaldor : "Alternative Theories of Distribution" RES.Vol.XXIII No.2p.86

ing the agricultural profit surplus, since the constant wages-fund/population relationship no longer holds. The corn rate of profit cannot then be determined.

The second condition is more subtle. So long as capitalists and landlords consume no corn, and labourers consume no manufactures, no problems of evaluating real wages present themselves. But when labour consumes manufactured goods as well as corn, two gaps appear in the defences. The real wage rate was known so long as wages were fixed in terms of corn and consumed entirely in that form. But now the value of the wage goods basket cannot be discovered without a knowledge of the ruling rate of profit.[1] And the rate of profit cannot be found unless the real wage is known. Secondly, once substitutes for corn appear in the wage goods basket, every alteration in the price of substitutes will disturb real wages. That is, any change in the relation between industrial and agricultural prices will tend to alter real wages in terms of commodities in general. And the size of the profits surplus in the agricultural sector, together with the rate of return on capital in that sector (and hence in the industrial sector) is no longer derivable.

The effect of Mill's admitting these concessions into the model proper was to produce initially only an indeterminacy in the allocation of the produce-less-rent between the factors labour and capital. But since the allocation between wages and profits in the agricultural sector was crucial for the distribut-

1. Here arises the now familiar problem of general equilibrium, the valuation of a heterogeneous collection of goods, as found in present day capital theory.

ion problem at large, and for the accumulation thesis also, Mill was in fact responsible for the complete disintegration of the original formal structure. Ricardo, of course, had not always been entirely consistent on the points discussed above. As he admitted in his discussion of profits, "I have made no allowance for the increasing price of the other necessaries, besides food" (corn) entering into the labourer's budget.[1] But, I would argue in extension, Ricardo contrived, on the whole successfully, to keep his contradictions out of the main model, and it was Mill's responsibility for directly introducing the qualifications into the system. Incidentally, Ricardo had evidently understood these qualifications with their implications, while Mill had apparently not.[2] It is just this type of point that illustrates Ricardo's technical superiority over Mill. Whereas Ricardo attempted to be specific about the composition of the wage-goods basket, recognising the problem and attempting to resolve it, Mill was content to speak of 'necessaries', i.e. non-specific items, conceivably substitutable with changes in relative prices, without appreciating the relevance of the composition of real wages for the remainder of the analysis.

The wide-ranging consequences of these new admissions into the model were not then understood by Mill. Once the distributional process in the agricultural sector becomes indeterminate, the classical analysis of the system as a whole, the agricultural

1. Ricardo: "Works" I, p.122. Cf. also Mr. Blaug's discussion op.cit. pp.25-27.
2. A comparison of Ricardo's chapters on Wages, and on Profits (I, chs. V, VI) with Mill's corresponding chapters (Principles, Bk. II. Chs. XI, XV) makes interesting reading in this connection.

and industrial sectors together, breaks down until another solution can be given to the wage problem. In the event, as we shall see, the neo-classical approach was to shelve the old theory almost entirely, and adopt a new starting point for the whole enquiry.

B. The External Causes

By external causes in this context I mean factors outwith the classical analysis which had some effect in destroying or maiming the analysis itself. By and large, such causes can be bracketed under the perhaps misleadingly simple heading of 'policy'. As Professor Robbins[1] has emphasised, an understanding of classical economics cannot be achieved without reference to the policy prescriptions which underlie the doctrine at every turn. In this present study my main concern has been with the theoretical development of the system but it is far from being my intention that the 'political' overtones should be dismissed as unimportant. The following argument goes a little way towards restoring the balance, but it must consistently be remembered that the theory and the policy were largely codetermined and should in any total review of classical economics (which this is not) be given equal weight.

It must first of all be stated that classical economic policy rested on certain hypotheses about the nature of the social framework and that it is from this central citadel, which

1. Especially in his admirable "Theory of Economic Policy" which covers the ground exactingly. In this context I cannot hope, of course, to do justice to the topic even in connection with Mill, and limit the discussion to an impression of the relation between theory and policy.

Cairnes was at such pains to defend against the new statistical attacks, that theory and policy alike set out. It follows that there are two possible sets of reasons why the classical system as a whole might become decadent: either from the fulfilment of the policies they had advocated, which would render the system superfluous except as a historical justification for the practicing of chosen policies; or from a change in the social structure which would stultify the fundamental tenets of the system. Both sets of courses have some part to play in the decline of classical economics.

Undoubtedly the most critical feature of classical policy, indeed virtually the spirit of the policy, was the advocacy of a 'system of economic freedom' in which the free trade doctrine, with the agitation for the repeal of the Corn Laws, stands to the fore, though it must not be regarded in isolation. The contributions of earlier forerunners apart, Adam Smith it was who first set classical economic policy in the direction of a general laissez-faire philosophy. But it has to be remembered that perhaps ever with Smith but certainly with Bentham and his followers, the smooth working of laissez-faire required a firm setting of law and order, within which the freedom of market operations could be left to work to the advantage of all. That task, of establishing the required environment, fell to the government, but the form it was to take, as dictated by the early radicals, was vastly different from that envisaged under the old system of paternalistic authoritarianism.

The individual objectives of policy were legion but all were coloured by the demand for a system of economic freedom. My point now is that by 1850 and even more by 1870, much progress had been made in the setting up of a system in which the laissez-faire mechanism could be left to operate. In the three decades following the peace of 1815, despite the vast growth in domestic industrial development, the condition of labour had improved but little, due to a combination of high food prices poor harvests and severe unemployment. But at the same time the first steps had been taken to create approximately the kind of environment sought by radical opinion: the successive Factory Acts up to 1847, the repeal of the Combination Acts in 1824 and the apparent apex of classical achievement in the realms of policy, the repeal of the Corn Laws in 1846. In a sense these examples are misleading: the Factory Acts seem to have been linked to the periods of crisis in unemployment so that their effect was often to provide a minor alleviation or 'disguise' to the low levels of employment: in 1825, in view of the outburst of strikes with the 1824 repeal of the Combination Acts, a new measure was introduced to modify the privileges granted to labour: and finally, although Ricardo's aim was eventually fulfilled with the repeal of the Corn Laws in 1846, it was brought about largely by mutilated versions of Ricardo's arguments, so that Mill was unable to enthuse over the achievement. Nevertheless, steps in the right direction were being taken, and with the steady approach to the social environment required for the laissez-faire

principle to work, the vital force of classical economic policy began to dissolve. In particular, with the removal from the statute books of the Corn Laws, Ricardo's bete noire and the crucial condition for his model, geared as it was to an 'insulated economy', the popular appeal of his analysis subsided and its relevance to the contemporary scene became lost.[1] Mill in 1848 still had some causes to fight for, but his proposals for land reform[2] and his revision of the taxation system never met with any marked success.

The trend towards the obsolescence of classical policy is indirectly marked in the following way. In a series of letters to correspondents in Australia, and New Zealand (1865-1871) Mill attempted to clarify the principles of Free Trade and the proper application of the 'infant industries' argument, with its concession to temporary tariffs. This one concession had been used as a rallying point for the Protectionists abroad, particularly in the newer colonies like Australia.[3] If the task of establishing free trade principles was almost at an end in the home country, it was not so elsewhere, and Mill spent a good deal of effort to make his point. As it turned out, he was unsuccessful and was 'much shaken' by the effects of his concession to protectionism. The two modifications of the 1871 edition[4] indicate his desire that the narrow limits of his

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1. Cf. M. Blaug: op.cit. p.229.
2. In 1848 Mill had looked for the greatest reaction to his book in this quarter, and the silence which followed merely reflected the general lack of interest in the problem.
3. Cf. "J.S.Mill on the Protection of Infant Industries" (1911) Published by the Cobden Club, being a collection of letters from H.S.R. Elliot's "Letters of J.S.Mill".
4. "Principles" (Ashley ed.) p.922.

exception should be carefully noted. The indication is that although the free trade battle had been won at home, Mill found that universal acceptance of the principle was not yet at hand. But so far as he could see - and it was not until the depression of the eighties that Britain moved back to protectionist policies - his energies were no longer required in the domestic field, at least on this issue.

Part of the explanation for the decline of classical economics would appear, therefore, to be that the issues for which it had fought were won. But this is not the whole story. Another aspect is the inaccuracy of the Ricardian predictions about the course of distribution, and also the failure of the policies he had advocated, now established, to produce the effects forecast. A summary of these inconsistencies is now available[1] and I will do no more than refer briefly to the kind of 'discoveries' which gave the lie to much of Ricardo's reasoning.

The 'law of diminishing returns' to agricultural production, considered as an historically verifiable phenomenon, had been disproved by George Porter, in his Progress of the Nation (1836). It was asserted by Porter that 'a larger amount of produce has of late been continually drawn from a given portion of ground than that obtained at the beginning of the century.'[2] McCulloch, having followed Porter in the first edition of his Statistical Account of the British Empire (1837), went even further in 1847 when he argued that the doubling of rents in Britain since 1790,

1. M. Blaug: op.cit. pp.182-188
2. Quoted by Blaug, op.cit. pp, 183-184.

noted by Porter, was only partly attributable to the need to resort to poorer soils: the rest was to be accounted for by the general 'improvement' of the land. Again, it had been shown that population was not in fact pushing against the limits of subsistence. The rise in real wages since the peace of 1815 was noted by McCulloch[1] in particular, and it was generally concluded that the population menace was a thing of the past, though this did not prevent Mill in his Principles from placing a great deal of weight on the population issue. Another aspect of the Ricardian system, about which Ricardo himself had doubts, was the composition of the average 'bundle' of wage goods. Formally Ricardo had resolved it into a fixed quantity of corn, but he had recognised the inapplicability of the condition which was as central to his theoretical system as to his corn law exhortations. The rise in real wages as the century progressed made it quite impossible to retain the assumption and Mill, as we have seen, abandoned it without appreciating the fatal consequences. Related to these points is the evident failure of the stipulation that improvements in agricultural production do not arrive at a rate comparable with that of the growth of the demand for food: it was that conclusion almost alone which had caused the gloomy forecasts about the proximity of the stationary state and the low rate of profit.

It seems fair, then, to conclude that so far as the 'external' causes of the decline of classical economics are

1. "Edinburgh Review" October 1832, esp. p.62. Also "The Literature of Political Economy", p.260. "Principles" (2nd ed.1830) p.227.

concerned, the main points were the growing obsolescence of the classical policy and the failure of Ricardian generalisations either to materialise as projected policy became fact, or to stand up to the new statistical data and conclusions which, in the twenties and thirties, began to emerge.

IV. Classical and Neo-classical Economics.

In view of the evidence now accumulated, both as to the internal and external failings of the classical system of economics, we must conclude that the surprising thing is that the system remained established for so long. Even more surprising is the fact that Mill's Principles enjoyed the popularity it did between 1848 and 1870. It is even rather difficult to argue that there was nothing to put in its place, for Malthus, Scrope, Bailey, Longfield, Jones and Senior all made contributions which, had they been gathered together in isolation from the Ricardian schema, must surely have pointed in a direction very different from that forced on the public by Mill. What was lacking in the anti-Ricardian economics was a synthesiser of Mill's stature, and for want of such a thinker, the ideas put out by these individualists were allowed to be integrated, often in a milder form, into the Ricardian stream of thought, now moving under Mill's guidance into realms much wider than perhaps Ricardo had ever imagined.

So far in this chapter we have seen the signs of discontent about the state of economics in the sixties, and two main sets of reasons have been suggested for the imminence of the decline

of classicism: the inherent theoretical weaknesses of the system itself, and the failure of the system any longer to measure up to the requirements of an economic organon in the context of post-1850 Britain, in respect both of its factual foundations and of its derivatives in the shape of precepts for policy. The latter day adherents of the classical tradition were themselves disconcerted by the inability of their system to conform to the contemporary environment. The analysis stood on foundations that were now being challenged statistically. It led to conclusions which did not seem to be borne out by historical development. Despite Cairnes's efforts to defend the central citadel by his discussions of methodology and his continued plea that economic forces were to be regarded as 'tendencies', it became increasingly apparent that the entire philosophical basis of the system was foundering. Worse still, the analysis now betrayed its incapacity to account for many important economic factors (witness the debate on markets) and, realising the necessity of bringing them within the pale of the analytic system the remaining classics threw their energies into drawing these factors into line with the orthodox theory.

Whether, with perseverance, these influences could have been integrated into the traditional analysis without destroying it in the process is a question that cannot be answered. As the attempts at synthesis proceeded, new horizons were opened up and analysis of the new possibilities hardly got beyond the superficial. Instead, a new system sprang into being, and it is the relationship between the new and the old that we must now try to

understand.

One of the first problems that must be considered is how we are to demarcate 'classical' and 'neo-classical'. So far I have dealt mainly in terms of periods of time, by which criterion (as explained in the first chapter) it is convenient to denote the classical period as spanning the years 1776-1871. This is convenient up to a point. But it is also misleading. Even such a limited study as the present has had to acknowledge that the 'classical' doctrine (however that is to be defined) was not all-pervading. There were many alien factors which can hardly be fitted into the unified flow of ideas which we can identify as 'classical'. To quote a single example, but a sufficient one, Malthus's denial of Say's Law separated him out from classical orthodoxy, at least in one aspect of his economic analysis. The example of Malthus perhaps gives a clue to the proper distinction of classical and neo-classical. If a valid criterion is to be discovered, it is not in terms of historical time, nor yet in personalities. It is to be found in ideas.

There is some use in the 'dating' procedure: the classical system: 1776-1871; the neo-classical system: 1871-1936; the Keynesian system: 1936 -? There is some use in the 'personality' procedure: for example, to say that classical economics dates from Adam Smith[1] and includes as its major characters Ricardo,

1. Whether or not one is to include Smith in the classical context is a moot point. Schumpeter's view is that he should be considered as pre-classical: the old method was to include him as the first classical economist. But his position in the history of economic analysis depends largely on the view taken of the way in which analytical progress occurs.

James Mill, McCulloch, Torrens, Malthus (in one part of his work) Senior, John Stuart Mill and Cairnes. But neither of these approaches goes underneath the surface to explain what it is that holds them together. And, I would submit, it is not altogether of no importance that we should understand what did constitute the common link, and what separated them off from the other writers within the period 1776-1871 who cannot easily be fitted into the scheme, or from those who wrote after 1871 - Jevons, Edgeworth, Marshall, etc. For it is only by identifying that common link, that we can begin to graps the relationship between the different systems of thought.[1] We are able at the present day to say with some degree of certainty what separated off the Scholastics from the Mercantilists, the Mercantilists from the Physiocrats, and the Physiocrats from Adam Smith. We can even go some way to sifting out the characteristics of the Keynesian system from the neo-classical system, a symptom perhaps of the introspective natures of modern economists, more consciously realising the bases of their own orthodoxy. But, strangely, there is no such awareness of the relationship between classical and neo-classical economics.

If we are to explain that relationship at all satisfactorily we must learn to apply, not dates or personalities, but ideas as the required criterion. For it is through ideas that we have come to grasp the differences inherent in the other systems I have just mentioned.

The fundamental 'Idea' of any system comprises two levels of activity: the conceptual outlook on the economic world, the

preconditions of analysis, the understanding of the institutional framework and the conception of the problems within that framework which require to be solved; and the technique of analysis itself, embodying part of that conceptual outlook but comprising also a group of analytical concepts which can be usefully applied within the given system, and not necessarily in any other system[1]. It is in this formulation of 'Idea' that we must seek the prime and distinctive characteristics of any system.

If now, we attempt to fit the classical system into such a format, what emerges? We cannot, of course, say that all the analytical concepts now generally accepted as 'classical' were inherent in the system from the start. Comprehensive systems are built at one stroke, but are subject to a more or less steady evolution from an initial set of principles, accruing to themselves as they progress not only new concepts but new methodological practices. This is patently true even of the most recent addition, the Keynesian system, which has spread its influence into ranges unthought of in its earliest days. It is true also of classical economics. Say's Law of Markets, Senior's concept of abstinence, the Mill-Cairnes axis of non-competing groups, etc. were logical and necessary acquisitions to the framework set up by Adam Smith. What did not change was the basic approach to the problems to be resolved, and the underlying presumption of the framework in which those problems arose. It is in the nature of the problems to be solved, and in the manner in which answers were formulated, that the essence of classical economics seems to exist.

1. Or at least, not in any other system as they stand, without modification.

The problem fundamental to classical economics was posited by Adam Smith in the title of his book: An Inquiry into the Nature and Causes of the Wealth of Nations. But if Smith began with emphasis on the national income and its growth, he was forced to take account also of the distributive problem. Ricardo, absorbing the contributions of West and Anderson, of Say, and of Malthus, switched the emphasis back to distribution, but it was progressive distribution he was concerned with, the course of the relative income shares as the economy developed. It was part of Ricardo's genius to set the problem in bold aggregate form, and to 'solve' it (for solve it he did on his own plane of abstract analysis) within the context of a system which he himself drew up. On a lower level of abstraction, the same problem, the same technique were taken up and developed primarily by James Mill, McCulloch, Torrens and De Quincey, perhaps Senior and certainly John Stuart Mill. Even among that small select body there was scope for divergence of opinion, both from that of Ricardo and from that of each other. But they took their cue from Ricardo. They accepted his starting point, the problem he had set and they adopted his 'method' of treating the variables in terms of social aggregates.

Malthus, on the other hand, with his helpmates Sismondi and Chalmers, did not accept the Ricardian formulation of the problem. To Ricardo, the national output or dividend was a datum: the relative shares were to be explained. To Malthus, the national output was the chief variable and had itself to be

explained. Again, to Ricardo with his adherence to Say's Law, there could be no chronic deficiency of effective demand, no friction arising from lack of vitality in the demand function. Malthus, by his refusal to grant allegiance to Say's Law, was obliged to gear his explanation of national output size to the inherent fallibility of effective demand. These differences constitute the divergence of the Malthusian scheme, with its characteristic anti-thrift doctrines, from the Ricardian frictionless system.

The problem of classification is thus an involved one and it is not possible for me here to indulge in a protracted discussion of it. The main point is that the criterion for classification, always assuming that it is desirable to have classification, should be not in periodising, not in emphasis on personalities, but in 'ideas' as I have defined the term. Perhaps this is not to say much. It may be that the point could be generally agreed. Certainly the notion is used implicitly in most classificatory attempts. I would argue only that it should be made explicit, since it has very obvious bearing on the relationship between systems of thought, Schumpeter's 'filiation of scientific ideas.'

It is presently impossible to attempt a classification on the suggested basis. But two main points, on Smith and Mill respectively, can be briefly sketched. If we adopt the old classificatory method which defines classicism as beginning with Smith and ending with John Stuart Mill, it would be my opinion

that some double-counting would be involved and that in the process an important evolutionary principle would be overlooked. There is no harm in arguing simply, and with no inferences drawn, that there is a cohesive influence running from Adam Smith down to Mill. But to conclude from that popular opinion that the Smith-Mill line (or for that matter Smith-Cairnes) demarcates the 'classical' system is, in my view, to misconstrue either Adam Smith or John Stuart Mill. If the view is taken that Adam Smith was the first classical economist, it is, on the interpretation Mill presented in this study, inconsistent to regard Mill as the last classical writer - or, again, Cairnes. For Mill stood in the same relation to neo-classical economics as Smith did to classical economics, using the terms 'classical' and 'neo-classical' in their normal 'periodic' sense. Alternatively, if (following Schumpeter) Smith is regarded as pre-classical, it is quite consistent to consider Mill as the last classical writer. Further comment is necessary on this assertion.

Two interpretations of Adam Smith's contribution to economics are possible. It can be argued that he was the first 'classical' economist, meaning that he is to be regarded as directly related analytically with the Ricardian line. Or it can merely be maintained that Smith provided the foundation for the Ricardian tradition, by gathering together pre-existing strands of thought into a consistent and unitary framework. This latter view is Schumpeter's and it is the one I am inclined to follow. In a sense it does not matter which of these interpret-

ations is adopted, for both place Smith as the 'fountain-head' of classical thought. But in another sense it does matter, namely in relation to the problem of whether Smith was looking back or looking forward - again analytically. Judged on his analytic performance, Smith appears as a primarily retrospective thinker: as the builder of a framework in which analysis could be improved, he was prospective. Smith's addition to knowledge consisted in his taking a body of established truth and reorganising it so as to reveal a new, more intricate and enlightening, truth.

Assuming that the above is a reasonable interpretation of Smith's role in the development of analysis, I would submit that Mill has to be regarded similarly, as bridging the gap between two phases of economic analysis by creating a platform out of already established truth, from which new analytical developments would logically proceed. The main difference between Smith and Mill in this respect seems to be that Smith was more aware of the next step in the evolutionary process, but this may be merely an impression arising from the environment of the period in which Smith was writing. What does seem beyond question is the fact that Mill's Principles was the work that linked the classical and neo-classical systems: his position in relation to classical economics being identical with that of Smith in relation to pre-classical economics (using 'classical' now in the Schumpeterian sense which excludes Smith).[1]

The theme now introduced recurs in the next chapter. The

1. I adopt this classification from this point on.

points immediately to be taken are, firstly, that we can identify a classical 'idea' which will serve to epitomise the particular system of analysis under discussion; and secondly, that Mill stood at the end of that system, providing simultaneously a recapitulation of the system as it existed in 1848, and a beacon for the next generation of economists who were to use the light it shed in ways which would have seemed strange, perhaps even wrong, to Mill himself.

But the implications of these points demand a fresh chapter, which concludes the present study.

CHAPTER X: THE ECONOMIC ANALYSIS OF JOHN STUART MILL: A REVISED ESTIMATE.

I. Systems and their Characteristics

The outstanding characteristic of classical economic analysis is the nature of the problem it set out to resolve - the progressive course of income distribution between the factors of production considered as social aggregates. From that point of departure it followed that the analysis should be set in terms of long run secular trends, and that the supply of the factors labour and capital should be elastic in the long run. The remaining factor, land, completed the classical triad, and was regarded as almost perfectly inelastic in supply, even in the long run, to a given economy, it being of little importance for macro-economic conceptions that the supply of land is elastic to the individual enterprise.

The logical development through time of an economy conceived in the Ricardian manner is well known. The main assumptions were:

(i) the supply of land to the economy as a whole being limited, diminishing returns is the natural course of events from increased investment in land: the implication, unspoken until Mill's analysis, is that the rate of technological progress in agriculture is weak compared with the rate of growth of population.

(ii) the labour supply is perfectly elastic in the long run at a constant corn rate of wages.

Given these two assumptions in particular, it follows that as capital is accumulated, it will not pay to substitute capital for labour. With every increase in total capital, the demand for labour (the wages-fund) will also increase, and population will grow correspondingly. But as population expands, recourse has to be had to poorer qualitity soils, or to more intensive methods of cultivation on already cultivated soils, so that diminishing returns are encountered in agricultural production. As the cost of production of a given quantity of wage-goods (corn) increases, the profit surplus in agriculture will increase more slowly with each successive addition to net investment, so that the corn rate of profit begins to decline, a tendency which is not sufficiently offset by technological advance in agricultural production. Since in a state of equilibrium the percentage rate of profit must be equal in the agricultural and industrial sectors of the economy, and since new investment is a function of the prospective rate of profit and the size of the profit surplus, the rate of new investment will decline until eventually the rate of profit has reached the level that is minimal to the society in question, the level of the minimum profit rate being determined by psychological factors and institutional factors. The stationary state has then arrived.

The process of economic development towards stagnation follows from the assumptions. Capital could never 'catch up with' population since every increase in capital was postulated

to give rise to a proportionate increase in population and though there could never be any chronic labour 'surplus', since population was assumed always to adjust itself to capital in such a way that its real wage in terms of corn would be constant, neither was there any question of a permanent 'surplus' of capital over labour.

As Professor Lewis has pointed out,[1] this classical presumption was fundamentally out of touch with the conditions of the day, since the death rate was such that the population could not increase in advance of two per cent per annum, whereas capital could patently grow at a rate greater than that. It followed, then, that capital could in fact catch up with population, as Adam Smith had recognised. The labour supply is no longer capable of being described as perfectly elastic in the long run at a given real wage. And this, of course, was precisely the conclusion Mill arrived at, and attempted to introduce into the Ricardian model, with the fatal results we have observed.

The use of the word 'fatal' here requires some qualification. From the point of view of the theoretical validity of the classical system of analysis and policy, there was something fatal about Mill's loosening of the logical structure. But in broader historical perspective, it may be suggested that it is possible to conceive of two phases of capitalist development, and two corresponding phases of economic analysis. The first

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1. loc.cit (ii) p.24

phase of economic development in the non-analytical sense comprises a growing economy in which the supplies of labour and capital are elastic but where labour in particular is not 'scarce', in the sense that unlimited quantities of it were available in time at a constant real wage. The second phase is marked by the inelasticity of all factors, but especially labour, in contrast to the previous phase. This must of course be a very impressionistic description of a particular form of historical development, but in so far as it is fundamentally correct, we can perhaps identify the first phase with classical methods of analysis and classical problems, and the second phase with the neo classical problem and technique.

We have seen that classical economics involved itself with the problem of progressive distribution of the national dividend. Neo classical economics dealt in terms of a given dividend at a particular point of time, so that the distributional problem became one of static analysis as opposed to the long run dynamics of the classical model - or at least the long run comparative statics of the latter system. Ricardo, as we noted, had also taken the size of the national dividend as a datum in the solution of his equation representing the distribution problem. But is was nevertheless a variable, depending in part on the course taken by the distribution process through time, partly also on the psychological propensities of the community (the propensity to save-and-invest), and on the institutional character of the economy (comprising the schedule

of the marginal efficiency of capital as influenced by the law of diminishing returns to increased investment in land). To the neo-classical writers on the other hand, the distribution problem which they set out to deal with in the light of the new analytical devices at their command was a completely static problem. Their quest was to discover the principles determining the relative shares of the productive factors which had combined to produce a given and for the moment unchanging output or dividend. Therein lies the distinction between the classical and neo-classical economic systems.

The place of Mill's Principles in relation to these two quite different systems can now be better appreciated. Mill was essentially retrospective, both in the way he inherited the problem set out by Ricardo, and in the way he adopted and adapted the analytic 'advances' of those who linked him with Ricardo in a direct line of descent. It is in this respect that Mill stands in the mainstream of the classical tradition. It is in quite another respect that he stands at the end of that tradition. Firstly, as I have already observed, the end is marked by the inherent character of the Principles itself. That is, it issued as a composition embodying what seemed in Mill's opinion to be the most important and enduring doctrines of political economy, bound into a context of quasi-sociological, quasi-historical commentaries - Mill's 'Social Philosophy' as it appears in the full title of his Principles - which served successfully to disguise the skeletal analytic structure under-

lying the whole. It served also to disguise, both from Mill and from his later neo-classical critics, the degeneracy of the skeleton itself. This marks the second way in which the Principles terminated the classical tradition. For, albeit unwittingly, Mill introduced into the simple Ricardian model a feature which destroyed the determinacy of the division of the produce-less-rent between labour and capital. And until some alternative solution to that problem of division could be formulated, either within the scope of the classical technical apparatus or outwith it, the system as a whole was no longer logically watertight and tenable on any plane of abstraction.

In both these ways, the summarising of an already established body of doctrine, and the inclusion in that doctrine of a lethal element, Mill's Principles marks the end of an era. Two problems still remain to be answered. First, how are we to dispose of, or account for, the remnants of classicism, Fawcett, Cairnes, Thornton and even the Mill of the late 1860s?

Undoubtedly these men must be counted as 'classical' in some sense. They are best regarded as, not quite anachronisms, but followers of a faith that had now served its purpose politically and that had accrued destructive elements in its philosophy. Nevertheless, they occupy an important position in the transitional phase of analytical development and the fact that they recognised at least some of the faults of the analysis they had supported, and set about attempting to rectify the mistakes or inadequacies, is indicative of their vitality, even

the vitality of a dying system. But, as was suggested in the last two chapters, Cairnes, Thornton and the ageing Mill were able only to see one means of reviving the old orthodoxy. They could only look round and recognise the empirical inadequacy of their system. That omission could largely be remedied by taking the new ideas derived from observation of the contemporary scene and moulding them into a form which would fit them for integration into the accepted corpus of doctrine. But they were quite incapable of seeing into the weaknesses of the central structure round which all their 'social philosophising'- I do not use the term in a derogatory sense; it was part and parcel of the spirit of the age, but an age now in its last stages - and observation was built.

The problem can be put in another form. Adam Smith had posed a problem relating to the causes and secular growth of the national output, and in so doing had perhaps looked too far ahead in terms of the technical apparatus available to him. Ricardo had narrowed the problem to a single aspect of the growth process and, although like Smith he made an immense contribution to the understanding of economic factors and their operation, he was again tackling a problem not altogether within the scope of available technique. Or at least, he had posed a problem which he could solve at a certain (high) level of logical abstraction. But he could also appreciate the inaccuracies involved at that level, the incapacity of the framework he had evolved to be assimilated as a working model

of the economy he could observe. It was just that ability to see the faults in his conceptual system that brought Ricardo face to face with the problems he was unable satisfactorily to resolve, such as the composition of the wage goods basket, and the index number problem involved in intertemporal comparisons of value.

His successors were by no means always aware of the true nature of the issues with which Ricardo grappled, but each in his own way added something to the structure. It is in this respect that Mill's synthesis assumes importance. For he was capable of a critical selection of these 'advances' [1] and, more important, of presenting them in a form based ultimately on the Ricardian model and in effect proferring a link between the commercial practices and events of the time and the analytical abstraction itself. The synthesis was not complete. It never could be. For Ricardo's bold simplification and extreme powers of abstract thought had led him to formulate a system which bore little resemblance to the economic system of England in the years following the peace of 1815. By Mill's day the situation was much worse, but the full implications do not seem to have been realised until 1865 and the succeeding

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1. I use this word cautiously. The post-Ricardian contributions were only advances in a peculiar sense. They added nothing to Ricardo's primary model, and indeed often misconstrued it, positively helping it on its way to eclipse. But in so far as the eclipse itself marked progress, their additions to knowledge amounted to 'advance'.

years, It was then that the rethinking of Cairnes, Thornton and Mill took place.

But their attempts to revitalise the system were too narrow in that they aimed only at reforming the relationship between fact and theory, without recognising the need for a revision of the theory itself.

This is the point at which the eclipse of the classical system sets in, and the writings of the new marginalist adherents assume a dominant tone. The second problem now appears - to what extent did the marginalist writers recognise the difference in the problem they set themselves to deal with: or, to put it in an alternative form, in what way is the neo-classical system a natural outgrowth of the degeneracy of classical economics. This is a considerable problem, involving the relationship between Ricardo, Mill, Jevons and Marshall: and it is best to open the discussion under a new heading.

II. The Transition

As I have put the question above, the scope of the issues involved is vast and what I have in mind here is a limited inquiry in the light of the earlier discussions of Mill's analytical performance. We must begin, as always, from the admission, made by Mill, that the labour supply need not be perfectly elastic at a given corn wage in the long run. From that point stems the ultimate decline of the classical model of progressive distribution, since the shares of labour and

capital become indeterminate. The methods used by the neo-classical economists suggest that they recognised the indeterminacy of the solution in the new conditions, and so rephrased the problem as to rule out for the moment all dynamic or quasi dynamic influences, and to concentrate solely on the static problem of allocation from a given and unchanging national income. We now have to ask how far this reformulation of the essential problem was explicit in their writings.

The immediate answer must be a firm negative: the new basis for economic enquiry was not understood. This feature of nineteenth century neo-classical literature, and even much of the twentieth century writings, emerges clearly from the form of the criticism launched against the classical system from 1870 onwards. Part of this criticism openly transgressed fundamental methodological law: the remainder, as with Marshall, merely misunderstood the context in which the classical analysis had been developed. The first type of critical review attempted to score cheaply by making points against the former orthodoxy by simply applying neo-classical criteria to unmodified doctrines and concepts belonging within a strictly classical border. This approach is exemplified primarily by Edwin Cannan's critical discourses in his Theories of Production and Distribution in English Political Economy from 1776 to 1848 (1893), and A Review of Economic Theory (1929)[1]. Jevons, Edgeworth and Marshall, on

1. Cannan, of course, did much useful work in this field. The point is merely that parts of his critique are entirely invalidated by his methods.

the other hand, merely betrayed that they had not properly grasped the nature of the fundamental change that had taken place in economics since the time of John Stuart Mill. In fact, the only evidence at all that I can discover in the literature of the time which might be taken as a symptom of recognition of the new phase in thought comes from a surprising quarter, from Jevons's Theory. Deriding the wages-fund doctrine, Jevons wrote:

"This theory pretends to give a solution of the main problem of the science - to determine the wages of labour .." [1]

To say that is to suggest perhaps that Jevons had grasped the significance of the breakdown in the old solution. And indeed, whether this is so or not, Jevons did criticise the Ricardian form of equation:

Produce = profit + wages

Jevons noted that Ricardo had been able to solve this equation by simplifying the wage element in such a way that it could be taken as a datum. Sweeping away the Ricardian simplification Jevons says that "the wages of a working man are ultimately coincident with what he produces, after the deduction of rent, taxes and the interest of capital. I think that in the equation the quantity of produce is essentially variable, and that profit is the part to be first determined."[2]

In other words, from one point of view [3] Jevons was content to allow wages to be determined as a residual, relying on his

1. "Theory of Political Economy": preface to the first edition (1871)
2. "Theory" (3rd ed.) p.270
3. Evidently not that taken in Chapter V of his "Theory".

theory of profits to solve the unknown which the classics had taken as a residual.

But, whatever Jevons has to say here about the variability of the produce, it is clear that in his main analysis he is dealing in terms of a fixed stock which has to be distributed between the factors. Admittedly, the idea of 'fixity' is at its most evident in relation to the theory of exchange, where, as Jevons puts it,

"Holders of commodities will be regarded not as continually passing on these commodities in streams of trade, but as possessing certain fixed amounts which they exchange until they come to equilibrium." [1]

But the significant point about the marginalist train of thought was that, although the fact was not immediately recognised, it provided a new theory of exchange, certainly, but also a generally applicable tool of analysis, not confined merely to the problems of value.

On the whole, it has to be concluded that the new body of writers was not properly aware of the change in the ultimate problem they set out to solve. They were quite explicit, of course, about the nature of the question before them, the distribution of a fixed product between the factors combining to make it. But they failed to see that this was a different problem from that posed by Ricardo and accepted unquestioningly by his followers.

There are certain mitigating factors which must not,

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1. "Theory" pp.93-4 Cf. also ibid. pp.58-61

however, discharge the neo-classical economists from all blame. Neither must it blind us to the fact that there was a difference of major importance between the systems. Yet it can be asserted that the change in the direction of inquiry was a subtle one. All that had happened was that a given problem, set in terms of long run movements and secular trends, had been discarded in favour of the same problem, couched now in terms of a moment of time. The moving picture was replaced by the snapshot. From that point of view alone the difference between the systems was not great. But even so, it does not draw attention to the changes in the remainder of the structure which must logically succeed the altered nature of the basic problem. For instance, the switch of emphasis must lead to the assumption of inelastic factor supplies to the economy as a whole, in place of the prime concept of the classical model, perfectly elastic labour supplies in the long run. From that switch also, there derive many secondary implications which are sufficient to alter the balance of the entire model and in effect to create a new departure in analytical form.

A further mitigating circumstance is the similarity in the 'vision' of the old set of economists and the new. Both systems, for example, regarded the perfect competition case as the of economic activity, yet it was recognised also that conditions of perfect competition did not by any means rule universally, and Mill, as we have seen, took into consideration some of the effects of imperfect markets so far as the technique available

to him permitted. In fact it was one of the main contributions of the early neo-classical economies to define formally the conditions for perfect markets and perfect competition: Jevons, Edgeworth and Marshall all had a hand in this task. But the roots go back even beyond Adam Smith and occupy a place of no little importance in the standard works of classical economics, and also in the classical tail-piece, the market price debate in the late 1860s.

Again, the same continuity of vision is to be observed in the social framework adopted by both systems. The classical triad standing at the centre of classical analysis remained to the forefront in the neo-classical system. Indeed there was no pressing necessity for any change in this respect for, to all intents and purposes, the framework of the British economy had undergone no radical alteration in the meantime. Maturity rather than physical change was the trend. But if there was no change in the framework itself, there was a change <u>within</u> the framework, symbolic in itself of the maturity of the British capitalist system. There had never been in this country any real evidence of the Malthusian population pressure, but there had been, nevertheless, a fairly rapid population growth which was sufficient to impress on the classical observers the importance of a population principle in any system of economic analysis. Classical apprehensions on this score were sufficient, that is to say, to affect their vision of the long run economic processes and the ultimate end to which society was tending. But

although even in the seventies the population graph was still rising sharply, the neo-classical writers were at liberty to abandon the Malthusian thesis in that it was largely irrelevant to their marginal analysis. The system founded on the marginal principle did not necessarily require a population principle in the way the classical system did; and although in their more long term speculations many neo-classical thinkers[1] paid homage to the Malthusian theory of population, demography tended to fall outwith the scope of economic analysis proper and to become a study in its own right, until at last the inverse of the Malthusian idea drew attention in the 1930s. The problem then was to be that of the stationary or declining population.[2]

A second change within the framework was the greater availability of capital to the owners of enterprises. This was made possible by the Limited Liability Acts already mentioned and although it is too much to say that as a result of this, capital was finally able to 'catch up with' population in the sense discussed earlier, there can be little doubt that the change in the methods of financing investment aided the process, providing a rough parallel to the developments in the theory of the day. This is not to assert that there was a causative influence working from practical events to theoretical advance; it is merely a comment on the curious correspondence between

1. E.g. Marshall, Böhm-Bawerk, and especially Wicksell.
2. Cf. R. F. Harrod: "Modern Population Trends": M.S.1939. J. Jewkes: "The Population Scare" ibid. 1939. J.M.Keynes: "The Economic Consequences of a Declining Population".

current affairs and analytical developments which may or may not have any significance one way or the other.

The end to which these observations lead can be expressed in the following way. It is legitimate up to a point to speak (as does Mr. Shove) of the Adam Smith - Alfred Marshall line of development as "a continuous growth from a single stem, with Jevons and (on one side of his work) Malthus standing apart from it."[1] It is legitimate up to a point because it controverts the often repeated view that Marshall's Principles was a 'synthesis' between classical and Jevonian economics, a view which Marshall himself denied, and which is supported much less by the evidence of the first edition of Marshall's Principles than by the later editions. Again, it is quite possible to argue that there is an organic development from Smith, through Ricardo and Mill, to Marshall: but that portrayal of events is misleading in that it ignores the break with tradition in the 1860s and 1870s. That break was quite distinct, as I have argued, in so far as it involved a reformulation of the economic problem to be solved and as it brought in its train not merely a new technique of analysis, marginalism, which is only incidental, but a new framework of analysis. That is to say: technique and apparatus changed, but the effect was not crucial: the 'vision' of the socio-economic context in which analysis took place remained the

1. G. F. Shove: "The Place of Marshall's Principles in the Development of Economic Theory". E.J. Dec.1942 Vol.LII p. 296. Italics in the original.

same in most respects, and so its effect was insignificant. But the nature of the problem altered, and with it the fundamental assumptions, the construction of the 'central citadel' mentioned above as being defended unavailingly by Cairnes. That is what is important, what constituted the break.

What has all this to do with Mill? My contention is just that unless we take this view of the process, our understanding of Mill's role in the development of economic analysis is obscured. Or alternatively, that on the interpretation given to Mill's analysis in the first part of this study, the conception of analytical progress that suggests itself is the one I have presented above. Mill stands as the pivot between the classical and neo-classical economic systems. The merit of his contribution to economic analysis exists not in his originality (though as Professor Stigler has shown[1], Mill was 'original' in his ideas even if he disguised it), but in his eclecticism, just the issue on which he has been so much belaboured by many of his critics. Eclecticism is a fault only when it adds nothing to knowledge. Mill's own brand was far removed from that category. That is one of the main points deriving from Part I of this study of Mill's analysis.

Mill inherited Ricardo's system and the countless emendations and postscripts written to that system. In so far as Mill drew upon these in the compilation of his Principles he undertook a task that was eclectic. But in so far as he drew these

1. "The Nature and Role of Originality in Scientific Progress" Economica Nov. 1955.

into a pattern which was, as I have tried to show, logically consistent, though not always stable and determinate, he performed a feat which had been rivalled only once before in the field of economics, by Adam Smith. Mill marshalled the doctrines at his command, rejected some, modified others and produced in the end a synthesis of ideas to which he added his own personal seal, both by his theoretical innovations and by his continual reference to the relation of the substance of the system to his social philosophy, deriving from the Utilitarian and Comtian background against which he operated.

It is all too easy to point to Mill's complacent observations on the state of value theory in 1848, and to conclude merely on that count that Mill, or classical economics as a whole if Mill is to be taken as the spokesman of classicism at the time, was so far out of touch with the requirements of a satisfactory or 'scientific' solution to any problem that the contribution he had to make is undeserving of particular attention. A much more impressive and convincing interpretation is that Mill had sensed the need of the period for a synthesis of a kind he was quite capable of providing, and adapted his own powers to giving an account of the contemporary state of political economy. At the same time he had his own notion - not a particularly happy one, as it turned out - of the proper arrangement of the subject matter of economics. Production, Distribution, <u>then</u> Exchange: by so placing the branches of political economy Mill merely gave expression to the classical

emphasis. Value was important only as it was necessary to the theory of progressive distribution, and value theory was subservient to distribution analysis. It is at this point in particular that much of the neo-classical criticism went astray, by regarding value theory as central to the classical system and by interpreting the remainder of the system in the light of the new value theory which had displaced Mill's.

However, to return to the matter in hand, it can be suggested that Mill, by providing the synthesis of ideas stemming from Ricardo's model, gifted to the economists of the next generation a complete review of the salient doctrines in fashion at the time. The fact that he deliberately excluded a rather different, but not fashionable, line of approach, inherent in the work of the Malthus-Sismondi-Chalmers school of thought on the one hand, and of Longfield, a succession of Irish economists, Jones et alia on the other, is not important. By restating the established doctrines in the form of a comprehensive treatise, Mill made a whole period's thought accessible to thinkers on economic subjects, who could make of it what they pleased. Fawcett and Cairnes accepted it in its entirety at first: Jevons, Hearn and a few others had rejected it as early as 1862 but their complaints only began to assume appreciable significance in the 1870s. As Jevons was first spurred on to the attack by his open dislike of Mill's writings, so Marshall also obtained his first notions on economics through Mill's Principles. Both Jevons and Marshall in some sense found

themselves obliged to throw over much of Mill's analysis, and to replace it by their own efforts. But Jevons was a little blind to the debt he owed Mill and was almost certainly closer to Mill than he himself believed, as is evident from a study of the non-mathematical parts of his Theory. Marshall, on the other hand, believed himself closer to Mill than probably he was, at least in the later editions of his (Marshall's) Principles.

Both these misunderstandings, slight though they are, can, I think, be traced to the failure of the earlier neo-classical authorities to recognise the change that had taken place in the foundations of the subject. The fact that neo-classical economics seems to be a natural outgrowth from the classical system must, from a particular point of view, be written off as a mere historical coincidence. But on a more impressionistic, even intuitive, level, it may be suggested that although the alteration in the deepest roots of analytical inquiry went unnoticed, there are grounds for believing that Mill, in his Principles, gave the clue to the next step in analytic progress. He himself did not recognise the clue, or even that there was a clue to be discovered. Jevons and his successors found the clue, as it were, undeliberately and they only half understood the significant difference it made to the nature of analytical economics. They fully appreciated the problem they dealt with, but did not quite see in what way it differed from that of Mill and Ricardo. I have attempted briefly to describe the mitigating

circumstances but perhaps the major reason is simply that these writers were too close to the events to obtain a realistic perspective. A similar misunderstanding is identifiable in the Ricardo-Malthus controversy about 'gluts' which had its roots in the different conceptions of the fundamental problem. In the end, however, we must be content with a non-definitive answer to the problem of the relation between classical and neo-classical economics. The view for which I have argued here is, to repeat, that it is in Mill's contribution through the Principles that we should seek the logical endpoint of the classical system, and that in the light of his work we can better identify the essential features and causes of the transition from one system to another. But that view stems quite as much from an implicit and subjective opinion on the nature of analytical progress which may not be acceptable in general and which is, at the present time, somewhat out of favour.

III. Conclusion

Only a few concluding remarks have to be made now. All that really remains is the task of setting Mill's Principles in the perspective, not of its own time (for that has already been adequately demonstrated), but of his economic work as a whole. Three main stages can be identified in Mill's economic thought: the early stage marked by the writing of the Unsettled Questions which were not, however, published until 1844: the middle stage which we may date from about 1846 to 1865: and the last period,

from 1865 until his death.

Each of these phases is quite distinct in character. The first, which is not easily defined in terms of years, seems to have begun in 1822, when Mill engaged in a public discussion, in the pages of the Traveller,[1] with Torrens, the editor, on some aspects of value theory. During the present study I have had occasional references to make to the earlier writings of Mill in the periodicals of the day, but on the whole they merely emphasise the dependence of Mill at this time on the basic Ricardian formulae and stock answers. The first real indication of original insight, and it is 'original' in a different sense from that I have used to describe his later explorations, came in his Unsettled Questions. Because of the somewhat limited scope I have allowed myself it has not been possible to do these essays full justice, only the essay on profits and interest having been given anything like adequate treatment. At this stage we can only note that the Unsettled Questions contain several remarkable passages which would seem to indicate that Mill, in the years 1829-1830, was moving away from the Ricardian dogmatism of his earlier years. The significance of these essays is not to be underrated: they are in fact extremely important and interesting, but they are less so in the following out of the theme which I have been particularly concerned with here.

In any case, I think it is generally recognised today that in these youthful essays of Mill's there is a good deal of

1. Mill's letters appeared in the paper on Dec. 6 & 13: under the signature 'S'.

thought that ranks highly in the literature of the time. What has not been hitherto recognised is that the Principles itself is a work of high standing, and it is this lack which I have here been attempting to remedy. It is the Principles on which Mill's rank as an economist has been estimated, and according as we think well or badly of the Principles we assess Mill's own stature as an economic thinker. The impression gained from a reading of most histories of economic thought now current (Schumpeter's History of Economic Analysis is an exception but is not altogether acceptable: I return to this) is that Mill was the main economic figure between Ricardo and Jevons in the English tradition, but that he merely repeated the Ricardian dogmas then fashionable and gained himself in the process a reputation which he by no means deserved. He was also classified as unoriginal, but Professor Stigler has absolved him completely of that charge. Professor Robbins has done much also in his Theory of Economic Policy to clarify Mill's position in the context of classical policy formulation. Professor Schumpeter did much to restore Mill's prestige as an analytic thinker but not, in my opinion, altogether for the correct reasons. One of the major faults with Schumpeter's treatment (if I can say this without implying disrespect, which would be far from the truth) is that, perhaps because of his long career and intimate knowledge of the developments around the turn of the century, he himself failed fully to appreciate the underlying change of emphasis involved in the classical-neo-classical transition. As

with Jevons, Edgeworth, Marshall and even Professor Pigou,[1] he was too close to the events. As Professor Johnson has pointed out,

"the validity of a proposition in the form in which it is stated depends on the structure of the theoretical system from which it is derived, and must be assessed with reference to that system and not some other; it should be emphasised that it is the logical structure of the theory, and not the validity of its factual assumptions, which is here in question. ... (also) a proposition drawn from one theoretical system may appear fallacious or even nonsensical in terms of another theoretical system, and yet prove to be quite sensible and even fruitful when properly reformulated to conform to the logical structure of that system."[2]

I make no apologies for quoting this passage in full, for I believe that the two principles there delineated are essential for a legitimate study of historical analysis and I have tried in this study to bear them in mind.

The point, of course, is that many of the neo-classical critics did not reformulate the propositions they abstracted from the classical system, but inserted them unchanged into the new system and rejected them outright when they did not fit. But this merely re-emphasises my contention that it was not always understood that there had been any significant change. The difficulty was simply that Mill's propositions were not reformulated because it was not realised that there was any need for such a practice.

As I have interpreted Mill's Principles here, the outstanding theme of the work is his concern with the relationships

1. As, for example, in his centenary article on Mill. E.J. Vol. LIX, No.234, June 1949, pp.171-180.
2. H. G. Johnson: "Demand for Commodities is not Demand for Labour" E.J. Vol.LIX No. 236, Dec.1949 p.532. The second set of italics is mine.

between capital and labour, and my argument has been that by looking at the Principles from this standpoint, and not that of value theory, which has been common practice in the past, we obtain a much better understanding of Mill's intention. Incidentally, we obtain a much more instructive view of Mill's own merit as an economist. I mentioned above that Mill's arrangement of material in the Principles was not altogether fortunate. But it was Mill's aim merely to relegate the theory of value to its proper place in the classical system, subsidiary to the immediately pressing questions of Production and Distribution. Thus Mill wrote of the suggested names for political economy, 'Catallactics' and the 'Science of Values':

> "If these denominations had appeared to me logically correct, I must have placed the discussion of the elementary laws of value at the commencement of our inquiry, instead of postponing it to the Third Part; and the possibility of so long deferring it is alone a sufficient proof that this view of the nature of Political Economy is too confined." (p.436).

Perhaps Mill should have made his point in a different way, for as it was he merely provided a target for the attacks of some later writers. But in any event, Mill was quite explicit about his reasons for the new arrangement: the 'laws' of production and distribution were the main objects of economic inquiry.

Thus it was that Mill, though accepting the Ricardian problem and inheriting the Ricardian model of distribution through time, was drawn by his socialist leanings and his sympathies with the labouring classes, to give more attention to the capital-labour relationship than had been the wont of Ricardo himself. The model remained essentially the same, but

the bias was rather different. The theme that I have tried to follow through in this study is such that capital appears at the centre of discussion throughout the branches of inquiry, Production, Distribution and Accumulation (Books I, II and IV). Capital, I have been arguing, in its relation to labour *via* wages and employment, is the key to the analysis of the *Principles* and, examined from that point of view, the work emerges as a fundamentally sound piece of analysis. Even if it does contain unstable elements as I have suggested, the picture we get of the *Principles* and of Mill the economist is much truer than that representation suggested by the approach by way of value theory.

All this is not to say that Mill is to be ranked with Ricardo or even Marshall. The nature of his contribution was quite different from that of Ricardo. Mill was not always surefooted in his analysis[1] in the way Ricardo was, without a mathematical technique, or as Marshall was, with a mathematical apparatus at hand. But in the *Principles* Mill gave expression to the ideas of the previous thirty years (as also did Marshall, though he did much more besides) in such a way that the satisfactory and unsatisfactory parts of the analysis could be separated out and the energies of the succeeding generations of economists could be channelled off where they were most required.

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1. That is, Mill did not always see the difficulties and intricacies of analysis in the way Ricardo had done. But Mill was still quite capable of tracing out the broader courses of analysis, as in his analysis of the role of capital, wages and employment.

The Principles, then, marking the peak of Mill's achievement in the mid-period of his life as an economist, stands in history not as a significant new addition to scientific truth. That was the contribution of men like Ricardo, Jevons and Menger, Marshall and Keynes. But through his Principles Mill offered the way to the advancement of economic analysis by so instilling a new awareness of the adequacies and inadequacies of 'established' doctrine that the direction for new thought could not be mistaken.

Finally, we come to the latter stages of Mill's economic career, in whichhis major work dominated the scene while he himself acted in the background in the capacity of adviser and confessor to those, in the political, commercial and professional spheres, who sought enlightenment through his work. His own contributions to public debates were, as I have observed, meagre at this period and he sought more to guide the progress of opinion than to participate actively in the advances themselves. His last published efforts in the economic field merely indicated that he was prepared to admit that there was still much to be done in the way of analysis and even empirical study, but he himself was unable to see the directions progress was to take. He was unable to see the underlying shortcomings of the structure he had erected until they were pointed out to him.

But on the whole this last period of Mill's career, together with the strugglings of Cairnes, Thornton, Fawcett and even Leslie, was indicative of the fact that the classical

system as it stood had nothing more substantial to offer for the moment. It held new notions, admittedly, but they were not entirely compatible with the long run analysis that was so characteristic of the old system. Neither Mill nor his followers at this time had sufficient insight to see into the degeneracy of their tradition or to perceive the proper context for the novelties they could identify but not use adequately. If the early 1870s was a time of hope for analytical progress, it held out little promise for the survival of classical economics.

John Stuart Mill the economist emerges from this study with a somewhat enhanced reputation. The traditional tendency has been to write him off as an unoriginal and uninteresting disciple of Ricardo who merely set a rather unsatisfactory seal on an era. A disciple of Ricardo he was, but as I have tried to show, he was neither unoriginal nor was he uninteresting. It is true also that he set a seal on classical economics but, on the present interpretation with an emphasis away from value theory and towards the theory of production, distribution and economic growth in a particular phase of capitalist development, he also provided the key to the next stage of analytical progress, although unknowingly.

Like Adam Smith, Mill was essentially retrospective <u>in his analysis</u>. But Smith had the advantage of writing just at the beginning of a phase of rapid industrial development and his analysis, set as it was in the context of a system with a

growing canal and road network, was of a kind that could endure for a considerable time. Smith, aided by his environment, had a vision of the economic framework which extended forward, whereas Mill's analysis was geared to the achievements, already recorded, of the new industrial age. The next epoch was to be one of advance in international commerce and although in his obiter dicta Mill did recognise the growing importance of trade between nations he could not, as Smith had done in his projections into the future, gear it to the engine of analysis to which he had applied himself. Mill, therefore, looked back in time in his analysis, and at the present in his conception of the social framework - not always very accurately as we have seen. These two limitations prevent Mill from obtaining an eternal reputation either as an analytical economist or as an economist with deep insight into the environment of his day. But he must still be allowed to rank in the great names of the subject by his performance in the Principles of accomplishing a massive task of synthesis, and providing a foundation for a new step forward in the field of theoretical economics. If, by providing such a platform he placed himself in a vulnerable position in so far as he displayed a particular system of economics in most of its greatness and with all of its shortcomings, that must be put down to a twist of historical progress. But if we are content to look at the structure of the platform in the context of its period and at the position of the platform in relation not only to what had gone before, but also what was

to come in its stead, our assessment of Mill's work must be of the highest order.

Mill had not the same kind of contribution to make to economics as had Smith and Marshall on the one hand, or Ricardo and Jevons on the other. But his was a contribution of the same order of importance.

APPENDIX TO CHAPTER III

A Note on Some Criticisms of Mill's Fundamental Propositions

We noted in Chapter III above that Mill's fundamental propositions on capital had been much criticised. In the text, these criticisms were neglected but it may now be instructive to examine the more important of them.

Proposition I

Professor Schumpeter[1] objected to Mill's alleged inference from industry's being limited by capital, that 'every increase of capital... is capable of giving additional employment to industry; and this without assignable limit.' The latter theorem, properly stated and with due emphasis on the 'capable', was legitimate, in Schumpeter's view, but it did not follow from the first part, that industry was limited by capital. The proposition should have read, according to Schumpeter, that on the long run trend there are no assignable limits to investment opportunities at appropriately falling rates of interest, except possibly institutional ones.[2] There appeared to be no reason why Mill should have 'maimed' a useful theorem, especially as it had already been adequately stated by James Mill.

The reasoning implicit in Schumpeter's criticism is that the marginal efficiency of capital declines as the accumulation of capital via net investment continues, in a given state of

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1. "History", p.640
2. Ibid. p.641 ft. note.

technology. This is merely an elaboration of the classical diminishing returns argument. But at this stage of his analysis (Book I, Chapter V) Mill has not yet introduced the law of diminishing returns. Apparently overlooked by Schumpeter, this fact is probably a consequence of the layout of the Principles: in more orthodox treatises, diminishing returns would have been discussed before a problem such as the present one was encountered. For want of a definite guidance from Mill, we must assume that he was here thinking in terms of constant returns. In consequence the picture alters a good deal and the interpretation should follow the lines indicated in the text. A'failure' of aggregate effective demand might impede further accumulation but as we know such an event was not feasible on Mill's analysis, as witness his defence of Say's Law against the Malthus-Sismondi train of thought at this very point.[1] Schumpeter's criticism therefore fails.

In any case, at a later stage in his exposition, when the law of diminishing returns has been met with, Mill does appear to give a statement of the Schumpeterian theorem, when he writes that in a closed economy and in a given state of technology, the investment of the community's entire savings each year would lead, not to a glut but to a fall in profit rates:

"The difficulty would not consist in any want of a market. If the new capital were duly shared among many varieties of employment, it would raise up a demand for its own produce, and there would be no cause why any part of that produce should remain longer on hand than formerly. What would really be, not

1. "Principles", p.67.

merely difficult, but impossible, would be to employ this capital without submitting to a rapid reduction of the rate of profit." (p.732)

That is to say, there are no limits to investment opportunities at appropriately falling interest rates, but there is a limit to the profitability of investment (on the assumptions) dictated by the rate of diminution of returns to new investment. Mill's argument was that there was no limit to investment opportunities as such, but that there was a limit to the net accumulation of capital.

Propositions II and III

Jevons contended that the second and third propositions were incompatible since "to save is surely to keep for a certain length of time, so that the doctrine amounts to saying that a commodity may become capital, but may nevertheless be consumed and not saved. The contradiction is, in fact, so palpable that Mill explains it away on a side issue, introducing the qualification that if consumed immediately it is not consumed by the person who saves it."[1] Jevons identified saving with 'keeping for a certain length of time' which would seem to apply to the relatively more durable forms of capital. Mill concentrated on the 'loan' aspect so that as soon as the 'right' to consumption of a portion of the society's existing stock of goods (its capital) has been transferred, it will be exercised in the expectation that the capital will be replaced with a profit. The confusion is terminological for the most part.

1. "Principles of Economics", p.124.

Whereas Jevons identified saving with 'keeping' - that is, keeping the value of the goods - Mill emphasised the change in the original form of the goods (or money) lent.

Another aspect of these propositions was taken up by Professor Pigou, this time referring to the rate of depreciation of capital equipment. Mill, as we saw in the text, tended to regard fixed capital as being worn out in a comparatively short period of time and, going on from that point he attempted to explain wht a society may be able to recover rapidly from major calamities such as wars, floods, etc. The quick cancellation of loss, in Mill's view, was not to be attributed to the mere fact of saving:

> "What the enemy have destroyed would have been destroyed in a little time by the inhabitants themselves: the wealth they so rapidly reproduce, would have needed to be reproduced and would have been reproduced in any case, and possibly in as short a time. Nothing is changed, except that during the reproduction they have not the advantage of consuming what had been produced previously." (p.75: my italics).

Quoting this passage all but the last sentence Professor Pigou argues that "if we suppose 1000 machines, a hundred of which would normally wear out in each of the ten succeeding years," Mill's statement would suggest that "were the 1000 machines destroyed, the whole of the devastation could, without any extra effort, be made good in ten years. This is not so. For it is very much harder to make a hundred machines in a year when there are no machines, or only a few machines, to help them than when there are nine hundred available for that. Mill's argument neglects this very important fact."

But surely Mill did allow for just that possibility in the last sentence of the above passage, not quoted by Professor Pigou. The consumption there referred to must relate to capital goods as well as wage goods in the context of the third proposition.

There is, however, a good deal in the implication of the criticism for Mill was over-optimistic, even in terms of the capital equipment of his own day, in asserting that voluntary saving (he admits, of course, that there would be some involuntary saving) does not play a vital part in the process of re-equipment. The real criticism of the third proposition is that it is too closely bound up with circulating capital as we may judge from Mill's notion that 'saving' and 'expenditure' are used up at equal or comparable rates. But that point has been adequately dealt with in the text.

Proposition IV.

By far the greatest volume of criticism has been directed at Mill's fourth proposition. Of this a large part can be discarded at once, since it charges Mill with a failure to uphold the principle of derived demand.[1] In fact a reading of Mill's work leaves little doubt that it was not his intention to deny that principle, and other interpretations and criticisms have been advanced in its stead. My own opinions have been stated in the text and here I confine myself only to these

1. E.g. A.Marshall, "Principles", App.J. A.C. Pigou, "Mill and the Wages Fund" E.J. VolLIX No.234 June 1949. pp. 171-180. E.C.K. Gonner, Ricardo's "Political Economy" (1891) pp. 389-391.

alternative views, which can only be stated briefly at the present time.

(1) Taussig

The interpretation adopted by Taussig[1] is straight forward.

"This much maligned proposition", he writes, "is a simple corollary from the axiom (such to Mill's mind it seemed) that labourers are supported by the produce of previous labour, dubbed capital... From the statement that the real demand for labour was to be found once for all in the commodities turned over to the labourers for their use, he proceeded to the doctrine that capitalists could turn over an indefinitely large quantity of commodities to labourers, without encountering any obstacle or embarrassment. This was the point at which the whole discussion was aimed. What he meant was that 'a market' for such goods could be found without difficulty in supplying all possible wants and whims of the labourers. He failed to consider - failed at least in this discussion- that a stage might be reached where it no longer was profitable to increase the advances."[2]

That is the gist of Taussig's appraisal and there is much to be said for it. It is difficult, however, to substantiate the opinion that this proposition was directed at the proof of the lack of friction in the process of capital formation. As we have seen, that is the substance especially of the 'policy' aspect of the first proposition. Again, it is hardly a criticism of Mill to say that he failed to consider the limits to capital accumulation at this point. That topic was deferred to a later chapter (Book I, chapter XI) and in any case Mill had not yet introduced the law of diminishing returns which is crucial to the argument. We may criticise Mill for his arrangement, but we are not entitled to mark him down

1. "Wages and Capital" (L.S.E. Reprint, 1935)
2. op.cit.pp.219-220.

because, in the process of developing a logical theme[1], he had not come to a critical matter quickly enough to satisfy those who could use hindsight to look back at the completed argument.

(2) Cairnes

In his 1864 notes to Mill, Cairnes suggested that there was a close affinity between the third and fourth propositions which it would be wise to make explicit. He even goes so far as to say that the fourth theorem is really a different form of the third, rather than 'a separate and distinct proposition'. As Cairnes put it:

> "to establish the doctrine that 'demand for commodities is not demand for labour' - i.e. does not benefit the labouring classes - all that is needed is the two assumptions, 1. that he who profits by (i.e. enjoys) wealth is he who consumes it, and 2. that productive labourers consume saved wealth, while wealth unproductively spent is consumed wholly by unproductive consumers."[2]

Again, Cairnes would have preferred to restate the theorem, together with its qualifications, in the following way:

> "The general principle is, that demand for commodities determines merely the direction of labour and the kind of wealth produced, not the quantity or efficiency of the labour or the aggregate of wealth. The exceptions are:- 1. where labour is supported but not fully occupied... (here Cairnes restates Mill's argument, then continues)... But note, even in the supposed case, this result (the increase of wealth caused by the stimulation of employment) will only happen when the new demand is based on a new creation of commodities directly applicable to human purposes...[3] 2. There is another case in which increase of demand may increase the aggregate

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1. This is a point perhaps not sufficiently recognised about Mill's Bk. I in particular. It does comprise a logically developed argument beginning from the simplest level and working towards a complete account of the theory of production of the day.
2. Cairnes then goes on to argue the case of the 'best practical reductio ad absurdum' relating to the Poor Law, which Mill incorporated almost verbatim in the 1865 ed. Cf. "Principles", pp.84-5.
3. This condition was meant to rule out increases (over)

of wealth and benefit the productive classes - namely, where this increase renders possible an increased development of the principle of division of labour, and thus a more effective distribution of the productive forces of society...[1] 3. A third exception occurs in the case noticed post p.410 (5th ed. Vol.I) - the case described by the common saying that 'wages are high when trade is good'.[2] It is true that in this case the proximate agency in the benefit conferred on the labouring classes is the capital applied to the purchase of their labour, but this capital is called into activity through the demand for commodities."

These comments by Cairnes are worth noting in full if for no other reason than that they have not hitherto been published. Cairnes was right up to a point when he noticed the relation between the third and fourth theorems, but he should also have noticed the relationship between the last theorem and the <u>three</u> preceeding it. The first theorem is at least as important a foundation for the fourth, as is the third.

By far the most important issue arising from Cairnes's notes, however, is his third exception, in which he would appear to be saying that what is now recognised as the principle of derived demand is an exception to Mill's theorem. Here we have the influence of demand for goods on demand for labour acting through the medium of capital. What Cairnes fails to realise (and this, I would suggest, is why Mill did not make use of the idea) was that this 'exception' is of a different <u>kind</u> (on a different level of abstraction) from the first two cases.

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3. (Contd.) in the quantity of money as having such a result: a clear attack on the popular 'currency fallacy'.
1. Cf. "Principles", p.88.
2. Cf. ibid. p.344 ff.

3. Schumpeter

Schumpeter took the view in his History[1] that Mill's theorem comprised a crude sequence analysis along the following lines. When a consumer buys a commodity he does not in general pay for the labour that entered into its production. The consumer's payment enables the producer to replenish his capital, normally with a surplus. For the replacement actually to take place, a distinct decision must intervene, the manufacturer's decision to save, or not to dissave. It is this decision, maintains Schumpeter, which can be said to benefit labour at the next turn of the wheel, and not simply the consumers act of purchase. The argument continues with the observation that, given this almost automatic saving-investment decision, the interests of labour will be further improved if income-receivers saved, instead of buying consumers' goods, since this would increase the amount 'destined' for the maintenance of productive labour and also cause no deficiency of demand for goods. If the income-recipient saves, the addition to capital will last until he decides to dissave a corresponding amount, whereas if consumption from income had merely involved a substitution of labour services for commodities, the addition to the aggregate wage bill would last only so long as the practice was continued.

That is to say, having established the sequence analysis, Schumpeter goes on to argue that whereas a

1. Cf. pp.644-5.

substitution of services for goods in consumption out of income has to be repeated in each period for labour to derive any benefit, a consumer who substitutes saving for consumption would, in Mill's words, establish a fund to maintain a certain number of labourers in perpetuity: always allowing the ceteris paribus assumption. Schumpeter's argument, though ingenious, is hardly borne out by the facts of Mill's discussion, as Professor Johnson has observed.[1] The latter's argument in opposition to the Schumpeterian interpretation, makes the two points that Mill's dynamics were more of the Harrodian than the Hicksian variety - Schumpeter's interpretation would point to an analysis of time-lags, expectations, etc., which were apparently outwith Mill's scope: and secondly, that if the Schumpeterian approach be adopted, the allegation of fallacy would still be valid, since it would still be possible to apply the principle of derived demand to the circular flow economy of static analysis, with allowance for interest being deducted during the period of production.

There is little to be added to these comments by Professor Johnson. Admittedly, Schumpeter's version at first sight appears to have particular validity to Mill's exposition, especially in so far as it is easily amenable to Mill's terminology. But evidently it is not in the same 'spirit' as Mill's own discussion and the points made above would appear finally to rule it out as a legitimate interpretation, suggestive as it is.

1. H.G.Johnson: "Demand for Commodities is not Demand for Labour" E.J. Dec. 1949 Vol LIX No.236 p.534.

4. Johnson

Professor Johnson's dealings with Mill's theorem[1] have a purpose rather different from mine in the text but there is little to criticise about the variations played on Mill's theme other than a possible transgression of the author's own methodological principles (as Johnson himself admits). The proposition in its original form can be reduced, in Professor Johnson's view, to the theorem that "demand for commodities is not demand for labour, in the sense that the former does not and the latter does give rise to a direct demand for labour in addition to the derived demand."[2]

From that point, the argument turns to a restatement of the theorem in terms of a Keynesian system. Two propositions emerge (there is no point in repeating the argument), relating respectively to the theory of value and the theory of employment. The micro-economic theorem is that "given factor supplies and the technical conditions of production, the division of income between labour and capital depends on the preferences of the community as between relatively labour-using and relatively capital-using types of goods - so that factor-owners have an interest in demand being directed to industries which use their factors relatively intensively."[3] The macro-economic proposition "would indicate that the employment multiplier for a given initial expenditure will be greater or less according to whether the expenditure is on

1. loc. cit. pp.531-6
2. ibid. p. 535
3. ibid. p.535.

relatively labour-using or relatively capital-using items..."[1]

These reformulations of Mill's theorem are rather aside from the theme of my examination in the text but they do serve to show the usefulness of reconsidering classical (or neo-classical) theorems in the context of alternative systems provided due recognition is made of the assumptions and structure of the systems themselves. More germane to my exposition in the main part of the foregoing study is the fact that there is a recognition of the usefulness of Mill's theorem in employment analysis. As was noted in Chapter III, Mill's proposition seems to imply a primitive two-stage multiplier[2] effect relating consumption by labour in the non-productive or the industrial sectors to employment in the wage-goods sector of the economy.

I have been content in this Appendix mainly to state the interpretations and criticisms of Mill's propositions since in that way it can be easily understood what widely varying readings can be given to the theorems. My aim in the text has been to present these theorems as they seem to stand in the context of Book I of Mill's Principles, and to indicate their proper place in the development of the analysis of production. As I have tried to show in Chapter III, the theorems are not strictly 'theorems' but (as Taussig observed

1. Ibid. p.536
2. 'Two-stage' of course refers to the consumption stage and the related employment effect. The multiplier itself would seem only to be limited to a single period.

of the fourth) axioms which follow almost immediately from the definitions of Mill's system. At any rate, this would appear to be true of the first three propositions, from which the fourth is to be derived. By regarding them in this light, we can better understand their interdependence and their role as foundation stones for the analysis that was to follow.