SOME CONSEQUENCES OF THE SUBJECTIVIST APPROACH TO ECONOMIC THEORY

Martin Jacques Fransman

A Dissertation Submitted to the Faculty of Arts
University of the Witwatersrand, Johannesburg
for the Degree of Master of Arts

Johannesburg 1972

CONTENTS

PREFACE

Since this thesis deals with the methodology of the social sciences in general and with economics in particular and since objectivity is one of the requirements of science, it seems appropriate that the author declare his interests in the chosen topic before going any further.

The writing of this thesis was prompted by two factors:

(a) The attempt to learn more about the chosen field and (b) a concern that resulted from the realization that much of modern economics is not the study of homo but of robot (as Shackle has put it). If it is accepted, on the other hand, that man, far from being a robot, is in some sense free to make decisions, what are some of the consequences of such an assumption for economic theory? It is the endeavour to answer this question that has resulted in the body of this thesis.

If man is an acting, choosing animal then what can be said about concepts such as social laws, equilibrium and prediction in the social sciences? It is in attempting to answer questions like these that an author is led far from the land where he has grown up and taken into neighbouring lands that often appear strange and unfamiliar. As Hayek has put it: "There is scarcely an individual phenomenon or event in society with which we can deal adequately without knowing a great deal of several disciplines, not to speak of the knowledge of particular facts that will be required. None of us can feel but very humble when he reflects what he really ought to know for even the simplest

social process ... In an ideal world an economist who knows no law, an anthropologist who knows no economics, a psychologist who knows no philosophy, or a historian who does not know almost every subject should be inconceivable; yet the fact is, of course, that the limitations of our capacities make such deficiencies the rule." (1)

Attempts have accordingly been made to avoid discussing in detail issues in neighbouring disciplines except in so far as these issues are essential in a discussion of the chosen topic. Where possible, an attempt has been made to examine how economists have found solutions to similar problems.

Emil Kauder in another context, has referred to some of his feelings in writing his book. "I was thrilled by the discovery of new insights and the digging out of old documents. Furthermore at a time like this it is *agreeable to describe* a philosophy of everyday life which does not define man as ... a puppet dancing at the command of multiplier and accelerator, but which sees in man a person who selects his lunch, his dinner, his wardrobe, and *his* house." (2) *The author expresses* similar sentiments.

It remains for me to express my debt and thanks to Professor L.M. Lachmann. Anyone who is familiar with his ideas will notice immediately how great his influence has been in the writing of this thesis. Needless to say, I bear full responsibility for all misconceptions.

CHAPTER 1

INTRODUCTION

Much of the advance in economic theory has resulted from a consistent application of subjectivism. The aim of this thesis is to set on a firm foundation the basic postulates of subjectivism and then to examine some of the consequences for economic theory of the subjectivist approach.

It seems necessary at this early stage to define briefly what is meant by subjectivism in this thesis. (In Chapter 6 the basic postulates of subjectivism are examined in greater detail.) The subjectivist approach holds that social phenomena must be explained by being deduced from the plans and actions of individuals. It is accordingly necessary to define exactly what is meant and assumed by the notion of "a plan" and to discuss the problems that this raises for economic theory. The plan refers to that consistent pattern which lies behind observable action and which contains the various purposes of the actor bound together with the means to be employed. Each plan contains different subjective elements. "Not merely do the purposes sought in it reflect the subjective choice of ends, but what purposes are regarded as attainable in a given situation depend on subjective expectations of an uncertain future as well as on subjective judgement of the relevance of past experience, subjectively interpreted, to this future."(1) The notion of the plan and some problems following from this notion are discussed in Chapters 6-10.

It might seem contradictory to have suggested in the first paragraph above that much of the advance in economic theory has resulted from a consistent application of subjectivism and then to suggest, in the previous paragraph, that it is necessary to examine the consequences of this approach for economic theory. If much of the advance in economic thought has been the result of an application of the subjectivist method (and this must still be established) then surely the consequences of subjectivism must be well known? And if this is so, how can the present topic be justified?

In this connection, two important points are brought out in the historical introduction in Chapter 2. The first is that the subjectivist revolution, or the marginal revolution, of the 1870s and a little earlier, which established that economic value must be seen as the consequence of the interaction of appraising minds, should not be looked at as a complete application of subjectivist principles. The main reason for this conclusion, which is elaborated upon later in this thesis, is that the traces of determinism to be found in the writings of the early "subjectivists" are incompatible with subjectivism as defined in this thesis. Whereas in our definition the autonomy of human action is of the essence, the "subjectivism" of the early "subjectivists" contained conceptions that violate this principle. But since an adequate discussion of this matter now would require too great a detour, it is left to later parts of this thesis. It was only much later that Mises, influenced by Croce and Max Weber, freed subjectivism from the

influence of determinism and therefore declared the autonomy of the social sciences.(2)

Since subjectivism has been notably espoused by members of the Austrian School, three chapters have been devoted to an examination of the development of subjectivism at the hands of its founder, Carl Menger and two of his successors, Mises and Hayek. It is particularly interesting to note the latter's early ideas on subjectivism and the subsequent modification of these ideas, largely under the influence of Karl Popper. Chapters 3, 4 and 5 are devoted to these members of the Austrian School.

The second point brought out in the historical introduction is that it was only much later that some of the most important consequences of subjectivism, namely uncertainty and the consequent importance of expectations, were introduced into economic theory. In this connection, the outstanding examples are, of course, Knight's Risk, Uncertainty and Profit, the work of J.A. Schumpeter and the role of uncertainty in Keynes' writings, particularly his writings in the field of money.

However, even Keynes experienced difficulty in incorporating the effects of uncertainty into his analysis and it is this difficulty that has led Shackle to contrast the method and the meaning of Keynes' analysis. The consequences of uncertainty and the importance of expectations for economic theory constitute recurring themes in this thesis particularly in Chapters 7, 9 and 10. Furthermore it is noted that a large part of modern economic theory has attempted to side-step the problems raised by uncertainty and expectations.

We turn now to examine the historical development of the subjectivist approach to economic theory.

CHAPTER 2

HISTORICAL INTRODUCTION

"it is probably no exaggeration to say that every important advance in economic theory during the last hundred years was a further step in the consistent application of subjectivism. That the objects of economic activity cannot be defined in objective terms but only with reference to a human purpose goes without saying." F.A. Hayek: The Counter-Revolution of Science. (1)

1. Introduction

The history of economic thought has been characterized by increased consideration of the consequences, both intended and unintended, of human action. In the next section this process is discussed beginning with the objective labour theory of value of Adam Smith and David Ricardo and continuing with the impact of the so-called subjectivist revolution in the 1870s. The importance of Lord Robbins' famous essay of 1932, An Essay on the Nature and Significance of Economic Science, is then discussed followed by a consideration of some of the early influences on Mises' praxeology. Lastly, the complete application of subjectivism and its consequences, as evident in the writings of Mises, is briefly examined.

2. From Classical to Neo-Classical Thought

An important concern of the classical economists was the attempt to account for exchange-value. Adam

Smith begins by distinguishing between use-value and exchange-value. The former refers to the total utility that a particular good or service affords the consumer. Adam Smith rejects the importance of use-value in economic analysis after a discussion of the so-called Paradox of Value. According to this paradox, diamonds which afford a lower level of total utility than water, nevertheless exchange at a higher price than water. Adam Smith then concentrated his attention on an explanation of exchange-value. Since the rate at which a good exchanges for another often fluctuates, Adam Smith undertook the search for a "real" value theory which would explain the actual exchange-value existing at any time. Thus he asserted that in that "early and rude state of society" characterized by free land and zero accumulation of capital, value is determined by the labour costs of the goods to be exchanged:

"If among a nation of hunters, for example, it usually costs twice the labour to kill a beaver which it does to kill a deer, one beaver should naturally exchange for or be worth two deer. It is natural that what is usually the produce of two days' or two hours' labour, should be worth double of what is usually the produce of one day's or one hour's labour ..." (2)

In this way the labour theory of value achieved prominence in the hands of the greatest of the early classical writers. In this early and rude state of society the actual exchange value of a commodity which might fluctuate from time to time is nonetheless determined by the number of labour hours embodied in it. It is

this that is the foundation of Adam Smith's "real theory of value."

However, Adam Smith realized that in the real world where capital has been accumulated, the exchange-value of a good is not determined by the number of labour hours embodied in it. In the real world the "natural price" of a good or service is determined by the "normal amounts"payable to the factors that produce it. The "natural price" is therefore composed of the money costs of production that are the "normal payments" to the factors land, labour and capital. The "natural price" (which corresponds to Marshall's long-run price) is that price towards which the daily or "market" price is tending.

Having briefly examined Adam Smith's explanation of the determination of exchange-value, it is of relevance to note several reasons that have been put forward to account for Adam Smith's emphasis on the role played by labour in the determination of value. As will be shown later, it was on this point that the neo-classical economists differed most strongly with their predecessors.

Several attempts have been made to explain Adam Smith's emphasis on the part played by labour in determining value. It has been contended for example that the doctrine of natural law as put forward in the labour-value and property theories of Hobbes and Locke profoundly influenced the classical formulation. (2) It has also been argued that Calvinism, which placed work at the centre of its social theology, influenced Adam Smith and led him to see the

value of a commodity as determined by the labour embodied in it. (4) Finally, Adam Smith's concept of the "natural price" is said to have been influenced by the Aristotelian-Scholastic concept of justum pretium. (5)

It is obviously not possible to talk with any certainty about the factors which have had an important influence on the writings of any author. However, whatever the factors which influenced Adam Smith in his conception of exchange-value were, for present purposes two points must be noted. The essence in Adam Smith's discussion of exchange-value lies in his conceiving value as the objective embodiment in commodities of the services of factors of production, particularly labour. Secondly, his rejection of use-value in an explanation of exchange-value is also important. This rejection has elicited the following somewhat harsh comment from Kauder. Kauder, who traces the development of the concept of use-value and the beginnings of a theory of marginal utility back to Aristotle, accuses Adam Smith of making "waste and rubbish out of the thinking of 2,000 years. The chance to start in 1776 instead of 1870 with a more correct knowledge of value principles had been missed." (6)

Subsequent classical writers accepted by and large, Adam Smith's explanation of value. Thus Ricardo, who realized the shortcomings of the labour theory of value, nevertheless used it to explain exchange-value in the real world. But he excluded land-rent from the theory of exchange-value by assuming that the exchange-value of corn is determined at the margin of cultivation where

no rent is paid.

However Ricardo's major interest was in the factors that determine the distribution of income and in this endeavour the labour theory of value proved to be only a slight hindrance. Ricardo realized this as is shown by the letter he wrote to McCulloch pointing out that "the great questions of Rent, Wages and Profits must be explained by the proportions in which the whole produce is divided between landlords, capitalists and labourers, and which are not essentially connected with the doctrine of value." (7)

For Ricardo, labour seemed to be a useful measure and it was for this reason that he employed the labour theory of value. The result was that value was looked at as an objective property possessed by all economic goods. It was this aspect of classical theory that came under strong attack, in the 1870s, in the writings of Carl Menger, Walras and Jevons. (8)

Just as the classical economists looked at value from an objective point of view, that is, value was not seen as the result of consumer preferences, so they tended to define the limits of their discipline in objective terms, first as the study of wealth and later as the study of welfare. Kirzner has suggested that this formulation of the definition of economics was in part, due to the influence of the methods used in the successful natural sciences. The science of wealth, where wealth is defined in objective (measurable) terms, fits far more easily into the method of the physical sciences than does the science

of human action where the subject-matter is entirely different to that of the physical sciences. Thus Kirzner concludes that "The extent of the gap between the conception of a science embracing the totality of action, on the one hand, and a conception of a science of wealth on the other, owes something, it would appear, to the ease with which the latter could be incorporated into a structure of universal knowledge in which the physical sciences occupied so conspicuous a position." (9)

It is thus concluded that the classical conception of the subject-matter of economics was couched in objective terms, that is without direct reference to the plans and actions of individuals.

A. Marginal Utility Theory

During the nineteenth century, particularly the latter half, disaffection grew with the classical formulation. In Germany this disaffection was seen in the teachings of of the Historical School. The objections of the Historical School to classical economics can be grouped into three headings: (10) In the first place it was claimed that economic laws, established by deducing the consequences of several postulates, could not have universal validity. Thus the laws of Smith and Ricardo could not be regarded as universally valid. Economic laws, even if they could be found, must be thought of as specific to time and place. Economic conditions must be seen as in a constant state of change and development. For this reason the Historical

School wanted to replace the deductive method of Ricardo and others with induction from the conditions that could be observed in the society at each point in time. The second criticism of the Historical School was that the classics, according to Knies, started from the premise that man was motivated by self-interest only. However this is entirely unrealistic: the motives of man are extremely complex. The Historical School therefore rejected the classical formulation based on the premise of self-interest. Lastly, the Historical School stressed the unity of social life, namely that all social processes are interconnected and that economics cannot be separated from the other social sciences.

Further comment on the views of the Historical School is postponed until the next chapter where Carl Menger's opposition to the criticisms of the Historical School is considered. We turn now to examine the developments of marginal utility theory.

Before 1871 value theory, as we have seen, attempted to find intrinsic value in objects. It was acknowledged that to possess value an object must be useful and scarce but this was never followed through "to the point of realizing that what was relevant was not merely man's relation to a particular thing or to a class of things but the position of the thing in the whole means-end structure --- the whole scheme by which men decide how to allocate the resources at their disposal among their different endeavours."(11)

The break with the classical tradition finally came in the early 1870s although it is now generally recognized that subjective utility theories were formulated earlier,

notably by Gossen in 1854. In the early 1870s three writers independently formulated a subjective theory of value. Carl Menger in Austria, Leon Walras in France and William Stanley Jevons in Great Britain all starting from different points arrived ultimately at strikingly similar conclusions thus launching what was later to be called the marginal revolution which laid the foundations of modern price theory. As Schumpeter has said: "What matters ... is not the discovery that people buy, sell or produce goods because and in so far as they value them from the point of view of the satisfaction of needs, but a discovery of quite a different kind: the discovery that this simple fact and its sources in the laws of human needs [12] are wholly sufficient to explain the basic facts about all the complex phenomena of the modern exchange economy, and that in spite of striking appearances to the contrary, human needs are the driving force of the economic mechanism beyond the Robinson Crusoe economy or the economy without exchange."[13]

The essential element in marginal utility theory was first put forward in the concept of value-in-use which was first used in the writings of Aristotle. According to the concept of value-in-use the economic importance of a good or service is related to its utility and scarcity. Other supporters of the concept of value-in-use included writers such as Galiani, Turgot, Bentham, Cournot and Dupoit. Thus Jeremy Bentham's Felicific Calculus, which split pleasure and pain into small particles contains a law of diminishing returns: " ... the quantity

of happiness produced by a particle of wealth (each particle being of the same magnitude) will be less and less at every particle; the second will produce less than the first, the third less than the second and so on." (14)

It is of interest to note and account for the similarity in the theories of Menger, Walras and Jevons particularly since there was no contact between them until after they had published their writings. It has been claimed by some writers that the rise of marginal analysis might have been due in part to the influence of Catholicism as well as the influence of a revival of Kantianism. (15) However, both views have been adequately refuted (16) which leads Kauder to conclude that "during the nineteenth century philosophical, ethical, and religious forces did not any longer dominate the *development of marginal utility theory; the need for* a plausible value theory without contradictions guided the value theorists." (17)

The influence of utilitarianism on the rise of marginal utility theory has been far greater than the influence either of Catholicism or of the revival in Kantianism. The philosophy of utilitarianism was first put forward in the felicific calculus of Jeremy Bentham. According to Bentham, man is governed by sensations of pain and pleasure, by attempts to avoid the former and to attain the latter. The driving force of human action is to be found in this principle which also contains moral overtones. Thus in his Introduction to the Principles of Morals and Legislation , Bentham

has said that "Nature has placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do, as well as to determine what we shall do." [18] From this principle Bentham derived a law of diminishing utility that took into account the quantity of happiness resulting from small portions of wealth.

It is widely acknowledged that Bentham's influence is seen most clearly in the writings of *W. S. Jevons.* Jevons in fact, defined political economy as the mechanics of pleasure and pain. *However a surprising* feature is the negligible influence that Bentham had on the economic *theories of people such as* David Ricardo, James Mill and John Stuart Mill particularly since Ricardo and James Mill were Bentham's contemporaries and acquaintances. The matter is still more surprising since James Mill and John Stuart Mill integrated utilitarianism into their social philosophies but did not apply the felicific calculus to the theory of economic value. [19]

Myrdal has claimed that the philosophy of natural law and the doctrine of utilitarianism are two important factors to be taken into account in understanding the development of economic theory. [20] Thus, for example it was a logical step for Jevons, having discovered *the driving* force of human action in the hedonistic pleasure-seeking principle, to derive the *relationship between demand,* supply and price from a more fundamental relationship between pleasure and *pain and the means* at the disposal of the consumer. Value was thus seen as the consequence

of attempts by consumers to maximize the pleasure to be obtained from spending a given amount of wealth.

Although Myrdal's analysis of the influence of utilitarianism on the theory of marginal utility is supportable in the case of Jevons, the same cannot be said for Walras and Menger. Menger and Walras were not hedonists. Thus in his author's copy, Menger expressly rejected pain and pleasure as the only driving forces of human action.(21) However, although Menger rejected hedonism, he replaced pain and pleasure with something similar, namely self-interest. Thus although it cannot be said that Menger was directly influenced by utilitarianism, there are similar traces of determinism in his formulation. Instead of pleasure and pain constituting the driving forces of human action, Menger saw the ultimate aim of individual action, namely "the desire for the most complete satisfaction of needs possible (for the most complete covering of material needs possible)" as "one of the most original factors of economics ultimately given by the particular situation, independent of human choice." (22)

Subsequent marginal utility theory however, became more sophisticated as the deterministic element was diminished and the choices of acting individuals stressed. Thus for example, in his paper "Principles of Commodity Value" of 1884 Böhm-Bawerk included not only egoistical goals "but also everything which seems worth striving for." (23) Although Böhm-Bawerk later contradicted this principle of "neutral utility", it found favour with many writers who saw it as a useful way of theorising without

the need for philosophical and psychological concepts. Amongst these writers must be included Mises whose ideas on utility theory will later be examined.

We conclude therefore, that the factors which influenced the marginal utility theorists were many and varied but that too great an emphasis on any particular factor must be avoided. It seems reasonable to suggest as Kauder has said, that the overriding need that guided the value theorists was "for a plausible value theory without contradictions." (23a)

In this section, the rise of marginal utility theory has been examined as have some of the factors influencing the marginal utility theorists. For present purposes, the importance of the marginal revolution lies in the change of emphasis that it brought. Value was now seen as the direct result of the interaction of appraising minds and the acting human being was accordingly placed at the centre of the study of economics.

3. Beyond the Marginal Revolution

In this section two further developments in the application of subjectivism will be noted. First, a brief look will be taken at the subjectivist approach of Lord Robbins in his 1932 essay, An Essay on the Nature and Significance of Economic Science.(24) Secondly, the writings of some of the forerunners of Ludwig Von Mises will be examined with the aim of understanding how their formulations influenced Mises' praxeology. A full

discussion of the methodology of Mises is to be found in Chapter 4.

Definitions of economics prior to that of Robbins focussed on kinds of behaviour such as the materialist definition of economics which took into account those kinds of human behaviour relating to the accumulation of wealth. Robbins' conception on the other hand, "may be described as analytical. It does not attempt to pick out certain kinds of behaviours, but focusses attention on a particular aspect of behaviour; the form imposed by the influence of scarcity."[25] The subject-matter of economics is seen as that behaviour which involves the allocation of scarce means which have alternative uses among different ends. Therefore the significance of Robbins' definition lies in his conception of economics, not as the study of objectively defined wealth consisting of goods and services, but as the study of the consequences of a certain aspect of human behaviour in general, namely that involving the allocation of scarce means. In this way the scarcity of means and the choice of the acting individual is emphasized and economic theory is seen as a "series of deductions from the fundamental concept of scarcity of time and materials." [26] Thus, for example, the law of diminishing marginal utility is deduced from this basic postulate.[27] Robbins' definition is particularly suited to price theory which explains prices and quantities in terms of the consequences of the interaction of planning individuals acting within the constraints of a given situation.

In order to maintain the objective or wertfrei nature of economics, Robbins regarded the actor's ends as given. "Economics is entirely neutral between ends; that is, in so far as the achievement of any end is dependent on scarce means, it is germane to the preoccupations of the Economist. Economics is not concerned with ends as such. It assumes that human beings have ends in the sense that they have tendencies to conduct which can be defined and understood, and it asks how their progress towards their objectives is conditioned by the scarcity of means - how the disposal of scarce means is contingent on these ultimate valuations." (28) However in regarding ends as given, Robbins by-passed many of the most interesting problems in the social sciences in general and particularly in economics. The process of choosing, in an uncertain world and constructing plans embodying the purposes, means and obstacles of the individual, and the process of revising and modifying these plans in the light of new knowledge gained over time, is unfortunately ignored. (29) Yet it is precisely this feature of human action that must be understood in order to explain economic processes. (30) These features will be examined in greater detail in later Chapters.

Nevertheless, although Robbins did not examine the process of choosing and revising plans, his definition of economics does bring the acting individual into the centre of the economic stage. In order to account for economic phenomena, it is necessary to begin with the acting individual.

The writer who has perhaps been most uncompromising in carrying subjectivism to its logical conclusions is Ludwig von Mises. Mises' praxeology is examined in greater detail in Chapter 4. In this historical introduction however, the ideas of two of the forbears of Mises will be discussed, namely Croce and Max Weber. (31)

In his famous debate with Pareto, Croce insisted that an act is economic in so far as it is a consistent expression of human purpose. (32) Purposeful action aimed at the attainment of chosen goals constitutes the area of the economist's legitimate concern. Pareto, on the other hand, argued that economic theory should deal only with the consequences of human action as evident in economic variables, leaving the rest to the philosophers. The difference between Croce and Pareto is therefore to be found in their respective attitudes to teleology. Croce claimed that the "final cause" of economic phenomena is to be found in purposeful human action while Pareto held that the concept of purpose should have no place in economic theory.

The conflict between Croce's subjectivism and Pareto's formalism is echoed in many later methodological controversies. Thus those espousing the mathematical formulation of economic theory seek, as Pareto held all economists should, to understand the interrelationship between different economic variables as set out in the form of mathematical equations. This method, by its very nature, ignores the processes whereby the individual formulates and revises the plans which guide his actions.

Attention is thus focussed only on the interrelation of the economic phenomena which are the consequences of human action. Concepts such as purpose or plan are omitted entirely from this system which thus approximates more closely the method of the physical sciences. It was this view that Schumpeter put forward in 1908 [33] and which led Kirzner to comment that " ... the absence of man from Schumpeter's economics remains a classical feature. This effort to exempt, or rather interdict, the economist, qua economist, from investigating the behaviour of man as an economic agent stems from, or at least runs parallel to, Schumpeter's dream of replacing the concept of causality or purpose in economics by the type of relationship expressed by the mathematical function. Here Schumpeter's enthusiasm for the mathematical method in economics and for the physical sciences generally is undoubtedly responsible for his explicit rejection of teleology as in any way essential to the conception of economic phenomena. The category of purpose has no place in a positivist system from which all but fundamental relationships have been carefully exorcised."[34] [35] The problems that arise from Croce's subjectivism are discussed later in this thesis.

Max Weber regarded economics as a part of sociology. The latter he defined as "a science which attempts the interpretive understanding of social action in order thereby to arrive at a causal explanation of its course and effects. In 'action' is included all human behaviour

when and in so far as the acting individual attaches a subjective meaning to it. Action in this sense may be either overt or purely inward or subjective; it may consist of positive intervention in a situation, or of deliberately refraining from such intervention or of passively acquiescing in the situation. Action is social in so far as, by virtue of the subjective meaning attached to it by the acting individual (or individuals), it takes account of the behaviour of others and is thereby oriented in its course." (36)

Weber's concept of Verstehen has important implications for theoretical economics. In order to understand human action the social scientist must understand the meaning that individuals attach to their actions. To accomplish this task Weber enlisted the aid of the "ideal type" and his analysis consists of establishing the meaning that the acting individuals attach to their actions. Thus the concept of purpose and the plans made by the individuals are placed at the centre of an analysis of human action. It is this that makes the subject-matter of the social sciences inherently different from the natural sciences. (37) One can understand human action in a way that natural phenomena cannot be understood. This has often been confused by social scientists who have been impressed by the successes of the natural sciences. They "are apparently ashamed of the one thing that really distinguishes social sciences from natural sciences, namely the fact that the student of human action is himself an acting human being and therefore has at

his command a source of knowledge unavailable to the student of the phenomena of nature ... Social scientists labouring under the inferiority complex they have developed under the frustrating notion that the methods of the natural sciences are the only truly scientific ones ... mistake the prescription of scientific 'objectivity' for a prescription of 'subjectivism' - confusing 'subjective' in the sense of impartial with 'subjective' in the sense of cognizant of inner experiences."(38)

The use of Weber's method proves particularly useful in the field of marginal analysis where it yields a pragmatic interpretation instead of regarding "man as a pleasure machine." (39) A hedonistic interpretation of marginal utility implied a mechanistic explanation of human action and was soon rejected as inadequate by psychologists. And Myrdal has stressed the circular reasoning involved in hedonistic marginal utility theory: " ... this is the fundamental flaw of hedonistic theory. It presents an elaborate mechanistic system in which men are guided by sensations of pleasure and pain, which they associate with various courses of action, always maximizing net pleasure. The theory is claimed to be correct in the sense that anybody who acts in accordance with it acts as the theory claims he does." (40) A marginal utility theory based on "self interest" faces similar objections.

However by applying Weber's method, a pragmatic interpretation of marginal utility theory is possible which seems to overcome the problems inherent in a mechanistic explanation. Thus Weber asserts that the theory of

marginal utility is "not psychologically substantiated, but rather ... pragmatically, i.e. on the employment of the categories : ends and means." (41)

In a similar way, Mises states that the "law of marginal utility and decreasing marginal value is independent of Gossen's law of the saturation of wants (first law of Gossen). In treating marginal utility we deal neither with sensuous enjoyment nor with saturation and satiety. We do not transcend the sphere of praxeological reasoning in establishing the following definition: We call that employment of a unit of a homogeneous supply which a man makes if his supply is n units, but would not make, if other things being equal, his supply were only n - 1 units, the least urgent employment or the marginal employment, and the utility derived from it the marginal utility. In order to attain this knowledge we do not need any physiological or psychological experience, knowledge or reasoning. It follows necessarily from our assumptions that people act (choose) and that in the first case acting man has n units of a homogeneous supply and in the second case n - 1 units. Under these conditions no other result is thinkable. Our statement is formal and aprioristic and does not depend on any experience." (42)

It can be readily seen from Mises' statement that a clear line can be drawn between psychology and economics. While the former is concerned with <u>why</u> people behave as they do, that is, with motives, the latter assumes that people make plans which embody their purposes and which guide their actions and examines the consequences of these actions.

In this Chapter we have briefly surveyed the advances that have been made in economic theory as a result of a consistent application of subjectivism. Finally the subjectivist approaches of Croce, Max Weber and Mises were briefly looked at. (43) The subjectivist approach to economics is seen to consist in a process of deduction from the postulate that man acts within a particular situation and in acting must choose between different alternatives. Man acts because he prefers that situation which he expects will result from his actions to the situation that he expects will follow his inactivity. But although the economist is concerned with the purposes that guide human action, he is not concerned with the motives of human action. That concern he leaves to the psychologist.

However, when the acting man is placed at the centre of economic theory difficult problems arise. Man's actions are geared to the future: they are aimed at producing a future state of affairs. At each point in time the acting individual faces alternative action schemes between which he must choose in order to achieve his ends. His decision will be based on expectations as to the possible consequences of each action scheme. But these consequences, in a changing world cannot be known with certainty. At a later date, with the new knowledge gained from new experiences, the individual might decide that his previous decision, now looked at from an ex-post point of view, was wrong. That is, the individual is not in a position of equilibrium over time. Thus when attention is focussed in economic theory on the acting individual the importance of the

passage of time (and changing knowledge which is a function of time), of expectations and uncertainty, come to the fore.

These are difficult problems, to say the least, and it is not surprising that we find, in the history of economic thought, the development of "techniques" to overcome these troublesome matters. Thus "The static equilibrium systems of Walras and Pareto, the greatest achievement of neo-classical economics, contain both subjective and objective elements, tastes and quantities of resources. This is possible because of the timeless character of these systems. Once individuals have revealed their preferences, these become "data" like all others. Individuals are free to choose, but having once chosen they are not free to change their minds: there literally is "no time" for that." (44) In these systems *tastes*, a subjective phenomenon, are treated in the same way as objective phenomena such as resources and technical knowledge, as exogenous variables. But to do this is to do violence to the facts for tastes often change, and change in an unpredictable way. And when this happens there must accordingly be corresponding adjustments in the dependent variables. To talk of a *tendency* towards equilibrium in a situation like this we would have to assert that the "reaction velocities" of the dependent variables are such that the required adjustments take place before any new change in the independent variables occurs. It is impossible to see how such an assertion in any particular situation can be automatically made.

The matter becomes even more complicated when attempts are made to bring expectations within the realms of formal analysis. While we can at least *conceive* of tastes remaining

constant over time (although we cannot predict that they will do so) the same cannot be said regarding expectations, for expectations and change go hand in hand. Expectations refer to anticipations regarding future points in time and these anticipations are based on the experience of the actor. Since expectations always refer to a future and since over time the experience of the actor continues, expectations in a changing world, are themselves bound to change. But they change in unpredictable ways with the result that all attempts to classify them amongst the "data" of a formal system must be resisted.

In the same vein Shackle has drawn attention to the contrast between the method and the meaning of Keynes' theory. "Keynes' meaning was the precariousness and fragility of expectations, and the effect on men's decisions of their latent, and sometimes acknowledged, awareness of this instability. His method or formal frame was an equilibrium, a state of affairs where the net investment intended by one sector of society, the enterprisers, was equal to the saving intended by society as a whole." (45)

Thus although, as has been shown, some of the most important advances in economic thought have resulted from the application of subjectivism, there has at the same time been a tendency to side-step the most important implications of subjectivism. For, if changing expectations are to be brought into economic analysis, the price that must be paid is the accompanying element of unpredictability that is introduced. For with the passage of time, the knowledge and expectations of individuals will change in unpredictable ways. (46)

In Chapters 7 to 10 some consequences of these difficulties for economic theory are discussed.

CHAPTER 3

MENGER AND THE METHODENSTREIT

In the historical introduction some aspects of the development of classical economics were portrayed and the rise of the subjective theory of value was discussed. It was seen that during the middle of the nineteenth century disaffection grew with the inherited structure of classical economics. In Germany this disaffection was revealed in the rise of the Historical School of Economics. It was the ideas of this school that led Carl Menger in 1883 to write his book "Untersuchungen über die Methode der Socialwissenschaften und der Politischen Oekonomie insbesondere." (Leipzig, 1883). (1)

1. The Historical School

In Germany the Historical School of Economics attacked the methods of the classical economists and insisted that scientific economic theories should constitute the end-result of historical analysis. According to this school a genuine theory could only emerge as a result of a great deal of descriptive work done on past and present institutions and structures. Different periods of the historical school can be discerned and, to some extent, opinions changed in the different periods. Thus while the "older historical school" (consisting of people such

as W. Roscher, B. Hildebrand and K. Knies) believed that the only way to achieve an acceptable understanding of economic phenomena was through purely historical analysis, the "Younger Historical School" founded by Gustav Schmoller was more ready to concede the importance of analytical theory. The latter school "regarded historical study as the empirical approach to an eventual theoretical explanation of social institutions. Through the study of historical development it hoped to arrive at the development of social w oles, from which, in turn, could be deduced the historical necessities governing each phase of this development." (2)

The Younger Historical School believed economics to be an essential part of social analysis and insisted that economics could not be separated from an understanding of the rest of society. "Nothing in the social cosmos or chaos is really outside of Schmollerian economics." (3) It was this belief that led the members of the Younger Historical School to produce a great amount of descriptive information on institutions and structures and on different historical periods.

The Younger School also devoted itself to questions of social policy and Schmoller was instrumental in founding the Verein für Socialpolitik in 1872. This interest led the school to be designated as "professorial Socialism" (Kathedersozialismus). The members of the school strenously asserted their value judgments which they took for granted. It was his opposition to this tendency to expound value

judgments that later led Max Weber to call for a wertfrei social science. However, this "has obliterated the fact that their scientific credo was extremely critical of value judgments and of the practice of economists to identify themselves with political parties and to recommend measures." (4)

Menger, disturbed by the economic writings of the German Historical School, set out to defend the analytical method of the classical economists. In 1883 he wrote his Problems of Economics and Sociology after his Principles of Economics, (5) 1871, had received a cool reception at the hands of the Historical School. The Problems of Economics and Sociology was unfavourably reviewed by Gustav Schmoller, and Menger replied to this in 1884 in a brochure entitled The Errors of the Historical School in German Political Economy (Die Irrthümer des Historismus in der deutschen Nationalökonomie). Thus began the famous Methodenstreit, the conflict over the methods appropriate to the study of economics.

The aim of Problems of Economics and Sociology was to defend what Menger thought to be the proper function of economic theory against the doctrines of the Historical School. According to Menger, the proper function of theory is the reconstruction of the structure of social wholes from their elements by a method that Menger called the atomistic or compositive method. (6) Hayek, in elaborating upon this method has said that " ... the method of the social

sciences is best described as compositive or synthetic. It is the so-called wholes, the groups of elements which are structurally connected, which we learn to single out from the totality of observed phenomena only as a result to our systematic fitting together of the elements with familiar properties, and which we build up or reconstruct from the known properties of the elements." (7) The aim of economic theory, according to Menger, is to provide an understanding of the economic regularities that are to be observed in the real world, of the succession and coexistence of economic phenomena. The antitheses between the Younger Historical School and Menger were therefore "historical induction versus deduction, individualizing versus generalizing and descriptive economics versus economics that searches for laws and patterns." (8) However, it is generally conceded that Menger stood on much firmer ground that his opponents.

The rest of this section is devoted to an examination of some of the ideas put forward in Menger's Problems of Economics and Sociology. The conclusion contains an examination of Menger as a subjectivist.

2. Problems of Economics and Sociology.

Hayek has pointed out that there are three aspects to Menger's book.(9) In the first place there is Menger's attack on the Historical School referred to briefly above. Then there is Menger's exposition of the nature of

theoretical analysis. Lastly Menger develops an organic theory of the origin of institutions. This last aspect of Menger's book was put forward as an answer to the following question: "How can it be that institutions which serve the common welfare and are extremely significant for its development came into *being without a common* will directed toward establishing them?" (10)

The first aspect has been alluded to above. Menger's view of the nature of theoretical economic analysis is discussed in the remaining part of this section whereas the third aspect of Menger's book is discussed in the consideration of Menger as a subjectivist as well as in connection with his ideas on the origins of money.

In criticizing the Historical School, Menger draws the distinction between the "exact" and the "empirical-realistic" approach to social phenomena in general and to economics in particular. The exact approach refers to the analytical-deductive method which aims at making "us aware of the laws holding for an analytically or abstractly conceived economic world ..." (11) The analytical method therefore makes us aware of the regularities in the coexistence and succession of phenomena that exist in the real world by deducing conclusions from certain presuppositions. The presuppositions refer to an abstractly conceived economic world and may, therefore not be found in pure form in reality. As a result of this, Menger concedes, the predictions made by analytical economics might not

be completely accurate when applied to conditions in the real world; the predictions are "exact" only for the abstractly conceived economic world. Nonetheless, analytical economics does throw *light* on the real world because of the overriding importance of self-interest. This point will be elaborated upon *in greater detail later in a discussion of* Menger's view on self-interest.

The "empirical-realistic" approach, on the other hand, refers to the study of "individual (concrete) phenomena and their individual (concrete) relationships in time and space," [12] and includes the sciences of history and statistics.

Although the two methods are used together in the social sciences, the distinction between them must be kept clearly in mind. The approach adopted by each method in examining the effect of a change in demand on the price of a commodity may be used to illustrate the difference between the two methods. The "exact" method deduces from the following *presuppositions the* exact change in price that will result: " (1) that all the economic subjects considered here strive to protect *their economic interest fully; (2)* that in the price struggle they are not in error about the economic goal to be pursued nor about the pertinent measures for reaching it; (3) that the economic situation, as far as it is of influence on price formation, is not unknown to them. (4) that no external force impairing their economic freedom (the pursuit of their economic interests) is exerted on them." [13] The resulting change in price

can be exactly deduced from these presuppositions, that is, for this "abstractly conceived economic world." Menger concedes that in the real world influences excluded in the presuppositions, such as error, ignorance, interference with market forces and so on, do exist and will cause a deviation from the results predicted by the exact theory. Nevertheless exact theory provides us with an understanding of economic phenomena as a result of regularit in the coexistence and succession of phenomena that exis' in the real world. This regularity "is a fact which must probably be attributed to the circumstance that people in their economic efforts, even if not exclusively and without exception, nevertheless are predominently and regularly governed by their individual interests and on the whole and regularly recognize the latter correctly, even if not in all cases and absolutely."(14) This "fact" is recognized in the presuppositions of exact theory which have the effect of isolating the individual from the uncertainty and lack of knowledge that face him in the "real world". In spite of this isolation Menger considers that the results yielded by exact theory are of importance in understanding economic phenomena.

The realistic-empirical approach, on the other hand, in explaining the effects of an increase in demand "states that an increase in need as a rule is actually followed by one in real prices, and to be sure, an increase which as a rule stands in a certain relationship to the increase in need, even if this relationship by no

means can be determined in an exact way." (15) Thus "exact economics by nature has to make us aware of the laws holding for an analytically or abstractly conceived economic world, whereas empirical-realistic economics has to make us aware of the regularities in the succession and coexistence of the real phenomena of human economy (which, indeed, in their "full empirical reality" also contain numerous elements not emergent from an abstract economic world)" (16)

Menger concluded that the fault of the Historical School was that it felt that the historical method was capable of contributing to an advance of theoretical economics. This however, is not possible as the two methods are completely different.

A last point in connection with Menger's method must be made and this is his belief that the method appropriate to the exact orientation of economics is the same as that which is used in an "organic" explanation of social institutions which developed, not as a result of the common will, but as the unintended consequences of individual actions. The method is to reduce economic and social phenomena "to the individual factors of their causation, and by investigating the laws by which the complicated phenomena of human economy under discussion here are built up from these elements." (17) This approach has been called atomistic or compositive (18) by Menger himself and methodological individualism (19) by Schumpeter.

3. Menger as a Subjectivist

Having examined the historical background to Menger's Problems of Economics and Sociology and some of the fundamental ideas contained in this book, we turn now to the difficult task of assessing to what extent Menger can rightfully be called a subjectivist in the specific sense of the word used in this thesis. (20) In order to provide an answer to this question, Menger's views on the following topics will be examined: his explanation of the development of social institutions and the importance of self-interest in economic theory.

(a) The Development of Social Institutions.

In Book 3, Chapter 2, Menger differentiates between two types of institutions: those which came into being as the result of intended human action, for example as a result of legislation, and on the other hand, those institutions "which serve the common welfare and are extremely significant for its development but which come into being without a common will directed toward establishing them." (21) In Menger's terminology the second type of institution is of organic origin. The price system and the development of money (22) serve as examples of the latter type of institution. Although an analogy can be drawn between social institutions and natural organisms, Menger points to the limitations of this comparison. (23)

The conceptual distinction between these two types

of institutions is important for Menger since only the first type can be explained pragmatically. In other words, institutions which are the intended result of human action can be interpreted "by investigating the aims which in the concrete case have guided the social unions, or their rulers, in the establishment and advancement of the social phenomena under discussion here. We investigate the aids which have been at their d'eposal in this case, the obstacles which have worked against the creation and development of those social structures, the way and manner in which the available aids were used for establishing them. We fulfil this task so much the more perfectly the more we examine the ultimate real aims of the active subjects on the one hand, and the most original means which they had at their command on the other, and the more we come to understand the social phenomena referring back to a pragmatic origin as links in a chain of regulations for the realization of the above aims." (24)

However, social structures such as law, language, the state and markets, that is, structures which are the unintended consequences of human action, cannot be interpreted in the same way as institutions of the first type. Rather they must be understood "by reducing them to their elements, to the individual factors of their causation, and by investigating the laws by which the complicated phenomena of human economy under discussion here are built up from these elements." (25) Thus in order to understand that

phenomenon referred to as the price system the theorist must explain the attempts of many individuals to attain the purposes set out in the plans that guide their actions. Menger thus suggests that the "atomistic" method, which is the method appropriate to the "exact" orientation of theoretical economics, is also appropriate to an understanding of social institutions of the second type.

Having examined Menger's explanation of institutions it may be questioned whether Menger's clear-cut distinction between institutions of the first and second type has served to obscure the important similarity between them. This is not to argue that the difference does not exist or is not important. In the first case the social institution is the direct result of action oriented to the attainment of plans, for example, plans of legislators might lead to the origin of a new institution. The second type of institution, on the other hand, is the indrect result of human action to be sure, but its ultimate cause is the purposeful action of individuals. Thus in order to understand both kinds of institutions it is necessary to explain them by deducing them from the plans of individuals. The important similarity between the two types of institutions could perhaps have been emphasized more strongly.

(b) The Importance of Self-Interest

Book 1, Chapter 7 entitled "The Dogma of Self-Interest in Theoretical Economics and its Position in Relation to the Theoretical Problems of the Latter" is, for the purposes to be considered here, one of the most interesting in the book. In this chapter Menger considers a criticism of the Historical School regarding the role of self-interest in theoretical economics. The essence of this argument of the members of the Historical School is that the assumption of self-interest that lies at the heart of economic theory is unrealistic. In the real world factors such as public spirit, the force of custom etc. are also important and should be taken into account. If these factors are to be acknowledged as important, these critics argue, then the results predicted by an economic theory based on the assumption of self-interest might not occur in reality. We should therefore reject the principle that "humans truly are guided in their economic activity exclusively by consideration of their individual interests." (26)

In answering these critics Menger supplies them with additional ammunition. For, he argues, why is the attack of unrealism confined to the "dogma of self-interest"? The Historical School could just as well criticize the other presuppositions of economic theory such as the assumption of non-interference with the forces of the market. We all know that in reality this interference does exist.

Menger also points out that by focussing on error

and ignorance the Historical School could point to the same indeterminancy that must apply to the conclusions of theoretical economics. And it must be accepted that ignorance and error are important factors in the real world. As Menger put it: "Even if economic humans always and everywhere let themselves be guided exclusively by their self-interest, the strict regularity of economic phenomena would nonetheless have to be considered impossible because of the fact given by experience that in innumerable cases they are in error about their economic interest, or in ignorance of the economic state of affairs ... The presupposition of a strict regularity of economic phenomena, and with this of a theoretical economics in the multiple meaning of the word, is not only the dogma of ever-constant self-interest, but also the dogma of the 'infallibility' and 'omniscience' of humans in economic matters." (27)

In support of theoretical economics Menger states that the aim of the exact orientation of economics is to reduce "human phenomena to the expressions of the most original and the most general forces and impulses of human nature." (28) This is not to deny the existence of other important factors including ignorance and error; it is to recognize that "among human impulses that which impels each individual to strive for his well-being is by far the most common and most powerful." (29) Menger concludes, therefore, that an "understanding of one of the most important sides of human life" that is an understanding of economic phenomena, can be obtained with a theory that examines the consequences of the

attempts to provide for material needs, a theory that assumes "the free play of that powerful economic impulse, *self-interest* uninfluenced by other impulses and other considerations (particularly error or ignorance)".[30] Such "a theory simply must provide us with a certain understanding."[31]

What conclusion can be drawn from Menger's views on the development of social institutions and on the role of self-interest in economics? It is interesting to note that Menger recognizes the importance in the real world of the difficulties that face the acting individual such as error, ignorance and so on and he realizes that in reality strict regularities may not occur as a result of "the freedom of the human will".[32] If the will is free then at any point in time the individual actor might "change his mind" and therefore act in an unforeseen way. In recognizing ignorance and error Menger points to the fact that the world changes in an unexpected way. For if ours were a stationary world then ignorance and error would disappear over time. These are important matters and will, indeed, be the concern of the rest of this thesis.

The crucial question, however, which must be answered in deciding whether Menger may be regarded as a subjectivist (or, in Mises' terminology, a praxeologist) or not, relates to his view regarding the determinants of human action. Does Menger see men as being free to follow their own chosen goals within a given situation, or does he see human action as being, in some sense, determined? Menger can legitimately be referred to

as a subjectivist only if his view is consistent with the former. It is to this question that we must now turn.

We have already seen that in his explanation of social institutions of the first type, that is, institutions that are the intended consequences of human action, Menger holds that "the ultimate real aims of the active subjects on the one hand, and the most original means which they had their command on the other," [33] must be examined. Institutions of the second type on the other hand, such as market prices, wages and interest rates are "the unintended result of innumerable efforts of economic subjects pursuing individual interests", [34] that is, they are "the unintended social results of individually teleological factors." [35] Does Menger see these actions as being in any way determined?

It is in attempting to answer this question that we become aware of a certain ambiguity in Menger's writing. On the one hand the notion of individuals pursuing their own ultimate aims and interests seems to be free of any determinism. But on the other hand there are parts in the book where Menger suggests that all economic action is determined by the desire to satisfy determined needs which desire itself is "ultimately given" and is "independent of human choice." At a fairly early part of the book (on Page 63) Menger says that "the most original factors of human economy are the needs, the goods offered directly to humans by nature (both the consumption goods and the means of production concerned), and the desire for the most complete satisfaction of needs possible (for the most complete covering of

material needs possible). All these factors are ultimately given by the particular situation, independent of human choice. The starting point and the goal of all economy (need and available quantity of goods on the one hand and the possible completeness of satisfaction of the material needs on the other) are ultimately given to the economic human, strictly determined in respect to their nature and their measure." (38) Similar ideas are expressed in Appendix VI entitled "The Starting Point and the Goal of all Human Economy are Strictly Determined". (p.p. 216-219)

It is these ambiguities that necessitate a guarded answer to the question regarding whether Menger can be regarded as a subjectivist. We accordingly conclude that although Menger's approach was a subjectivist approach in so far as it advocated that economic phenomena must be explained by being deduced from the actions of individuals (Menger's atomistic or compositive approach), there are other passages in his book which lead us to suspect that the voluntaristic nature of human action, an essential part of the subjectivist approach to economic theory, is overlooked in favour of a more deterministic view.

In order to further clarify the subjectivist explanation of the development of social institutions we turn now to a brief examination of the origins of money.

The Origins of Money.

It is widely acknowledged that the development of money can be traced to attempts to reduce the costs of conducting exchange transactions.[37] In this way the gradual use of one commodity in a system that was originally characterized by barter can be explained. The development of a metallic currency and later a credit system with such features as credit cards, Giro, cheques etc. can be similarly explained. To say that the credit system developed because it enabled costs to be reduced is to say that individuals desired to reduce costs in order to achieve their chosen purposes more effectively. But this does not mean that the individuals concerned are aware of the consequences of their attempts to do as well in the market as they can. As Schneider has put it: "Unanticipated consequences of purposive individual actions can ultimately build into massive structures - 'a world we never made' - whose 'atomistic' origins and derivations, as Menger might say, are quite unknown to individual actors."[38] It is now intended to show how the medium of exchange developed within the framework of a barter economy in order to illustrate the unintended consequences of specific purposive actions of individuals.

Barter begins in a society when individuals exchange their surplus of goods, that is the amount of goods over and above that required to satisfy their own needs, for other goods that they desire. The

individual exchanges his goods for others for which he has a direct want. However, over time certain individuals observe that there is a more stable demand in the market for some goods than there is for others. These goods fulfil a very general need and this accounts for the stability in their demand. Those who notice this event, provided they feel that the stable demand will continue at least in the short run, will be prepared to exchange their goods for these latter goods. These goods will then be exchanged at some later stage in order to obtain the various goods that the individual wanted. Individuals thus began exchanging their goods for goods which they did not want directly but which were more marketable. Thus although the individual did not obtain the final goal of his planned operation (the obtaining of the goods that he needed) he nevertheless approached it by acquiring a marketable good that could then relatively easily be exchanged for the goods that he desired. Although two transactions were required in order to obtain the desired good, the cost involved was reduced as compared to the barter situation as a result of the problem of a double coincidence of wants being overcome.

At first "the indirect demand for goods with a stable demand was exercised by the most perspicacious and ablest economic subjects for their own advantage," (39) but with time the success of the practice spread and the medium of exchange became gradually more acceptable. (40) In this way money developed from the attempts of individuals to do as well as they can in the market.

CHAPTER 4

THE METHODOLOGY OF LUDWIG VON MISES

1. Introduction

Menger was fortunate to have two students in particular who continued his work and by continually referring back to him in their writings, helped to found the "Austrian School" of Economics. They were Bühm-Bawerk and Wieser. It was these followers of Menger who taught the young Ludwig Von Mises. In this section some of the main methodological tenets of Mises' writings will be analysed.

2. Praxeology

Mises, who was strongly opposed to the doctrines of positivism, set forward his own methodology of purely logical deduction from self-evident ("a priori") axioms. This approach he referred to as praxeology. "Praxeology is a theoretical and systematic, not a historical, science. Its scope is human action as such, irrespective of all environmental, accidental, and individual circumstances of the concrete acts. Its cognition is purely formal and general without reference to the material content and the particular features of the actual case. It aims at knowledge valid for all instances in which the conditions exactly correspond to those implied in its assumptions and inferences.

Its statements and propositions are not derived from experience. They are, like those of logic and mathematics, a priori. They are not subject to verification or falsification on the ground of experience and facts. They are both logically and temporally antecedent to any comprehension of historical facts. They are a necessary requirement of any intellectual grasp of historical events. Without them we should not be able to see in the course of events anything else than kaleidoscopic change or chaotic muddle."(1)

What are the self-evident ("a priori") axioms referred to by Mises? "The starting point of all praxeological thinking is not arbitrarily chosen axioms, but a self-evident proposition, fully, clearly and necessarily present in every human mind. An unbridgeable gulf separates those animals in whose minds this cognition is present from those in whose minds it is not fully and clearly present. The characteristic feature of man is precisely that he consciously acts. Man is Homo Agens, the acting animal ... To act means: to strive after ends, that is, to choose a goal and to resort to means in order to attain the goal sought." (2) This axiom is self-evident in that it is not a precipitate of experience and cannot possibly be refuted. "Experience tells us something we did not know before and could not learn but for having the experience. But the characteristic feature of a priori knowledge is that we cannot think of the truth of its negation or of something that would be at variance with it." (3)

In order to explain a particular situation the praxeologist introduces certain assumptions into the chain of his praxeological reasoning concerning the actual conditions within which human action takes place. He then "tries to find out how these special conditions affect the result to which his reasoning must lead. The question of whether or not the real conditions of the external world correspond to these assumptions is to be answered by experience." (4)

Mises contends that it is not possible to test the conclusions derived from the praxeological reasoning as the following quotation clearly shows. (This will be discussed in more detail below.) "The experience with which the sciences of human action have to deal is always an experience of complex phenomena. No laboratory experiments can be performed with regard to human action. We are never in a position to observe the change in one element only, all other conditions of the event being equal to a case in which the element concerned did not change. Historical experience as an experience of complex phenomena does not provide us with facts in the sense in which the natural sciences employ this term to signify isolated events tested in experiments. The information conveyed by historical experience cannot be used as building material for the construction of theories and the prediction of future events. Every historical experience is open to various interpretations, and is in fact interpreted in different ways ... It is impossible to reform the sciences of human action

according to the pattern of physics and the other natural sciences. There is no means to establish an a posteriori theory of human conduct and social events. History can neither prove nor disprove any general statement in the manner in which the natural sciences accept or reject an hypothesis on the ground of laboratory experiments. Neither experimental verification nor experimental falsification of a general proposition are possible in this field. Complex phenomena in the production of which various causal chains are interlaced cannot test any theory. Such phenomena, on the contrary, become intelligible only through an interpretation in terms of theories previously developed from other sources." [5] (i.e. from praxeological reasoning.)

As this quotation shows, there are two separate points that must be distinguished. On the one hand it is held that in the field of human action historical evidence cannot refute a theory in the same way as it can in the field of the natural sciences. On the other hand, and this is a separate point, it is held that historical experience cannot at all refute theories dealing with human action. Indeed, historical experience appears as "kaleidoscopic change and chaotic muddle" [6] in the absence of praxeological reasoning which enables us to understand these events. It is important to differentiate between these two points. Thus elsewhere Mises concludes that "There is no means to expose a faulty theory other than to refute it by discursive reasoning or to substitute a better theory for it." [7]

3. Some Reflections on Praxeology

The method proposed by Mises and outlined above has led one writer to refer to Mises as "An outstanding example of an economist who does not attempt to confirm his theory either via direct confirmation of the postulates or via indirect confirmation through verification of deductively derived theorems." [8] The writer concludes that "Mises' a prioristic position coupled with the complete lack of any traces of confirmation procedures must needs lead us to the conclusion that his system is empirically irrelevant." [9]

As one would expect, Mises clashes with Popper who holds that scientific statements are those which are, in principle, conceptually refutable. Scientific hypotheses, according to Popper, must be dropped when experimentation shows that they are incompatible with the observed facts of experience. Mises agrees that "The positivist principle of verifiability as rectified by Popper is unassailable as an epistemological principle of the natural sciences" but holds that "it is meaningless when applied to anything about which the natural sciences cannot supply any information" [10] that is, when applied to the field of human action. "There are in this orbit no such things as experimentally established facts. All experience in this field is, as must be repeated again and again, historical experience, that is, experience of complex phenomena. Such an experience can never produce something having the logical character of what the natural sciences call facts of experience!" [11]

In this connection there are several points that must be made. To begin with it must be noted that Papandreou's comments are not entirely accurate. It is not true to say that there is a "complete lack of any traces of confirmation procedures" in the methodology proposed by Mises. It has been noted above that Mises claims that the test of experience must be used in order to decide on "whether or not the real conditions of the external world correspond to these supplementary assumptions." (12) Nevertheless it is true that this is the full extent of the empirical content of Mises' approach.

In commenting on Mises' disagreement with Popper it is incidentally noted that this point of view of Mises is also in conflict with the later view of Hayek. As will be shown in the next chapter, Hayek has moved from a position near to that of Mises to a new position much nearer to Karl Popper.

In commenting on the limited empirical content of Mises' methodology the following points must be made. In the first place, it is difficult to see why the conclusions of praxeological reasoning cannot be tested against the evidence. Of course it must be admitted that the hypotheses of theories in the social sciences cannot be tested <u>in the same way</u> as those in the natural sciences. Prediction and control is not possible in the same way as it is in some of the natural sciences. (13) This is widely acknowledged by most writers who have concerned themselves with the methodology of the social sciences.

But this does not mean that the facts cannot be used at all in order to test the conclusions of theories in the *social* sciences. (14) Nor is it consistent for Mises to contend, as he does, that the facts (complex historical phenomena) are too complex to allow for this testing. This cannot be accepted since Mises *himself* has said that experience must be used in deciding whether particular supplementary assumptions may be admitted into the explanation of a particular situation or not. In deciding whether these assumptions correspond to the "real conditions of the external world" it is necessary to be able to compare the conditions with the assumptions. But if this can be done, as Mises says it can, then why cannot the conclusions of praxeological reasoning be compared with the observed facts? For this reason it is concluded that it is possible to test the conclusions of theories in the *social* sciences. Therefore, there are not just two alternatives with regard to the conclusions of praxeological analysis as Mises suggests there are. Mises has held that "either one can unmask logical errors in the chain of the deductions which produced these results, or one must acknowledge their correctness and validity." (15) There is another possibility, namely that the conclusion can be tested against the facts. (16)

However, there is one reservation that must be made regarding the above conclusion. Although the conclusions derived from hypotheses in theories of the *social* sciences may be confirmed (that is, not refuted) this does not enable us to conclude that these

hypotheses will necessarily hold (that is, be confirmed) at a later date. Over time social phenomena might change in an unpredictable way as the knowledge of the individuals concerned changes. Thus although historical social phenomena might confirm a hypothesis at a given point in time there is no logical reason why they should do so again in the future. (17) In the social sciences there is no equivalent of the "continuity of environment" axiom in the natural sciences. Thus the purpose of testing a theory is to have an additional check on the extent to which that theory is capable of explaining a given (historical) social situation. Theories in the social sciences cannot logically inform us about what will happen in the future. They can only tell us what will happen if conditions remain the same as postulated in the assumptions of the theory. This matter is discussed in greater detail in Chapter 10.

4. Some Further Consequences of Mises' Praxeology

a. Laws in Economics: While Mises points to the fact that laws have been established in the natural sciences and acknowledges the importance of this for human action, he denies that this regularity characterizes the world of human action. As Mises put it: "The methods of the natural sciences cannot be applied to human behaviour because this behaviour, apart from what qualifies it as human action and as studied by the a priori science of praxeology, lacks the peculiarity that characterizes events in the field of the natural sciences, viz., regularity." (18)

Mises therefore criticizes those who put forward so-called statistical laws as failing to differentiate slow change from absence of change. Statistics refer, by definition, to past events but these events can, and do, change with the passage of time.

We note, therefore, an important difference between the methods of Mises and Menger. While Mises rejects that regularity exists in the world of human action, Menger, as is shown above, (19) holds that the regularity to be observed in the coexistence and succession of social phenomena is due to the importance of the motive of self-interest.

b. Time and Uncertainty in Economics: The final causes of social phenomena are to be found in the ideas, thoughts and consequent actions of individuals. Reduction beyond this point is not possible. But human action is oriented toward the future which is uncertain. The expectations of acting humans may be confirmed or contradicted with the passing of time. Thus valuations and ideas might have to be modified and changed as the future becomes the present and additional knowledge is acquired.

As Mises puts it: "Action is always directed toward the future; it is essentially and necessarily always a planning and acting for a better future ... The uneasiness that impels a man to act is caused by a dissatisfaction with expected future conditions as they would probably develop if nothing were done to alter them." (20)

c. Praxeology and the Future: Can praxeological reasoning yield knowledge about the future actions of individuals? The *a priori* of praxeological thinking is that man acts consciously. Social phenomena can be reduced as far as the ideas and thoughts which guide human action but no further. Man thinks within an environment which influences him and which consists also of other people. Nothing can as yet be said about the exact nature of this influence. It therefore follows that the future ideas and thoughts of man cannot be foreseen. Future human phenomena and the results thereof, therefore, cannot be predicted. This is not to deny that in fact there is often regularity in the human world, and the ideas which inspire people today often continue to inspire them tomorrow. But this is not necessarily so as the history of thought in any discipline shows. "New ideas do not originate in an ideological vacuum. They are called forth by the previously existing ideological structure; they are the response offered by a man's mind to the ideas developed by his predecessors. But it is an arbitary surmise to assume that they were bound to come and that if A had not generated them, a certain B or C would have performed the job." (21)

However, the impossibility of predicting future social events does not exclude the possibility of what may be referred to as a negative prediction. We can say that at any time in the future A and B cannot exist together where the existence of A logically precludes

the existence of B. Thus it can be said that where the plans of different individuals or groups of individuals are inconsistent then the plans of at least one individual or group will be frustrated and will have to be subsequently revised. But of course nothing can be said about the content of the revised plans.

d. Praxeology and Psychology: Praxeology must be distinguished from psychology. The former is concerned with purposeful action while psychology deals with an explanation of why people behave the way they do and therefore with the motivations of human action. According to Mises " ... rationalism, praxeology and economics do not deal with the ultimate springs and goals of action, but with the means applied for the attainment of an end sought. However unfathomable the depths may be from which an impulse or instinct emerges, the means which man chooses for its satisfaction are determined by a rational consideration of expense and success." (22)

e. Knowledge of the Minds of Other People: "The categories of value and of action are primary and a prioristic elements present to every human mind ... Only because we are aware of these categories do we know what meaning means and have a key to interpret other people's activities." (23) We are able to understand the actions of other people because we ourselves are acting human beings. Some of the many problems raised by this "radically subjective" approach are

discussed in the next section in connection with the same point made by Hayek.

5. Conclusion.

A great insight in the writings of Mises is that human action can be interpreted "as the products of plans, as manifestations of a directing and controlling mind. Looked at in this way all human action has a logical structure. There is therefore such a thing as a logic of action closely linked to the logic of our thought. We act by virtue of the fact that we think before." (24)

CHAPTER 5

HAYEK'S APPROACH TO THE PHILOSOPHY OF THE SOCIAL SCIENCES

1. Introduction

This section on Hayek is written with reference mainly to the following two essays: Degrees of Explanation, 1955, and The Theory of Complex Phenomena, 1964.(1) The reason for this is that although the ideas elaborated in these essays have received some treatment in Hayek's earlier writings,(2) there are many new ideas that emerge only in these later writings.

It will be noted in this section that Hayek has been greatly influenced by the writings of Karl Popper. As a result of this influence, Hayek, who earlier denounced the intrusions of the methods of the natural sciences into the social sciences (which he referred to as 'scientism'; later claimed that the differences are not that great. As he says in the preface to Studies in Philosophy Politics and Economics: "Readers of some of my earlier writings may notice a slight change in the tone of my discussion of the attitude which I then called 'scientism': The reason for this is that Sir Karl Popper has taught me that natural scientists did not really do what most of them not only told us that they did but also urged the representatives of other disciplines to imitate.

The difference between the two groups of disciplines has thereby been greatly narrowed and I keep up the argument only because so many social scientists are still trying to imitate what they wrongly believe to be the methods of the natural sciences. The intellectual debt which I owe to this old friend for *having taught me this is* but one of many ..."[3] Popper himself refers to this statement in his contribution to the essays in honour of Hayek.[4]

2. Complex Phenomena

Popper has argued that the scientific method is hypothetical-deductive. Scientific prediction proceeds by the specification of "hypotheses" or "natural laws" and initial situations including the knowledge of the actor/s concerned, from which prognoses are derived. The prognoses are then confronted with observable facts in order to attempt to refute the hypotheses *from which they* are deduced. The body of scientific knowledge consists of those hypotheses that have not been *refuted. In other words*, the scientific method, it is claimed, consists in explaining the known by the unknown. "What is meant by this apparent paradox is that the advance of knowledge consists in the formulation of new statements which often refer to events which cannot be directly observed and from which, in combination with other statements about particulars, we can derive statements capable

of disproof by observation." (5)

In assessing the applicability of this method a distinction must be drawn between what Hayek refers to as "simple phenomena" and "complex phenomena." Simple phenomena, for example the phenomena studied by physics, refer to those phenomena "where the number of significantly connected variables of different kinds is sufficiently small to enable us to study them as if they formed a closed system for which we can observe and control all the determining factors." (6) In dealing with complex phenomena, on the other hand, the scientist deals with a complicated interaction between a large number of variables. Complex phenomena are to be found both in the field of the natural sciences and the social sciences. The subject matter of some of the biological sciences serve as an example of complex phenomena in the natural sciences. In dealing with complex phenomena, Hayek contends, a different approach is required. Since in these situations observation discloses only limited regularities "we usually ask to what extent our existing knowledge of the forces at work, or of the properties of some of the elements of the complex, may account for what we observe. We endeavour to find out whether this may be derived by deduction from what we know about the behaviour under simpler conditions of some of the factors involved." (7) In other words, in dealing with complex phenomena we proceed from the known to the unknown instead of

the other way around.

The difficulties inherent in this approach are stressed by Hayek: "we can never be certain that what we know about the action of those forces under simpler conditions will apply to more complex situations, and we will have no direct way of testing this assumption, since our difficulty is precisely that we are unable to ascertain by observation the presence and specific arrangement of the multiplicity of factors which form the starting point of our deductive reasoning."[8] Thus the scientist who studies complex phenomena does not invent new hypotheses but rather selects certain hypotheses from what is already known to him about the elements of the phenomenon concerned. These known hypotheses are used in the model in order to deduce the conclusions that follow.

The problem of deriving hypotheses or assumptions for use in a theory of complex phenomena has already been referred to by Hayek in 1937 in Economics and Knowledge.[9] In this article Hayek states that the assumptions from which the Pure Logic of Choice starts (the assumptions corresponding to the a priori assumptions made by Mises namely, that man's actions are purposive)"are facts which we know to be common to all human thought." However, Hayek claims in this article, in order to explain social processes, it is necessary to introduce subsidiary hypotheses or assumptions. These hypotheses, which must be selected from the infinite variety of possible situations, "concern the relation of the thought of an individual to the outside world, the question to what extent and how his knowledge

corresponds to the external facts. And the hypotheses must necessarily run in terms of assertions about causal connections, about how experience creates knowledge." (10)

It is not necessary to emphasize the difficulty of the task that requires, in order to introduce subsidiary *hypotheses*, an explanation of the causal connection between experience and knowledge. Indeed, one might wonder whether it is at all possible to say anything of significance about *this complicated matter. It* is the difficulty of stating precisely how experience influences the knowledge of different people and therefore their thoughts and ideas which, as is shown above, led Mises to conclude that the latter constitutes the "final cause" of historical events and are therefore incapable of being reduced any further. As Hayek correctly points out in this article, the assumption *of a tendency towards equilibrium* does make implicit assumptions about the relationship between knowledge and experience, but it must be questioned as to how much can be known about *this* complex *relationship*. In his later formulation Hayek acknowledges the difficulty by pointing out that social phenomena are complex and that therefore, since the scientist cannot adequately specify the hypotheses and initial situations to be incorporated in the model, he must proceed from the partial knowledge of the phenomenon that is available to him. It is this method that Hayek calls "explanation of *the principle*."

Whereas the theories of simple phenomena, for example mechanics, yield specific predictions, the theories of complex phenomena predict that *a* pattern *of a certain kind* will appear in defined circumstances. Nevertheless this prediction, since it states at the same time the patterns that will not appear, is falsifiable and is therefore an empirical statement. Hayek emphasizes that the nature of complex phenomena is such that specific predictions cannot be made. It is therefore incorrect to attribute this fact to the undeveloped nature of the sciences concerned. In the field of the social sciences, for example, "individual events regularly depend on so many concrete circumstances that we shall never in fact be in a position to ascertain them all; and ... in consequence not only the ideal of prediction and control must largely remain beyond our reach, but also the hope remain illusory that we can discover by observation regular connections between the individual events. The very insight which theory provides, for example, that almost any event in the course of a man's life may have some effect on almost any of his future actions, makes it impossible that we translate our theoretical knowledge into predictions of specific events."(11)

Thus the sciences of complex phenomena, which aim at explaining *regularities in these phenomena*, can only yield predictions about general patterns that will appear under certain general conditions. It is not possible to predict specific events that will occur at

a particular time and place such as the prices and quantities of all the goods and services available in the economy. Nevertheless "Predictions of a pattern are ... both testable and valuable. Since the theory tells us under which general conditions a pattern of this sort will form itself, it will enable us to create such conditions and to observe whether a pattern of the kind predicted will appear. And since the theory tells us that this pattern assures a maximization of output in a certain sense., it also enables us to create the general conditions which will assure such a maximization, though we are ignorant of many of the particular circumstances which will determine the pattern that will appear." (12)

It is evident from this last statement as well as from other statements made elsewhere,(13) that Hayek holds that a theory of complex phenomena whose predictions of general patterns have not been contradicted by observation, does provide knowledge about the future. It is thus suggested, as the last footnote clearly shows, that the theories of complex phenomena whose hypotheses have not been refuted, can serve to reduce the uncertainty with which human action must contend. The acting human being is provided with the information that certain social eventualities are not possible. If theories can provide this useful function then their importance in a study of human action cannot be underrated. Mises has shown that the acting human can be informed of the consequences of some of his

actions by the knowledge provided by the natural sciences. If the social sciences can provide a similar service, even though their predictions are of a more general nature and not specific as are the predictions of the natural sciences, then human action becomes easier in that certain social consequences can, at the outset, be excluded. Social theories accordingly fulfil a purpose similar to that of institutions which also increase the certainty with which human decisions are taken. (14) However, since Hayek's theory is being considered here, comment on these important implications is reserved for the critical reflections on Hayek's theory later.

3. Hayek and Mises

Having examined Hayek's approach to complex phenomena in general and to the social sciences in particular, a few words may be said about some of the differences between the method suggested by Hayek and that suggested by Mises. The latter, as has been shown, regards economics as a kind of logic. According to Mises, economics consists of deductions from a priori assumptions which cannot be refuted. In explaining a particular situation subsidiary assumptions must be incorporated into the chain of praxeological reasoning and conclusions are then derived. If there has been no fault in the deductive chain and if the subsidiary assumptions correspond to the situation that is to be explained, then the conclusion must be correct. Mises

(in fact in his argument against Popper) claims that in the sciences of human action there are "no such things as experimentally established facts. All experience in this field is, as must be repeated again and again, historical experience, that is experience of complex phenomena. Such an experience can never produce something having the logical character of what the natural sciences call facts of experience." (15) Mises thus claims that in the social sciences it is not possible to confront the conclusions of praxeological reasoning with the facts of the situation. This is not possible because these facts consist of a complicated interrelationship between a large number of variables. Mises thus concludes that there is no way in which a theory can be refuted if the assumptions and the chain of deductive reasoning are correct. "There is no means to expose a faulty theory other than to refute it by discursive reasoning and to substitute a better theory for it." (16)

(It has been noted that although Mises rejects that the conclusions of a praxeological theory can be tested by confronting them with the particular facts of the situation he nevertheless holds that "experience" must be used as the criterion in deciding whether the subsidiary assumptions, introduced into the praxeological reasoning, are valid or not.)

On the other hand it has been shown that Hayek's analysis depends to a far greater degree on empirical observation. While for Mises the criterion according

to which the subsidiary assumptions are admitted into the praxeological reasoning provides the only link between economic theory and empirical observation, for Hayek observation plays a far more important role. According to the latter, the general patterns that are predicted by the economic theories must be subjected to empirical testing. If general patterns are predicted this will imply that other patterns will not be observed; if they are observed, then the theory is taken to be refuted. If the theory is not refuted then it will provide useful knowledge about the future. (17) Hayek points out that since theories of complex phenomena yield only general predictions, it is difficult to eliminate inferior theories. Although this difficulty is acknowledged by Hayek he contends that it is essential in all cases to try to refute the theory. Mises on the other hand, as has been seen, believes that this possibility is not open to the social sciences because of the complex nature of their subject matter.

Another interesting difference between Mises and Hayek is the approach taken by each regarding the determinism of human action. According to Mises, future social phenomena cannot be predicted because these phenomena depend on the actions of individuals which, in turn, are dependent upon the thoughts and ideas of the same individuals. Mises acknowledges that the ideas, thoughts and values of individuals are influenced by the particular social milieu including the ideas of other individuals. Nevertheless the exact nature of this influence cannot

be stipulated and therefore it is not possible to predict future human action. Accordingly Mises rejects the behaviourist explanation of human action conceived as a response to an existing stimulus situation, and he also rejects the "materialist" explanation of human behaviour whereby all behaviour has physical causes. "Every individual is born into a definite social and natural milieu ... An individual is at any instant of his life the product of all the experiences to which his ancestors were exposed plus those to which he himself has so far been exposed ... He is imbued with definite religious, philosophical, metaphysical, and political ideas, which he sometimes enlarges or modifies by his own thinking." (18) However, when we say that the value judgments, thoughts and ideas of the individual are ultimately given facts we are saying that "We do not know why and how definite conditions of the external world cause in a human mind a definite reaction. We do not know why different people and the same people at various instants of their lives react differently to the same external stimuli. We cannot discover the necessary connection between an external event and the ideas it produces within the human mind." (19)

Hayek arrives at the same conclusion, namely the impossibility of predicting human action, but via a different route. Hayek argues that even if we were to accept the principle of universal determinism, exact prediction would still not be possible because of the complex nature of human action. "Even if the assertion

of a universal determinism were meaningful, scarcely any of the conclusions usually derived from it will therefore follow ... we may, for instance, well be able to establish that every single action of a human being is the necessary result of the inherited structure of his body (particularly of its nervous system) and of *all the external influences which have acted upon it since* birth. We might even be able to go further and assert that if the most important of these factors were in a particular case very much the same as with most other individuals, a particular class of influences will have a certain kind of effect. But this would be an empirical generalization based on a ceteris paribus assumption which we could not verify in the particular instance. The chief fact would continue to be, in spite of our knowledge of the principle on which the human mind works, that we should not be able to state the full set of particular facts which brought it about that the individual did a particular thing at a particular time." (20)

It is thus not possible to predict specific individual actions at a specific time even if human action were mechanically determined. The nature of the determinism is so complex *that the prediction of human action remains* impossible. The actions of the individual at time t might therefore be entirely different to his actions at *either* t - 1 or t + 1. The statement that the individual will act in exactly the same way in identical situations, although true if we assume universal determinism, is not of practical use. The human mind, due to the complexity

of the situation, will not be able to identify similar (or dissimilar) situations. The prediction of future human action is, therefore, not possible.

Having stated this conclusion which Hayek reaches in the last quotation, some difficulty is found in reconciling this with his other conclusion noted above *that theories of the social sciences can aid future* human action (or, what amounts to the same thing, present action which by definition is oriented to the future). If it is not possible to predict future human action, how then can social theories be of use to the acting individual? The same question might be phrased in a different way: Hayek claims that the general patterns predicted by theories of complex phenomena must be confronted with observable facts in the attempt to refute the relevant hypotheses. But the "observable facts" are the consequences of human action and as is shown above future human action cannot be predicted. In other words, although the general patterns predicted may, in a particular case, not be refuted by the observable facts (also of a general nature) there is no logical reason to suppose that the same will be true in the next point of time. The "facts" might change over time as human action changes. This inescapable conclusion follows from the impossibility of predicting human action. *To the extent to which* a theory of complex phenomena depends upon assumptions regarding specific human actions, this theory will not necessarily be able to convey any information about the future since specific

human action in the future might change. (Of course, *the theory will only explain* <u>*past*</u> *phenomena* if the assumptions made correspond to the particular situations concerned.)

Thus Hayek has concluded both that future human actions cannot be predicted even if a universal determinism *is* accepted, and that *social theories* provide knowledge the effect of which is to reduce the uncertainty involved in acting by eliminating some conceivable consequences of human action. How are these two views to be reconciled?

The two opinions can be reconciled if it is assumed that human action, although unpredictable, is fairly constant over time. Thus a theory, the assumptions of which are based on specific human actions and the predictions of which have been supported by observable phenomena will provide useful knowledge for the future to the extent that future actions are the same as those implied in the theory. But of course, some patterns of human action may change over time with the result that a theory may become less reliable as time passes.

This problem can be illustrated by the following example. Accepting that it is impossible to predict the specific prices and quantities that will prevail at a particular time and place, something can nevertheless be *said about the prices and quantities* that will prevail if conditions tend to be either competitive or monopolistic. In other words, the general price and quantity patterns that will result under competitive conditions can be

compared to those resulting from monopolistic conditions. But it is not possible to predict whether conditions in the future economy will tend to be either competitive or monopolistic. For this will depend on the ideas etc. of human beings which, as we have seen, cannot be predicted. In fact, the very "prediction" that conditions in the future economy will tend more towards the monopolistic model than towards the competitive model might have the effect of encouraging the opposite to actually happen.[21] This might be called a self-frustrating prophesy.[22]

4. Knowledge of the Mind of Other Individuals

Hayek has often emphasized the importance of introspection in the social sciences. This follows logically from the fact that the social phenomena which constitute the objects of enquiry of the social sciences are the results, both intended and unintended, of human action. The actions of individuals are guided by their ideas, values and purposes which are embodied in their plans. Since it is often not possible to directly observe the plans of individuals it becomes necessary, at least in these cases, to understand them by introspection. As Hayek has put it: " ... where we try to understand human beings, and where this understanding is made possible by the fact that we have a mind like theirs, and that from the mental categories we have in common with them we can reconstruct the social complexes which are our concern."[23]

This subjective knowledge is incorporated into the models used in the social sciences. " ... we can derive from the knowledge of our own mind in an 'a priori' or 'deductive' or 'analytic' fashion, an (at least in principle) exhaustive classification of all the possible forms of intelligible behaviour ... we [then] use the different kinds of individual behaviour thus classified as elements from which we construct hypothetical models in an attempt to reproduce the patterns of social relationships which we know in the world around us." (24)

Many writers have used the above argument to point to an essential difference between the natural and social sciences. It is thus argued that the natural scientist cannot 'understand' the workings of an atom in the same way that the social scientist can 'understand' the action of the individuals he studies. The social scientist can understand the meaning that acting individuals attribute to their action because he/she too (i.e. the social scientist) is an acting human being. While the comparative study of plans and results is fundamental for the social sciences, it is not possible for the natural sciences. In nature there are no plans. Popper acknowledges this difference but claims that it does not indicate a difference in method between the natural and social sciences. "It is undoubtedly true that we have a more direct knowledge of the 'inside of the human atom' than we have of physical atoms; but this knowledge is intuitive. In other words, we certainly use our knowledge of ourselves in order to frame hypotheses about some other people, or about all

people. But these hypotheses must be tested, they must be submitted to the method of selection by elimination."[25] While rejecting that the difference is important as regards the appropriate method for the natural and social sciences, Popper nevertheless accepts that 'understanding' plays an important part in the social sciences.

The difficulties of the introspective method are well recognized by the authors who support it as an important method of the social sciences. One of the obvious problems is that we can never be sure, by introspection alone, whether our understanding of the situation is correct or not. Furthermore, to the extent to which the individuals whose actions are the object of study of the social scientist, are "culturally" different from the social scientist, the margin of error is likely to be greater. However it is not correct to suggest, as has sometimes been said, that the introspective approach supposes that the scientist must be in some ways similar to the people he/she studies so that, for example, only a scientist of "fiery" temperament is capable of understanding the actions of a rioting mob. It is possible to <u>understand</u> the actions of a murderer by understanding the purposes that led him to murder without condoning the act itself. Of the difficulties inherent in the introspective method Hayek has said that "... to recognize something as mind is to recognize it as something similar to our own mind ... This kind of interpretation of human actions may not be always successful, and, what is even more embarrassing, we

may never be absolutely certain that it is correct in any particular case; all we know is that it works in the overwhelming number of cases. Yet it is the only basis on which we ever understand what we call other people's intentions, or the meaning of their actions ... As we pass from men of our kind to different types of beings we may, of course find that what we can thus understand becomes less and less."[26]

What has been referred to here as the introspective method raises the following important question: Are the distinctions required for exploring the subject-matter of the social sciences exclusively "subjective"? The opinions of one well-known writer [27] who answers this question in the negative, will be examined here.

Nagel criticizes the view expressed, for example, by Hayek, that in explaining purposive action the 'things' that are the means or ends of those actions must be explained in terms of the meaning that the actors themselves attach to these things rather than what can be said about them by the natural sciences. Thus Nagel criticizes the following statement from Hayek which claims that for the purposes of social study, a medicine is not what cures an ailment but rather what people believe will produce that effect: "Any knowledge which we may happen to possess about the true nature of the material thing [i.e. the alleged medicine] but which the people whose actions we want to explain do not possess, is as little relevant to the explanation of their actions as our private disbelief in the efficacy of a magic charm

will help us to understand the behaviour of the savage who believes in it." (28)

In criticizing the view held by Hayek, Nagel argues that "even when the behaviours studied by the social sciences are indisputedly directed toward some consciously entertained ends, the social sciences do not confine themselves to using only distinctions that refer to psychological states exclusively; nor is it clear moreover, why these disciplines should place restrictions upon themselves. Forexample in order to account for the adoption of certain rules of conduct by a given community, it may be relevant to inquire into the ways in which members of the community cultivate the soil, construct shelters, or preserve food for future use, and the overt behaviours these individuals exhibit in pursuing these tasks cannot be described in purely 'subjective' terms." (29)

In examining Nagel's criticism two points must be made. In the first place, although Nagel himself does not confuse this, it must be emphasized that a distinction must be drawn between what has been called the introspective or praxeological approach here, and the "psychological approach". While the latter asks why people behave as they do, that is, deals with motives, the former examines the plans which people pursue in attempting to attain their goals, that is, deals with purposes.

Secondly, while it is accepted that in order to

consider the adopted rules of conduct of a community it might be necessary to examine other activities of this community, the present author finds it rather unclear how these other activities themselves are to be understood without the use of the introspective approach. Can the actions of a man who is placing layers of grass on a substructure of twigs be understood without a "subjective" realization of the intentions of the man? Is the end result of the activity to be seen as layers of grass on a structure of twigs, or is it to be seen as a shelter against the elements, a place to store possessions, etc? If the latter, then it is difficult to see how the actions are to be explained without taking these "purely subjective" aspects into account. Of course the scientist must take the overt (observable) actions of the man into account but these actions only become meaningful when interpreted in terms of the goals being pursued by the man in question.

Hayek has said this when he points out that "all propositions of economic theory refer to things which are defined in terms of human attitudes toward them, ... by the fact that people believe that it will serve certain needs of theirs in a certain way ... " A consistent "objective" explanation would "imply that the propositions of the theory of money would have to refer exclusively to, say, 'round discs of metal, bearing a certain stamp,' or some similarly defined physical object or group of objects." (30)

In order to illustrate the clarity resulting from a subjectivist explanation, another criticism of Nagel's will be examined. Nagel suggests that "even though purposive action is sometimes partly explained with the help of assumptions concerning dispositions, intentions, or beliefs of the actors, other assumptions concerning matters with which the actors are altogether unfamiliar may also contribute to the explanation of their action." (31) He takes as an example the case of southern cotton planters in the United States before the Civil War. These planters mistakenly believed that the use of animal manure would indefinitely preserve the fertility of their plantations. Nagel argues that knowledge of the laws of soil chemistry will explain why "the soil upon which cotton was grown gradually deteriorated, and why in consequence there was an increasing need for virgin land to raise cotton if the normal cotton crop was not to decrease." (32) An "objective" explanation of the deterioration of the soil and of the increased demand for virgin land is thus provided, that is, without reference to the subjective states of the people concerned. Before criticizing the approach suggested by Nagel, it is necessary first to examine the subjectivist explanation of the same phenomenon.

By understanding the meaning that the people concerned attach to their actions, that is, by understanding the intentions and purposes which guide their actions as well as the consequences of these

actions, it s possible to provide a consistent explanation of the phenomenon under discussion. It is evident that the immediate goal of the planters is to produce an output of cotton. The means which are available to achieve this aim include, amongst others, (such as the co-operation of labour), the soil and the fertility thereof. The planters realize that the fertility of the soil is diminished as a result of the growing of cotton crops but they nevertheless believe that by using animal manure the fertility of the soil will be maintained. However, over time the planters find that the quality of the soil deteriorates and that their output per acre accordingly declines. It is not important <u>why</u> the fertility of the soil declines. What is important is how the planter sees this phenomenon and it is this which will influence his future actions. If he sees the decrease in fertility as the result of a curse upon his family, his future actions may be entirely different to the case where he sees it as the result of a lack of a chemical component. But it is precisely these future actions which interest the social scientist. In the example chosen by Nagel it is possible that the planters felt that, in the face of the decrease in output, given a constant or increasing demand for cotton as well as the availability of unused virgin forest, the cost involved in buying and/or clearing this land seemed justified by the returns expected from selling the cotton grown from the land. (33)

It is now possible to criticize the "objective" approach put forward by Nagel. On closer examination it becomes clear that this approach alone does not explain the phenomenon under consideration and that a complete explanation assumes a subjective interpretation. All that the laws of soil chemistry tell us in this case is that soil which is used to grow cotton and which is only replenished with animal manure will over time, deteriorate. *The laws therefore tell us the consequences* that will follow from a planter operating under the conditions described by the laws. They *do* not tell us how the planters will react to these consequences. Yet if we are to understand the fact that virgin land is now brought under cultivation it is essential that something is known about these reactions. And it is evident that only a subjectivist approach can provide this information. It is therefore concluded that knowledge of the "objective" laws of soil chemistry must be supplemented by "subjective" knowledge in order to explain the given phenomenon. On the other hand, however, a pure subjectivist explanation is entirely adequate for an understanding of these phenomena.

5. Two Further *Consequences of Hayek's Theory* of Complex Phenomena.

Two further consequences of the theory of complex phenomena mentioned by Hayek will be mentioned here because of their relevance to later sections. The first

deals with the concept of reduction while the second deals with "laws" in economics.

The claim has been made that sociology can be reduced to psychology and others have claimed that the latter can be reduced to physiology. The importance of what Hayek calls "reductionism" with regard to economic theory lies in the claim that all economic phenomena must be seen as the consequences of the actions of individuals based on their plans. This has been referred to as methodological individualism. In Chapter 2 some of the advances made as a result of a consistent application of this approach were illustrated.

Hayek deals with the assertion that "mental phenomena are 'nothing but' [i.e. can be reduced to] certain complexes of physical events."(34) The importance of this assertion cannot be underrated. If the physical laws determing "mental" phenomena are known, then the thoughts, ideas and valuations of individuals can be predicted and controlled and, since they guide actions, so can the latter. However, even accepting such a reduction, "mental" phenomena are to be seen as the result of a complex interrelationship of a large number of variables. "A full reduction would be achieved only if we were able to substitute for a description of events in ... mental terms a description in physical terms which included an exhaustive enumeration of all the physical circumstances which constitute a necessary and sufficient condition of the ... mental phenomena in question."(35) Because of the complex

nature of this task Hayek concludes that the full reduction is not possible.

Hayek also rejects that "laws" pertaining to complex phenomena can be established if a scientific law is defined as "the rule by which two phenomena are connected with each other according to the principle of causality, that is to say, as cause and effect."[36] The theory of complex phenomena can yield "the statement that a certain structure can assume only one of the (still infinite) number of states defined by a system of many simultaneous equations."[37] but it would do violence to language to call such a statement a "law". Hayek therefore concludes that it would "appear that the search for the discovery of laws is not an appropriate hallmark of scientific procedure but merely a characteristic of the theories of simple phenomena ... and that in the field of complex phenomena the term "law" as well as the concepts of cause and effect are not applicable without such modification as to deprive them of their ordinary meaning."[38]

CHAPTER 6

THE BASIC POSTULATES OF SUBJECTIVISM

Up to this point a tentative definition of subjectivism has been used which stated that according to the subjectivist approach, social phenomena must be explained by being deduced from the plans and actions of individuals. Using this definition it was shown that many of the important advances in the history of economic thought resulted from the application of subjectivist principles. Then the writings of several economists of the Austrian School were examined. It is now necessary to discuss in greater detail the basic postulates of subjectivism. This will be done in this chapter, and in the following chapters some consequences of this conception will be examined and the implications for economic theory discussed.

The basic postulates of subjectivism will be discussed in the following way: first we will examine how two subjectivist writers (Mises and Knight) conceive the basic postulates of subjectivism and then we will examine an opposing point of view which regards this conception as inadequate. We will finally examine how some subjectivist writers have overcome the criticisms of the subjectivist approach.

1. Mises and Knight on the Postulates of Subjectivism

Mises has held that human action is essentially purposive conduct. "It is not simply behaviour, but behaviour begot by judgements of value, aiming at a definite end and guided by ideas concerning the suitability or unsuitability of definite means. It is impossible to deal with it without the categories of causality and finality. It is conscious behaviour. It is choosing. It is volition; it is a display of will." (1) Mises is very precise as regards the source of knowledge of the postulate of purposive human action: "Neither can we interpret our concept of action as a precipitate of experience ... Experience tells us something we did not know before and could not learn but for having the experience. But the characteristic feature of a priori knowledge is that we cannot think of the truth of its negation, or of something that would be at variance with it ... If we qualify a concept or a proposition as a priori, we want to say: first, that the negation of what it asserts is unthinkable for the human mind and appears to it as nonsense; secondly, that this a priori concept or proposition is necessarily implied in our mental approach to all the problems concerned, i.e. in our thinking and acting concerning these problems. The a priori categories are the mental equipment by dint of which man is able to think and to experience and thus to acquire knowledge. Their truth or validity cannot be proved or refuted as can those of a

posteriori propositions, because they are precisely the instrument that enables us to distinguish what is true or valid from what is not." (2)

According to Mises, therefore, man is homo agens, the purposive animal. It is not possible to refute this postulate since the very process of thinking is based on its truth. Mises has thus raised the status of his basic postulate to unassailable heights. It is not possible to criticize his position within the framework of his assumptions and thus all further discussion on the truth of the basic postulates is pointless.

Knight is in fundamental agreement with Mises. As Knight puts it: "The whole subject matter of conduct - interests and motivation - constitutes a different realm of reality from the external world, and this fact gives to its problems a different order of subtlety and complexity than those of the sciences of (unconscious) nature. The first fact to be recorded is that this realm of reality exists, or 'is there.' This fact cannot be proved or argued or 'tested'. If anyone denies that men have interests or that 'we' have a considerable amount of valid knowledge about them, economics and all its works will simply be to such a person what the world of colour is to the blind man. But there would still be one difference: a man who is physically, ocularly blind may still be rated of normal intelligence and in his right mind. Second, as to the manner of our knowing, or the source of knowledge, it is obvious that while our knowledge

('correct' observation) of physical human behaviour and of correlated changes in the physical objects of non-human nature plays a necessary part in our knowledge of men's interests, the main source, far more important than in our knowledge of physical reality, is the same general process of intercommunication in social intercourse, which has no important direct relation to any 'problem', either of knowledge or of action - which has been found to play a role in our knowing of the physical world." (3)

According to Knight, therefore, although we cannot prove that the subject matter of conduct, that is interests and motivation, really exists, we do, nevertheless, have a "considerable amount of valid knowledge" about the motivations and interests of others. This knowledge is derived from the "general process of intercommunication in social intercourse." Moreover, anyone who denies that this is so is rated by Knight as not in his right mind.

Both Knight and Mises hold that human action is purposive. This is an irrefutable (since it cannot be tested) postulate of subjectivism. Economic theory is accordingly seen as a process of deduction from this basic postulate.

However, it does not seem wise to accept the contention of Mises and Knight and to proceed immediately from there. This does not seem wise because there are many philosophers and social scientists who have rejected this postulate and have preferred to search in other directions for an under-

standing of human behaviour. It is accordingly necessary to at least examine briefly the point of view of those who do not accept that purposive human action can be the starting point of the social sciences.

There is no need to point out that justice can hardly be done to this problem within the confines of this thesis. The problem has been the concern of many disciplines and has still not been adequately resolved. Thus, in the event of not being able to adequately cover all the relevant ground here and not having a generally accepted concensus of opinion to fall back upon, it is intended merely to examine how some subjectivist writers have overcome the objections to the postulate of purposive human action.

2. The Nature of Human Action

How is it possible to distinguish between an eye blink reflex that results from a beam of light being shone into the eye and the activity of a man who is tilling the soil? Can anything be said about the difference between a man jumping and a man falling? What do we mean when we say that an individual is responsible for his actions? It is in answering questions like these that the nature of human action becomes clear and understandable.

One way of answering the above questions is to draw a distinction between behaviour and action. Behaviour may be taken to refer to any change or

tendency to change in living things. It thus includes such diverse events as the nest-building activites of different species of birds, the knee-jerk reflex and the process of thinking. Action, on the other hand, refers to behaviour to which, following Weber, the agent attaches subjective meaning. Thus action is purposive and does not constitute mere reaction to stimulus; it is directed to ends rather than caused by external events. Since action is directed towards ends its analysis is, in this sense, teleological and not mechanistic.

An act therefore implies the existence of an agent or actor. The actions of the actor are directed towards chosen ends or desired future states of affairs. The actor acts because he prefers that state of affairs which he expects will result from his actions to that which he expects will result from his inactivity. An action can thus be overt or covert. The refraining from an overt act is thus still classified as an act. In this case the actor prefers that state of affairs that he expects will follow his not acting to that which he expects will follow certain other actions. An individual acts within a given situation which can, to some extent, be changed by his actions. This situation provides him with obstacles as well as means to the attainment of the ends towards which his actions are oriented. Thus while machines may aid him in achieving his ends, the actions of others may hinder his attempts. The actor thus takes into account also the actions and expected actions of other

people. He is aware too that he often makes mistakes and that there is at times a divergence between the anticipated and actual consequences of his actions.

The distinction that has been drawn between behaviour and action enables the answering of the above questions. The activities of the man tilling the soil are thus qualitatively different from the knee-jerk reflex. The former can be understood in terms of concepts such as purpose and intention while the latter can be understood in terms of the physical nature of the events noted: the intensity of the blow with the rubber instrument, the potential conducted by the nerves, the observed jerk, etc. The activities of a man tilling soil cannot be understood in these terms. For then it would not be possible to distinguish between a man tilling soil and a man making psychotic gestures in a field with an instrument in his hands. Similarly it would not be possible to differentiate between an eye blink that occurs when a light is shone into the eye and a wink.

It is now necessary to inquire about the relevance of the distinction between action and behaviour for the social sciences.

On the one hand, it has been seen that behaviours which do not fall into the category defined as action, can be treated as natural phenomena. The method appropriate to the studies of the natural sciences are entirely adequate in this case. However, the sciences of human action call for a different treatment.

It is obviously not possible to deal with concepts such as purpose, intention and the like with the tools at the disposal of the natural sciences. What are some of the specific problems that arise in connection with the study of human action?

In the first instance it is necessary to ask whether an adequate explanation of the behaviour that has been defined as action can be given since some of the fundamental concepts used refer to unobservable events. What exactly is meant when it is said that the "purpose" of an action was to attain such and such an end? The traditional answer that has been given in order to distinguish between such events as 'I jump' and such 'happenings' as 'I fall' has been couched in terms of the will of the actor. But what precisely is meant when it is said that he willed himself to jump over the fence? And how can the event which has been referred to as 'willing' be explained? Does the actor will his willing? And if he does, then we are led into an infinite regress which does not provide any solution. It is problems such as these that have led one writer to conclude that "surely it is an understatement to say that the philosophical talk about acts of volition involves a mare's nest of confusions." (4)

Faced with problems such as this some philosophers and social scientists have argued that concepts such as willing, intention, etc. should be omitted from the social sciences and that the explanation of human

behaviour should be reduced to observable variables. This argument can be expressed in the following way. According to the teleological explanation of human action, an action X depends upon the purpose of the actor, P. That is, $X = f(P)$. But if we can show that the "purpose" of the actor depends on other observable variables, collectively called A, [that is $P = f(A)$] then purpose can be omitted from the explanation. For we can then say that $X = f(A)$. The action thus depends upon observable variables and it remains to find the 'laws' which govern this dependence. (5) (It is admitted by these social scientists that this is an extremely difficult task and that much work will be required before the laws can be formulated.)

Furthermore, it is not difficult to see why many social scientists have chosen to pursue an alternative path to that of Mises and Knight.

If the voluntaristic postulate of human action is accepted, then all social phenomena and processes must be reduced to the thoughts and ideas of the individuals concerned. But it is not possible to reduce ideas and thoughts any further (for example, to observable physical phenomena). Thoughts and ideas thus constitute the "fundamentals" of human action and, since their future content cannot be predicted, there are essential limitations placed on the endeavours of social scientists: the social scientist must accept that prediction, in this sense,

is not possible in dealing with human action. Faced with this and other problems, and impressed with the methods of the natural sciences, these social scientists have accordingly attempted to reduce thoughts and ideas to observable phenomena and to establish laws dealing with the interrelationship of these physical variables. "Thoughts" and "ideas" are thus, following the successful establishment of the relevant laws, explained in terms of the existing pattern of observable variables as well as unobservable variables that are operationally defined. The concept of "mind" in the social sciences is then seen as akin to several pre-Newtonian concepts in the field of natural phenomena.

However, it is not possible to examine this opposing viewpoint entirely adequately for this would take us beyond the scope of this thesis. Accordingly we must content ourselves with a brief look at how some subjectivist economists have approached the argument against the voluntaristic postulate. The *writers chosen are Mises*, Hayek and Shackle.

Mises acknowledges the influence of environmental and hereditary factors in human action but holds that the exact nature of this influence is not known. The result is that the thoughts and actions of a person must be *ascribed to his individuality*. As Mises puts it: "what the term 'freedom of the will' refers to is the fact that the ideas that induce a man to make a decision (a choice) are, like all

other ideas, not 'produced' by external 'facts', do not 'mirror' the conditions of reality, and are not 'uniquely determined' by any ascertainable external factor to which we could impute them in the way in which we impute in all other occurences an effect to a definite cause. There is nothing else that could be said about a definite instance of a man's acting and choosing than to ascribe it to this man's individuality. We do not know how out of the encounter a human individuality, i.e., a man as he has been formed by all he has inherited and by all he has experienced, and a new experience definite ideas result and determine the individual's conduct. We do not even have any surmise how such knowledge could be acquired .... It is precisely the lack of such knowledge that generates the fundamental difference between the natural sciences and the sciences of human action." (6)

Hayek's approach to the problem has been mentioned above (7) and therefore his views will be only summarized here. Hayek's theory of complex phenomena enables him to side-step the problem whether human behaviour is or is not in fact determined. The essential difference between physics and the social sciences (including some of the other natural sciences with the social sciences) is that while the former deals with the interactions between a relatively small number of variables, the latter deal with complex phenomena. It is therefore not correct to suggest that the method

appropriate in the study of physics should be used in the study of other more complex phenomena. The main consequence of the difference between the phenomena studied is that while in the case of the study of simple phenomena specific predictions can be made, [8] in the case of complex phenomena only general predictions can be made and falsified. This leads Hayek to conclude that even if human behaviour is determined it is not possible to manipulate what a particular individual will think at a particular time because of the complex nature of this determination. The social sciences must therefore proceed as if choice does exist and accept that the future thoughts and actions of individuals cannot be predicted.

Shackle overcomes the argument that all human behaviour is determined by postulating "an act of original creation," that is, "the sudden presence in a man's thoughts of something essentially novel, something not arising in its completeness and essence, merely from some materials or arrangement of materials that were in his mind before, but manifesting ... 'inspiration'. [9] Since this element of inspiration is present in each "moment-in-being" during which decision takes place, and since this inspiration is not a function of anything else, it is not possible to predict future thoughts and actions.

The argument of the above writers that the thoughts and actions of individual actors must at present be considered as undetermined is

accepted unreservedly. However, it is not possible to claim that this state of affairs will continue indefinitely. Since future knowledge cannot, given our present knowledge, be stipulated, it is not possible to foresee that an entirely acceptable account of the determination of human behaviour will not at some stage be given. But at present this possibility seems remote, to say the least, and the social sciences must therefore proceed accepting the voluntaristic postulate of human action.

Thus although it is not at present possible to prove that human action is of the character postulated by voluntarism, it is nonetheless concluded that, in order to explain adequately social phenomena it is necessary to proceed as if this were true. No other explanation which does not take this postulate into account is acceptable. In the next chapter the relevance of some consequences of this postulate for the social sciences is discussed.

CHAPTER 7

SOME CONSEQUENCES OF THE BASIC POSTULATES OF SUBJECTIVISM

1. Introduction

It has been concluded that the social sciences *must proceed* as if human action were of the character postulated by voluntarism. What are some immediate consequences of this postulate? This question will be discussed under the following headings: *knowledge and* action; decision-making; the consequences of human action; prediction and the social sciences.

2. Knowledge and Action

Action has been defined as purposive or end-directed behaviour. Actions are aimed at producing *changes in the world and accordingly* have consequences in the world. The actor acts because he prefers the situation which he expects will follow from his actions to that situation which he expects will follow from his inactivity. It has been stressed that the actor will choose that action, out of the available actions, which he expects will produce the desired results. The actor can not be sure that the action will, that is in the future, produce the consequences he desires. He has experienced cases of a divergence between the anticipated and actual results of his action. Nevertheless

in the face of this uncertainty, he feels, at the point of having decided between the alternative available actions, that the chosen action is best suited to the attainment of his ends. He knows that time might well prove him wrong.

Human action aimed at producing a desired state of affairs in the world will be based upon the stock of knowledge that the actor possesses. As his stock of knowledge changes, as it will over time, so his expectations will change. Knowledge must thus be looked at as a stock concept that is existing at a point of time.

What can be said about the importance of knowledge and its acquisition for human action? The first point to note is that it is not possible to say anything about the specific stock of knowledge which will in the future be possessed by a specific individual. Knowledge cannot, following the above argument relating to the feasibility of a deterministic explanation of human behaviour, be looked at as a response to a particular stimulus situation. It is thus not possible to talk about the knowledge which will be gained in a particular situation. Knowledge must therefore be looked at subjectively, that is, from the point of view of the acting individual. Knowledge does not exist "out there" but inside the mind of the individual. Knowledge which "is available" but not known to the actor will not affect his immediate decision between alternative actions, although it will certainly be important when, having

later acquired this knowledge, he reviews his past decision. However, although it is not possible to talk of the specific knowledge that will be gained by an individual it is nonetheless fruitful to examine some general aspects of knowledge acquisition and the importance of knowledge in human action.

Knowledge is acquired by the individual as his mind appraises elements of his experience. The mind will select those elements which are of interest to the subject. (1) It is not possible to stipulate in advance the precise events which the individual will find of interest, (2) for his interests will change over time and will not be determined in an ascertainable way by anything else.

It is possible for the individual to acquire what may be termed "incorrect knowledge". In this case the individual's beliefs about certain aspects of the world differ from the actual state of affairs. It is not necessary to inquire here into the numerous ways in which such incorrect beliefs may be established. But it is important to note that the individual's actions will be based on this (incorrect) knowledge with the result that the consequences of his actions might differ from those that he had anticipated.

The acquisition of knowledge must be seen as a continuous process of becoming. As experience continues over time, so there occurs a constant revision and modification of past knowledge. In deciding upon a particular action scheme, the actor will project his available actions into the future and

try to assess the effects that will follow. But the projection and the assessment are based on his present knowledge. Over time, however, he will "grow older" so that even if nothing else has changed when the action is actually performed, the actor nevertheless has experienced the carrying out of the action. He thus possesses additional experience. Schutz has expressed this in a brilliant passage: The "time perspective peculiar to the project has rather important consequences. First, I base my projecting of my forthcoming act ... upon my knowledge of previously performed acts which are typically similar to the prescribed one, upon my knowledge of typically relevant features of the situation in which this projected action will occur, including my personal biographically determined situation. But this knowledge is my knowledge now at hand, now at the time of projecting, and must necessarily be different from that which I shall have when the now merely projected act will have materialized. Until then I shall have grown older and if nothing else has changed, at least the experiences I shall have had while carrying out my project will have enlarged my knowledge. In other words, projecting like any other anticipation carries along its empty horizons which will be filled in merely by the materialization of the anticipated event. This constitutes the intrinsic uncertainty of all forms of projecting." (3)

The relationship between knowledge and action

is dynamic and not merely one of unilateral influence where the actor's stock of knowledge influences his plans. The very action that the actor undertakes, or even the process of considering alternative available actions, modifies the knowledge of the actor and therefore influences his future actions. It is therefore unsatisfactory to label the stock of knowledge as an independent variable and the actions of the agent as the dependent variable. At each point in time knowledge and action exert a mutual influence upon one another.

The discussion this far has examined the relationship between the knowledge and actions of the individual and it has been stressed that this relationship is a subjective phenomenon. There is, however, a related matter which will be raised here in connection with the problem of knowledge but which will be discussed in more detail later, in examining its importance for economic theory. I am referring to the assumptions regarding the relationship between experience and knowledge which are made in equilibrium analysis. Setting aside for this later discussion the concept of the equilibrium of the single acting individual, some of the assumptions regarding knowledge made in equilibrium analysis involving more than one person will now be examined. But it is necessary to point out that the individuals must be acting independently of one another. The matter will be somewhat different if the individuals are acting in concert, for example, as in the case

of a board of directors of a firm. (4)

As has been shown above, in an uncertain world the future cannot be known. Therefore, all knowledge is imperfect. From this it follows that the expectations of different people will diverge. But if the expectations of individuals are inconsistent then after sufficient time has passed, at least one individual will realize that his expectations were incorrect. (It is, of course, possible for the expectations of all individuals to be proved correct when, for example, some entirely unforeseeable event occurs.) But if expectations are inconsistent to begin with, it can never be possible for all individuals to avoid eventual refutation of the hypothesis upon which their expectations were based. (5) The realization that expectations held at an earlier time have been proved incorrect by the passing of time will constitute an additional unit of information of the actor and will lead him to revise his expectations. The individual thus realizes, looking at time t_1 from the benefit of hindsight at t_2, that he was not in equilibrium at t_1. In other words if he could once more be at time t_1 with the additional knowledge that he gained between t_1 and t_2, he would now act differently. Therefore at t_1 he was not in "equilibrium" when looked at from the vantage point of t_2. It must be realized that it is not possible to foresee the specific features of the revised expectations. Having seen with the passing of time that their past expectations were incorrect, two individuals who entertained the same expectations

at t_1 might nevertheless revise their expectations in different ways at t_2. There is, therefore, no logical ground for assuming that there will be a tendency towards equilibrium with the passing of time. There are no reasons why, over time, plans should become consistent so that they will eventually "dovetail" making equilibrium possible. The unrealistic nature of the assumptions made in assuming a tendency towards equilibrium, namely that the relationship between the experience and knowledge of different individuals will be such that over time their expectations will become consistent, are thus clearly seen. (6)

A realistic interpretation of the matter would have to take account of the transmission of knowledge between minds as well as the process whereby the individual acquires knowledge from sources other than fellow individuals. The interpretation would require a complete sociology of knowledge and would have to take account of what has been termed socially derived knowledge, that is, knowledge which "consists in experiences which not we but our fellowmen, contemporaries, or predecessors, have had, and which they have communicated or handed down to us." (7) The role played by language and other institutions in making human interaction possible will have to be taken into account in any realistic interpretation of the actions of many individuals.

In the face of the above comments, it is not difficult to recognize the appeal of the assumptions

of the stationary state. For in a world where everyone knows for certain that tomorrow will be like today (which is in all respects exactly the same as yesterday), it can be assumed that people will learn from their mistakes and that their plans will accordingly become consistent with the passage of time. Given the assumptions of the stationary state it is not necessary to assume that the expectations of acting human beings are determined by the existing conditions as a response is determined by a stimulus. Expectations are free to change but since the environment within which human action takes place is, by definition, kept constant, the expectations of different people will ultimately become consistent. But such a world is as far removed from the reality of our world as are the assumptions on which the notion of a frictionless machine is built. Our world is characterized by uncertain change, some of the consequences of which have been examined in this chapter. In such a world concepts such as "growth equilibrium" and "steady growth" are, to say the least, far-fetched.

3. Decision-Making

At any point in time the actor finds himself in a biographically determined situation. In other words he has his past history, his past experiences, which will influence the way in which he lives and acts in the world. His situation includes both other people

and physical features. Part of this situation can be manipulated in order to suit his ends; other aspects are beyond his reach.

Human action is directed towards ends, that is, towards a future desired state of affairs. The ends are integrated into a general ends-pattern, the attainment of some ends precluding the attainment of others. These ends will influence what the actor finds of relevance in his situation.

In order to achieve his ends, the actor will formulate alternative action schemes or projects. There are at least two alternatives attached to each action scheme: to perform the action or to refrain from acting. This formulation will depend upon his stock of knowledge. His knowledge will change over time and the actor may become aware of new possibilities and may discard some alternatives as being "out of date."

In deciding between the formulated action schemes the actor will project into the future the consequences that he imagines will follow the action. Following Shackle, there are several points to be noted in connection with this projection. First, we are not dealing with activities which may be termed "day-dreaming". The consequences which would follow if the individual were omniscient and the activities of the individual involved in imagining these consequences, are thus excluded from the discussion of projection. Secondly, the actor does not know for certain the consequences that will follow each

available action scheme. For if he did possess this knowledge then his decision would be "empty." He would choose that consequence deemed most desirable in terms of his ends. "Decision-making" would in this case be a purely formal calculation of the consequences following each action scheme and, with given ends, the "decision" would follow automatically. Thirdly, the actor can make a decision because he does have some idea of the consequences which might follow his alternative action schemes. He can thus attach measures of possibility to the possible outcomes following a particular action. However, he is not, in most cases,[8] certain that the outcome will follow.

It is necessary to examine this last point in some more detail. My actions are oriented towards achieving a desired state of affairs "in the world".[9] My actions must therefore take into account my physical environment as well as my interaction with fellow human beings. My knowledge of the laws of nature (even if this knowledge does not constitute an explanation but a mere description of the events concerned),[10] will aid me in expecting the outcome of actions at least partially dependent upon natural phenomena. How I come to know these laws is a complicated question. I might know either by direct experience of the particular event or this knowledge might be conveyed to me by other people, by teachers, parents, language and so on.

Much of my action presupposes definite action

on the part of others. My task of considering the consequences of my proposed actions is considerably easier to the extent to which the anticipated actions of others are based on institutionalized forms of behaviour. I am not overly distracted, when I wait at the bus-stop, that the bus will not arrive on time. I take it for granted that my action of waiting at the bus-stop will lead the other (the bus driver) to perform the required actions, (arriving on time, and stopping for me) in accordance with his own intentions (performing his duties). However, I am not certain that the bus will in fact arrive. I cannot rule out the possibility that the bus driver is on strike or that the bus was involved in an accident en route to my bus-stop. Although I cannot be certain, (and although I anticipate the arrival of the bus with a smaller degree of certainty than I anticipate that water will boil at one hundred degrees Centigrade at sea level), I am nonetheless more certain when such institutionalized actions are involved than where this is not the case. I am far less certain that my competitor has not found out about the new product I intend introducing on the market, or that share prices on the stock exchange will fall tomorrow. Therefore the more standardized the action pattern, the less the uncertainty attached to its outcome.

In deciding between different available actions the actor will project, on the basis of his knowledge, the expected outcome of each action. This expectation is held with uncertainty. The decision is made at that

moment when the actor commits himself to a particular action thereby foregoing the alternatives.

.. The Consequences of Human Action

As has been stated above, human action is intended to bring about a desired state of affairs in the world. The action itself and its consequences might influence the plans which guide the action. This is illustrated by the well-known principle of learning-by-doing. In this situation the actor receives feed-back from his actions which enables him to repeat the task with greater efficiency.

However, action may not have the effects intended by the actor. Two different situations must be distinguished. On the one hand, that situation must be distinguished where the effect of the action is undesired, that is, it does not enable the actor to achieve his goals. For example, although the action enabled the attainment f the end toward which it was aimed, its effects might nevertheless, contrary to the expectations of the actor, frustrate other g als. On the other hand, it is necessary to distinguish that situation where, in addition to the desired and intended effect particular unintended consequences are produced. The pollution of the environment which has resulted from production activities in certain areas may be adduced in order to illustrate this second case. Each of the cases

differentiated will be examined.

It is illuminating to inquire how a divergence between anticipated and actual consequences is brought about. This inquiry, it will be shown, throws much light onto the nature of human action. There are two reasons which may result in a "mistake being made" by the actor. The mistake might result from an incorrect appraisal (that is, to a lack of knowledge) of the present situation. In this case, if the actor possessed greater knowledge of the existing situation while making his decision, the mistake would not have occurred. Or the mistake might have resulted from an unforeseeable change in the situation. Here although the actor possessed adequate knowledge about the present situation, his action, the consequences of which lay in the future, confronted new conditions. These new conditions were not foreseeable at the moment of deciding upon a particular action scheme.

In both these cases it may be said that an "error" was made. It is illuminating to realize that "error" is used in an ex post sense. Looked at from an ex ante point of view there can be no such thing as error, since if the actor is aware of the mistake to come he will revise his expectations and actions accordingly. The frequency of the use of the word 'error' and its essential ex post nature point to an important feature of human action insisted throughout this thesis: that human action takes place in an 'atmosphere' of uncertainty. Error is non-

existent in a certain environment.

We turn now to the case where human action has consequences that are unintended by each of the individuals concerned. This situation has been noted by the early classical economists such as Mandeville and Adam Smith, in connection with their examination of the market economy. Thus, to give an example, Adam Smith commented on the process of the division of labour which leads to the increase in the wealth of nations but the social consequences of which are not intended by any single individual: "This division of labour, from which so many advantages are derived, is not originally the effect of any human wisdom, which foresees and intends that general opulence to which it gives occasion. It is the necessary, though very slow and gradual consequence of a certain propensity in human nature which has in view no such extensive utility, the propensity to truck, barter, and exchange one thing for another." (11)

Similarly the examination of the unintended consequences of human action has been used to characterize the workings of the market economy. Thus Knight has said: "One of the most conspicuous features of organization through exchange and free enterprise, and one most often commented upon, is the absence of conscious design or control. It is a social order and one of unfathomable complexity, yet constructed and operated without social planning

or direction, through selfish individual thought and motivation alone. No one ever worked out a plan for such a system, or willed its existence; there is no plan of it anywhere, either on paper or in anyb dy's mind, and no one directs its operations."[12] The same principle has been used by other writers to characterize other features of social life far beyond the workings of the market economy.[13] However in all these cases the phenomenon noted, be it the workings of the price mechanism or the operation of the division of labour, has resulted from the purposeful actions of individuals, the distinctive feature being that the ultimate consequences were not envisaged by these individuals.

5. Prediction and the Social Sciences.

In concluding this section it is necessary to tie together certain threads implied in the above analysis. It is necessary to show exactly why prediction is not possible in the social sciences. The relevance of this conclusion will then be further elaborated upon later.

The reasons for concluding that the prediction of future human action is not possible, can now be summarized. It has been shown that over time the knowledge of the individual changes as his mind appraises new experiences. The acquisition of knowledge is not determined by anything else. Thus

different people will acquire different "units" of information from the same situation. It is concluded, therefore, that the future knowledge of the individual cannot be known beforehand. Shackle has expressed this idea succintly: "Complete prediction would require the predictor to know in complete detail at the moment of making his prediction, first, all 'future' advances of knowledge and inventions, and secondly, all future decisions. But to know in advance what an invention will consist of is evidently to make that invention in advance." (14) Shackle therefore concludes that "predicted man is less than human, predicting man is more than human ... Man in his true humanity can neither predict nor be predicted," (15) and since social phenomena are the consequences (both intended and unintended) of human action, these phenomena cannot be predicted either.

It must be realized that this conclusion is not based on the assumption that knowledge will change in an unforeseen way within a given period of time. All that is required for the conclusion that prediction is not possible is the realization that knowledge might change in an undetermined way from one moment to the next. Although some forms of knowledge change rapidly over time, others, for example knowledge based on institutionalized types of behaviour, will change more slowly over time. Therefore the longer the time interval which

is to be considered, the greater is the likelihood that the knowledge of the individual *will change*. Thus although the future actions of individuals cannot be predicted it can be said that if the relevant knowledge of the individual remains the same in the future as it was in the past, then such and such can be expected. Statements of this kind will be referred to as forecasts.

In concluding these comments on prediction, attention will be briefly turned to the phenomenon referred to as reflexive predictions or self-fulfilling and self-frustrating predictions. (16) Buck gives as an example the case of "an agricultural economist's forecast of a future price for wheat. *Suppose* he foresees an over-supply, and a subsequent sharp drop in wheat prices. His prediction comes to the attention of the growers who believe it and decide to switch land to other purposes. So many of them thus switch so much land that the expected over-supply fails to materialize. Perhaps the price even *rises a bit, and yet it is* fully possible that our economist's prediction, falsified by self-frustrating factors, might have turned out true had it not been disseminated." (17)

It is necessary to note that this example does not provide a case of prediction *if this word is* interpreted in the same way as above. It is, of course, likely that the wheat growers will use the forecast of the economist as additional information

in making their decision regarding the amount of wheat to produce. But it is not possible to predict that the farmers will decrease their output (or fail to increase it). The farmers might well plan to decrease their output, but whether they in fact decide to do this or not will depend upon the other knowledge at their disposal as well as their expectations regarding relevant future variables. Thus if the farmers expect a significant rise in the demand for wheat, a rise great enough to more than take care of the forecast increase in supply, they might decide to increase their output. The conclusion of this discussion is that although the actions of the economist (his forecast) may influence the decisions of the farmers it is not possible to state the precise nature of this influence. It therefore does not make sense to talk of self-fulfilling or self-frustrating predictions.

Furthermore, this discussion is of relevance to the concept of the "initial situation" as used by Popper. According to Popper scientific explanation consists in deducing the impact of universal laws on an "initial situation" and in testing the "predictions" thus made. However, as the above discussion has shown, it is not possible to specify the "initial situation" solely in objective terms. Subjective factors such as the expectations of the farmers in the given situation are a crucial part of the "initial situation." But since, as we have seen, expectations may change in a completely unexpected way at a later

point in time, and since this change may have nothing to do with external factors expressed in the universal law, it will not be possible to specify any future "initial situation." This obviously constitutes a serious limitation to the scientific method proposed by Popper.

CHAPTER 8

METHODOLOGICAL INDIVIDUALISM AND METAPHYSICAL HOLISM

1. Introduction

In Chapter 6 the basic postulates of subjectivism were considered and it was concluded that we can proceed as if human action is voluntary, that is, that human action is guided by the plans of the actors. In the previous chapter some consequences of this postulate for the acting individual were discussed. The importance of uncertainty and knowledge for human action was there analysed. We turn now to examine the social consequences of individual human action. This examination will be undertaken in the light of the so-called methodological individualism versus metaphysical holism debate.

2. Definitions of Methodological Individualism and Metaphysical Holism

The principle of methodological individualism has played an important part in the writings of the subjectivists that were examined in Chapters 3 - 5. Thus Mises, for example, has held that "If we scrutinize the meaning of the various actions performed by individuals we must necessarily learn everything about the actions of collective wholes. For a social

collective has no existence and reality outside of the individual members' actions. The life of a collective is lived in the actions of the individuals constituting its body. There is no social collective conceivable which is not operative in the actions of some individuals." (1)

Watkins has defined methodological individualism and distinguished it from metaphysical holism in the following way: The principle of methodological individualism "states that social processes and events should be explained by being deduced from (a) principles governing the behaviour of participating individuals and (b) descriptions of their situations. The contrary principle of methodological holism states that the behaviour of individuals should be explained by being deduced from (a) macroscopic laws which are sui generis and which apply to the social system as a whole, and (b) descriptions of the positions (or functions) of the individuals within the whole." (2)

Similarly in another context Watkins has said that "In the explanation of a unique constellation of events the individualistic method is to reconstruct the historical situation, or connected sequence of situations, in a way which reveals how ... individuals, with their beliefs and dispositions (which may include peculiar personal dispositions as well as typical human dispositions), generated, in this particular situation, the joint product to be explained. I emphasize dispositions, which are open and law-like, as opposed to decisions, which are occurrences, for

this reason: A person's set of dispositions ought, under varying conditions, to give rise to appropriately varying decisions. The subsequent occurrence of an appropriate decision will both confirm, and be explained by the existence of the dispositions." (3)

However, Watkins' definition raises unnecessary problems. What are the "principles governing the behaviour of participating individuals" and the "dispositions" that Watkins talks of and how do they come to be? It would be necessary to answer these complex questions before embarking upon an explanation of a given social phenomenon. For this reason it is suggested that methodological individualism be defined in a slightly different way: the principle of methodological individualism states that social processes and events should be explained by being deduced from the plans that guide human action. It is in his plan that the individual brings into consistency his various intended actions and takes cognizance of the means at his disposal and of the obstacles that face him. This reformulated definition thus overcomes the problems raised by the first part of Watkins' definition and at the same time takes into account the second part of his definition: a description of the situation of individuals is implied in a knowledge of the plans of these individuals.

3. Methodological Individualism and the History of Economic Thought

We have seen in Chapter 2 the importance of

methodological individualism in the history of economic thought. The impact of this new approach to the explanation of economic phenomena will be briefly recalled here.

The essence of the subjectivist revolution in economic theory was the realization that value does not, as the Ricardians would have had it, reside in the good itself. The labour theory of value which measured the value of goods in terms of the number of labour hours embodied in the good was thus replaced by a subjectivist explanation of value. Value must be explained in terms of the preferences of individuals. An explanation of the prices and quantities existing in the economy at a particular time must involve the deduction of these phenomena from the decisions of individuals.

The principle of methodological individualism obtained a firm footing in economic theory in the 1870s (although, as is now acknowledged, there were others before this date who insisted on the importance of the principle) with the writings of Carl Menger, Walras and Jevons. However, this last statement needs some qualification. Methodological individualism has been defined in terms of the plans of individuals. If social phenomena are to be explained by being deduced from the plans of individuals then it is necessary to show that these plans are not determined by anything else. If, for example, the plans of individuals could be looked at as a response to a stimulus situation and if the precise nature of this

stimulus-response relationship could be formulated in the form of a law, then social phenomena could be explained in the form of the laws governing individual responses. As we have argued in Chapter 6, this conception *is inadequate*.(4)

However, the explanation of economic phenomena *in terms of the actions of individuals* which characterized the marginal revolution, was often explicitly couched *in deterministic terms*. Thus Menger at times regarded the needs of the individual as determined. Although he began with the individual, the voluntaristic postulate is, in places, absent, and Jevons, as has been shown, was extremely influenced by Bentham's utilitarianism. Similarly, in later times, the maximization postulate has been put forward as a determinant of economic behaviour. However, *for* a satisfactory account of economic phenomena such explanations cannot be admitted. It is necessary to proceed as if the individual is free in formulating his plans.

The principle of methodological individualism had another important impact on economic theory with the introduction into economics *of uncertainty*. The planning individual is certain that the consequences of his actions *cannot be known* to him with certainty.

4. *Criticism* of the Principles of Methodological Individualism

Watkins has claimed that there are two cases where a methodological- individualist explanation

does not work. "The first is a probability situation where accidental and unpredictable irregularities in human behaviour have a fairly regular and predictable overall result. Suppose I successively place 1,000 individuals facing north in the centre of a symmetrical room with two exits, one east, the other west. If about 500 leave by one exit and about 500 by the other, I would not try to explain this in terms of tiny undetectable west-inclining and east-inclining differences in the individuals, for the same reason that Popper would not try to explain the fact that about 500 balls will topple to the west and about 500 to the east, if 1,000 balls are dropped from immediately above a north-south blade, in terms of tiny undetectable west-inclining and east-inclining differences in the balls. For in both cases such an 'explanation' would merely raise the further problem: why should these west-inclining and east-inclining differences be distributed, approximately equally, among the individuals and among the balls?" (5)

Although it is not feasible to rule out the possibility of the existence of some phenomena where "accidental and unpredictable irregularities in human behaviour have a fairly regular and predictable overall result," it is necessary to take care in deciding which phenomena fall into this category. Closer scrutiny shows, for example, that the example given by Watkins can indeed be explained in individualist terms. The predictability of the overall behaviour of the individuals concerned

as contrasted with the unpredictability of the behaviour of each individual (we cannot predict in advance whether an individual will go out of the east or west exit) should not lead to the conclusion that the phenomenon cannot be explained in individualistic terms. By examining the phenomenon in terms of the plans of the individuals an acceptable explanation is achieved. If the aim of each of the individuals in the hall is to get home as quickly as possible, then, if there are a visibly greater number of people waiting at one exit and the individual believes that the rate of outflow through both exits to be equal, then he will move to the less crowded exit. In this case we have a real-world example of a tendency towards equilibrium which can be adequately explained in individualistic terms.

"The second kind of social phenomenon to which methodological individualism is inapplicable is where some kind of physical connection between people's nervous systems short-circuits their intelligent control and causes automatic ... bodily responses." (6) As examples, Watkins takes the temporary submergence of individuality "beneath a collective physical rapport at jive-sessions and revivalist meetings and among panicking crowds." (7) Here too, it is suggested, care must be taken in deciding whether intelligent control has been short circuited and "automatic" responses occurred. Some work has been done in the field of social psychology for example, in explaining certain types of mob behaviour in terms of the individuals who act as "triggers" and the feeling of

anonymity of the individual in a crowd. Thus in many cases it might prove unnecessary to resort to explanations such as those given by Watkins. Nevertheless, for present purposes it is important to decide how significant these exceptions are. If they are not too significant (and this has been suggested here) then an individualist explanation of social phenomena is not impaired.

Methodological individualism has also been criticized on the grounds that individuals often think in holist terms; it is therefore necessary, it is held, for the observer to formulate his explanation in holist terms. It must be accepted that individuals often think in holist terms and it is therefore convenient to incorporate holist terminology into some discussions regarding individuals. Institutions fulfil the function of orienting the actions of individuals, and the individual cannot but think of these institutions as social wholes. Nevertheless this does not alter the position that social phenomena must be explained by being deduced from the plans of individuals, including the holistic concepts that form a part of these plans. Thus for example, prices and quantities are to be explained by the preferences (plans) of individuals in spite of the fact that such holistic concepts as "banking institution" might have formed a part of some of these plans. Similarly, in economic theory it might be useful to explain the

existence of wholes (inflation) in terms of other wholes (full employment) without explicit reference to individuals. This does not alter the fact that these wholes are definable and explainable with reference to acting individuals.

Methodological individualism has also been criticized on the grounds that it does not take cultural conditioning into account. Thus, for example, Gellner has argued that "the real oddity of the reductionist case is that it seems to preclude a priori the possibility of human dispositions being the dependent variable in an historical explanation - when in fact they often or always are ..." (8)

It is important to emphasize that the social factors which influence the actions of the individual are by no means overlooked in the definition of methodological individualism given above. As Alfred Schutz has put it, at any point in time the actor finds himself in a biographically determined situation. It is acknowledged that much of the individual's knowledge has been socially and historically derived as testified, for example, by the language that he speaks and the formal and informal education that he has received. However, although the influence of cultural conditioning is recognized it is not possible to go as far as Durkheim who insists on the existence of "social facts" which exert a coercive influence on individual human action. (9) It is concluded, therefore, that man acts in an

environment which influences, but does not determine, his actions. The principle of methodological individualism does not require an answer as to why an individual acted as he did, that is, it does not require an explanation of the motives of human action; it examines the plans that guided the individual's actions and the subsequent consequences of these actions.

A final criticism of methodological individualism will be briefly examined. It has been held that since individual plans often miscarry, an explanation of social phenomena based on the plans of individuals is inadequate. It is not difficult to detect the inadequacy of this argument. The principle of methodological individualism does not in any way depend upon the subsequent success of individual plans. In fact, it has been stressed that social phenomena must be seen as the consequences, both intended and unintended, of human action. Thus in the discussion of the origins of money it was shown how this institution developed as a result of each individual trying to do as well in the market as he can, while the end result, the institution of money as a means of payment, was not planned by any of the individuals. (10)

Having considered several criticisms of the principle of methodological individualism, and having seen that the latter has emerged unscathed, we are in a position to accept this principle in

favour of its alternative, metaphysical holism.

5. Methodological Individualism and Social Explanation

It has been concluded above that social phenomena are to be explained by a process of deduction from the plans of individuals. The explanation is expressed in the form of a deductive model: plans are isolated and expressed in the form of a realistic model which shows how in the described situation the plans of individuals generate some social situation.

Since the construction of such models, as well as other points of related significance, are discussed in detail in Chapter 10, it is not intended to elaborate on this in detail here. Nevertheless, there are some things which should not go unsaid here. First, the plans of individuals are not in all cases observable, although they are observable in some cases, for example in the case of blue-prints. However, it does not matter whether a plan is observable or not since from the actions and creations [11] of individuals we are able to understand the purposes that guided these actions. We can understand the meaning that people attach to their actions since we ourselves are acting human beings. Secondly, the conclusions that are arrived at via the deductive process can be tested against the facts. Thirdly, although this method can be used for historical explanation it is contended that

it cannot be used for the purpose of predicting what will occur in the future. This point is expanded upon in Chapter 10. However, it can be said that if plans are inconsistent the plans of some will have to be revised. This has been called "negative prediction". Nothing though can be said about the specific nature of the revised plan, since, as has been shown, it is not possible to determine a priori the plan that the individual will choose in the light of his new experience and knowledge.

In the next Chapter some implications of subjectivism for the concept of equilibrium in economic theory are examined.

CHAPTER 9

SOME FURTHER CONSEQUENCES OF SUBJECTIVISM: EQUILIBRIUM IN ECONOMIC THEORY

1. Subjectivism and Equilibrium

In this section the notion of equilibrium will be critically analysed in the light of our previous discussion on subjectivism.

What is meant by equilibrium? The term was first introduced into economics from the field of mechanics. Like all analogies this one is also imperfect and many writers have pointed to the limitations of the comparison. [1] For the purposes of this thesis, therefore, equilibrium will be looked at in terms of the way it is employed in economic theory.

We may begin with the definition of equilibrium given by Machlup. [2] Equilibrium is defined as a "constellation of selected interrelated variables so adjusted to one another that no inherent tendency to change prevails in the model which they constitute." It is particularly important to note that the interrelated variables are *selected*. If a wider range of variables were to be selected then the equilibrium state relevant to the "smaller" model would no longer apply. Equilibrium is thus a relative concept depending upon the particular variables that the analyst has chosen to include.

Schumpeter has defined equilibrium in the following way: "if the relations which are derived from our survey of the 'meaning' of a phenomenon are such as to determine a set of values of the variables that will display no tendency to vary under the sole influence of the facts included in these relations per se, we speak of equilibrium: we say that these relations define *equilibrium conditions* or an equilibrium position of the system and that there exists a set of values of the variables that satisfies equilibrium conditions."(3)

There are two important and interrelated questions that are raised in examining equilibrium in a particular case. First, there is the question of the existence of equilibrium. Given the structure of the model chosen by the analyst, are there a set of economically meaningful values of the relevant variables that will permit the necessary conditions as pointed out in the above definitions to be realized? Secondly, there is the question of the stability of the equilibrium. If the system for any reason becomes one of disequilibrium, will there be a tendency to return to the equilibrium position? The two questions are connected, because if the system is in equilibrium in the first place, it is necessary to ask how this state of affairs came to be or, to put it another way, what are the implied requirements that are necessary for the economic phenomenon to be in equilibrium? This latter question will now be examined.

It is necessary to distinguish between the equilibrium of the acting individual and what will be called an inter-individual equilibrium. The concept of the equilibrium of the individual includes equilibrium where the individuals act in concert or where they operate in a group directed by one of the individuals. A typical example is a household or the board of directors of a firm. In this case it can be said that a tendency towards equilibrium exists in that the "individual" will attempt to bring his various actions into consistency with one another. Once this has been achieved, there will be no further tendency to change.

But even at this simple level there are problems that must be faced. It has already been shown that human action is geared to the future and takes place in time. The actions of the "individual" will be based on the stock of knowledge that he possesses at that particular point of time. But knowledge changes over time as the "individual" gains new experiences. Therefore my actions undertaken yesterday may not be consistent with my actions undertaken today if my knowledge has changed in significant respects in the interim. Thus even with the "individual" mind there may not be equilibrium over a period of time. We can say, however, that the actions which have resulted from the same plan must be consistent with one another, that is, must stand in equilibrium relationship to

one another. The logic of the human mind will not permit the different elements of the plan to be incousistent since success depends on consistency.

In this regard what Professor Lachmann has said in connection with the approach of the historian is relevant: "He [the historian] must ask how far the variety of purposes pursued by the individual whose actions he studies (as by any other individual) 'fitted together'. He has to ascertain 'The Plan', the coherent design behind the observable action in which the various purposes as well as the means employed are bound together. He thus has to conduct coherence tests on two levels. In each case he has to ascertain:

(1) whether the purposes he ascribes to the individual acting are in fact consistent with one another and fit into the framework of a general plan, the execution of which would account for the known facts,

(2) whether the design and execution of such a plan are in fact consistent with whatever else is known about the intentions, circumstances, etc. of the individual whose action is the subject under study."(4)

This task of the historian is extremely difficult because, as has been seen, the specific plans of the individual will change over time as the individual's knowledge changes. Nevertheless, the historian

proceeds on the (valid) assumption that at each point in time the individual is in equilibrium, that is, his actions stand in a consistent relationship to one another *since they are guided by the same plan.*

It is necessary to note, in passing, that consistency must be defined subjectively, that is, it must be defined with reference to the point of view of the actor himself. Actions which, to the omniscient observer, are seen to be "objectively" inconsistent may have seemed at that time to be *perfectly consistent* to the actor. It is concluded then, that from this subjective point of view the elements of the individual's plans and the actions that follow from them, must be consistent. In this sense, therefore, equilibrium of the individual's actions *makes sense and, indeed, is an essential* part of the logic of human action.

What, given the definitions of equilibrium noted above, can be said about equilibrium involving several individuals acting independently of one another? This question will be pursued in two directions: on the one hand, what are the requirements for *the existence* of an inter-individual equilibrium so that the necessary conditions are fulfilled? Secondly, what reason do we have for assuming that there will exist a tendency towards equilibrium?

The above definitions given by Schumpeter and Machlup *show that in equilibrium there must be no* tendency for the relevant variables included in the

model to change.[5] The variables which the economist deals with (price, quantity, output and so on) are the consequences of human action.[6] If there is to be no tendency for the relevant variables to change under the given conditions, then the plans of the different individuals must be consistent with one another and must be consistent with the other "external conditions". If the plans of individuals are not consistent, if they do not 'dovetail' then, over time, the plans of some will be frustrated and will thus have to be revised. The revision of plans and hence of actions will mean that there will be a tendency to change in the relevant variables of the model. Equilibrium will not be maintained over time.

In order to illustrate, with a practical example, the economic significance of the inconsistency of plans, the savings and investment problem will be mentioned. If the amount that savers intend to save exceeds the amount that investors intend to invest, that is, if their plans are inconsistent, then their plans will be frustrated in the familiar way. As the plans of individuals are frustrated so they will be revised. The question regarding what can be said about this revision will be examined later.

In addition to the requirement that the plans of individuals must be consistent for equilibrium to exist it is also necessary that the plans must be consistent with the other external conditions. For

if plans are based on false suppositions regarding these external conditions then with the passage of time the planners will be proved wrong and will have to change their plans. Again there will be a change in the relevant variables.

It is concluded therefore, that the requirements for the existence of *inter-individual equilibrium* are that the plans of the individuals must be consistent with one another and with the other external conditions.

Having examined the requirements for the existence of equilibrium it is necessary to look at the problems inherent in the attainment of equilibrium.

If there is to be a tendency towards equilibrium over time (the tendency can only manifest itself over time) then the plans of individuals must become gradually more consistent with one another and with the other external circumstances. How likely is it that this will in fact occur in any situation?

At any point in time it is highly unlikely that the plans of individuals will be consistent. It is necessary to show that the most unrealistic assumptions are required to argue that over time plans will become gradually more consistent.

Plans may be inconsistent at any point in time since, as has been shown, the plans of the individuals *will be based on the knowledge* that they have at their disposal. It has also been argued that different people will acquire different "bits" of knowledge from the same situation and it has been suggested

that this is due to the different terms of relevance of different individuals. Moreover, if an event occurs which is relevant, let us assume, to all the actors the knowledge will only gradually filter through to the individuals. Exactly how the knowledge will be disseminated will depend on the existing channels of information flow and upon the abilities of different individuals to acquire this knowledge. This ability is not equally distributed amongst men and the very fact that it takes time for information to be conveyed will mean that different individuals, at each point in time, may well act in ways that are inconsistent. Equilibrium will therefore not exist over time.

Nevertheless, it may be argued, given sufficient time, the knowledge will become common to all men and thus their actions will become consistent with one another and with the external circumstances. This is the precise result that is arrived at by the assumption of a stationary state. In a world where conditions never change men will gradually come to know more about their environment and this will lead to their plans becoming more consistent. In an unchanging world the divergence of plans will mean that some or all of the individuals will ultimately be proved incorrect and, unlike in conditions of change, men will learn from their mistakes confident that this new knowledge will be perfectly relevant in the future.

A world of change on the other hand, is an uncertain world. In such a world the expectations of different people will differ and hence may be inconsistent. Nor is it possible for the individual to "learn from experience" in the same way that he does in a changeless world. Knowledge gained in the past might not be relevant in the world of tomorrow as the facts of obsolescence and malinvestment, to give just two examples, show. It is not possible to claim that expectations will converge as people come to learn more about the changed situation since it has been seen that the process of "coming to learn more" takes time. In the meanwhile the situation might have changed once more. In such a world, it must be concluded, the gradual convergence of expectations which is necessary for the existence of a tendency towards equilibrium might not occur.

The above argument hinges largely on the following assumption: that change proceeds at a rate which is rapid relative to the speed at which individuals in the economy adjust to the change. If this were not so, if the "reaction velocities" were fast enough to enable the individuals to adjust to the change, then plans would, at the end of the adjustment process, be consistent and equilibrium would exist. But even here we run into great difficulties. If we do not assume perfect foresight with the result that supply does not adjust instantaneously to demand,

then transactions will take place at disequilibrium *prices and this will have the effect of changing* the very equilibrium towards which there is a supposed tendency. As Professor Lachmann has put it: " ... without such [perfect] foresight the adjustment of supply to changes in demand will certainly be delayed, and during the delay there will be disequilibrium in the markets affected. If any transactions take place during the period of disequilibrium (and, in a continuous market, how could this fail to happen?) the conditions of our moving equilibrium will be changed for the very same reasons for which Edgeworth and Walras had to introduce 're-contract' to safeguard the determinate character of their final equilibrium position." (7)

In examining the process towards equilibrium it is therefore necessary to examine not only the speed of change of the "data" and the speed of reaction on the part of individuals to this change, but account must also be taken of the transactions that take place at disequilibrium prices. Thus capital which is accumulated at disequilibrium prices will present problems as regards the attainment of the new equilibrium. In equilibrium the owners of capital must be prepared to exchange each machine for an *identical replica, otherwise the owner is not in* equilibrium. Capital which is durable and which is accumulated in conditions of disequilibrium will therefore present important obstacles to the attainment of equilibrium.

Equilibrium, Statics and Dynamics

Although different meanings have been given to the word statics at the hands of different writers and at different times, [8] it is nevertheless possible to distil the general meaning of the word. A static situation is one characterized by the absence of change. In such a situation the relevant variables (tastes, population, capital stock, technology) remain constant over time. The importance of the passage of time in such a world is accordingly removed and all the relevant variables can be regarded as belonging to the same point of time. It remains to examine the relevance of the assumptions of static theory for the concept of equilibrium.

Before doing so it is helpful to distinguish, as Hicks does, [9] between what we shall refer to as static theory and the static method respectively. While static theory refers to the theory of the stationary state, static method is one of the ways of analysing dynamic conditions. [10]

"The crucial assumption of static theory (without which it could not have developed as it has been developed) is that a static economy (static, because tastes and resources are unchanging) can be treated as if it were in equilibrium ..." [11] As we have shown above, equilibrium will be the end result of the conditions postulated by the stationary state . The plans of different people

will, under the unchanging conditions, adjust to one another and to the given conditions so that ultimately plans will be consistent and equilibrium will be established. From that point on, actions will be repetitive: firms and households will be producing and consuming those quantities which they prefer, and firms will replace their capital stock with exact replicas because these are best suited to the (unchanging) conditions.

In such a world, it is clear, there is in essence no future. As Shackle has put it, "In the equilibrium model there is no future, for the future essentially implies ignorance." (12)

The static method, on the other hand, is one of the methods available in an analysis of dynamic situations. "The crucial characteristic of what we are calling the static method is ... that the equilibrium of time t ... [can] be taken to be determined by current parameters only; or ... that the equilibrium of the single period may be treated as self-contained." (13) The dynamic situation is then looked at as a sequence of single periods and the static method is used to examine each of the self-contained periods.

Having said this it is necessary to proceed and ask whether the static method is adequate for the analysis of dynamic situations. The stationary state is in essence a timeless state. Since the future is exactly the same as the past the one can be substituted for the other without any difficulty. What has been

referred to here as the static method is entirely adequate for the analysis of such conditions. But the matter is fundamentally different when the situation to be analysed is a dynamic one. For "the essence of the dynamic problem [is] that present and future are not identical" [14] and where this is the case we are obliged to take into account the plans of the respective actors. However, the static method is incompatible with the existence of planned action:

"proper dynamic theory even at its single-period state, must take account of the fact that many activities that go on within the period are oriented outside the period; so that what goes on, even within the period, is not only a matter of tastes and resources, but also of plans and expectations. In statics there is no planning; mere repetition of what has been done before does not need to be planned. It is accordingly possible, in static theory, to treat the single-period as a closed system, the working of which can be examined without reference to anything that goes on outside it (in the temporal sense). But this is not possible in dynamics. Even at the single-period state, the links which relate the single-period to the rest of the dynamic process cannot be neglected." [15]

In the light of this conclusion what can be said about equilibrium and the analysis of the real world of dynamic change? To begin with we can show that equilibrium over a period of time is not possible. Hicks has shown that for equilibrium to exist over a period of time it is necessary to assume that expectations within the period are held with certainty. [16] If this

is not so it is possible, in a changing world, that from the vantage point of a later point of time, tn + 1, equilibrium did not exist at an earlier point in time, tn, even if equilibrium did exist (in an ex ante sense) at tn itself. The reason for this is that in a changing world it is possible that the *expectations on which the equilibrium at tn was based* have been proved incorrect by the time tn + 1 is reached. Thus for equilibrium to exist over a period of time, equilibrium must exist at each point-in-time during the period, and for this to happen, as we have seen, expectations must be held with certainty. Since the real world is a world of uncertain change we can conclude that in such a world equilibrium over a period of time is not possible. We accordingly reject that the concept of equilibrium over time is useful in understanding dynamic situations.

But this does not constitute a denial of the existence of equilibrium at a point of time. As Hicks has put it: equilibrium at a point of time exists "if 'individuals' are reaching a preferred position, with respect to their expectations, as they are at that point. It is only to such an equilibrium that there can be a tendency." (17)

Equilibrium and Reality

For all the reasons examined above it can be seen that the assumptions made in equilibrium analysis, both in the field of "statics" and "dynamics", are

highly unrealistic. A concept which makes sense at the level of the individual, and indeed, is part of the logic inherent in human action, does not make sense when it is used to describe interaction between several individuals. Is it thus justifiable to continue to use models which are based on the assumption of equilibrium?

This question, to put it mildly, is an extremely difficult one to tackle. Actions (in this case, the construction of models) can only be justified in terms of the intentions of the actor. (18) This therefore requires an inquiry into the intentions of the model-builder, and inevitably raises the complex problem of the relationship between a model and the real world. On the one extreme, if the model-builder aims at constructing a "pure theory", that is, if he aims at examining the consequences that would follow under certain conditions, whether or not these conditions exist or have existed in the real world, then discussion regarding the "justifiable" use of equilibrium must assume a special light. Obviously no valid criticism can be made of the use of equilibrium in this context. Equilibrium follows logically (if the existence and stability problems have been overcome) from the assumptions of the model.

On the other hand, other economists have argued that even though equilibrium does not exist in the real world at each point in time there nevertheless does exist a tendency towards equilibrium values. In this connection the analogy of the waves of the sea is often used.

Thus, for example, J.B. Clark has said that "A static society is an impossible one; for the forces that bring men together in the social state have in themselves the power to make society change its form and its mode of action. In reality, the social structure grows and improves daily, and will do so to the end of time ... [However], the description of the purely static state, in fact, deals with realities. It is imaginary only by its omissions; for it presents an essential part of the forces that act in the real, dynamic world. The influences that bring about the group adjustment that we have just described, and all that it involves are not imaginary; they are as real as anything on earth. They are always acting in the midst of the most violent disturbances that dynamic forces produce. As an illustration we have used the sea. A static ocean is imaginary, for there never was such a thing; but there has never been a moment in the history of the stormiest seas, when the dominant forces that controlled them were those which, if left entirely alone, would reduce their waters to a static condition." [19] In a similar way, Clark adds, "the static state ... is the one toward which society is at every instant tending, under the influence of competition."[20] Nor has this view been put forward only by the older economists. Milton Friedman has expressed a similar point of view. [21] At any point in time there is a tendency towards equilibrium and we can therefore treat the system as if it were actually in equilibrium. It is

admitted that the concept of equilibrium is a construct of the mind and does not exist in the world but it is nevertheless held that by assuming the existence of equilibrium adequate results are achieved.

Other writers, however, have rejected the usefulness of the concept of equilibrium and recommended the introduction into economic theory of alternative tools. Thus, for example, Professor Lachman has argued that "In the Walrasian system the notion of equilibrium is employed as a formal device to unify economic action on the three levels of individual, market and system. This unification is apparently accomplished at one stroke on all three levels. Hence the formal elegance and architectonic unity which have so fascinated many of our contemporaries. But, as we saw, poverty of content is here the price to be paid for elegance of form. While we learn something useful about what governs and unifies individual action, we merely learn a few half-truths about the forces operating in the system as a whole."(22) It is thus suggested that a theory of the market process must be evolved in order to replace the concept of equilibrium.

With regard to the two opposing views on the usefulness of the equilibrium asumption referred to above, it is necessary to realize that both views accept (a) that equilibrium does not exist in the real world but that (b) there are equilibrating tendencies in any disequilibrium situation. The divergence of opinion appears to arise in assessing the strength of these

tendencies. Thus Clark would hold that the equilibrium wage rate would give the analyst a good idea of the existing wage rate structure since the latter will be strongly tending towards (and hence will not diverge too significantly from) the former. The opposing view would deny this. To quote Professor Lachmann once more: "... a good deal always depends on the speed of the adjustments following disequilibrium. Where these are made rapidly, equilibrium may be reached before the next unexpected change occurs. Most economists agree that the market is an agent for the diffusion of information, but we may well doubt whether this can be at all regarded as a rapid process. Equilibrium theory, in order to affirm the existence of a strong tendency towards it, has to assume that correct information about equilibrium prices and quantities is readily distilled from market happenings and available to all participants. Otherwise there can be no immediate adjustment. With slow adjustments a good deal may happen in the meantime before equilibrium is reached. In reality, of course, information will spread slowly because not all participants have the same ability to assess the informative significance of the events they observe." (23)

Accordingly, although there is a tendency at any moment in time towards equilibrium, this tendency can be regarded as being weak because the process of the distribution of knowledge is slow. The tendency is thus likely to be overtaken by new unexpected events. The question ultimately boils down to an empirical

question and the answer to it depends upon two factors: the rate of unexpected change and the speed of adjustment to this change, the latter depending upon the factors that determine the dissemination of knowledge.

If it is found that the two factors mentioned operate in such a way [24] as to negate the usefulness of the equilibrium assumption then, needless to say, the consequences are of great significance. Policy recommendations based on theories assuming the existence of equilibrium must then be viewed with caution. This applies, of course, also to the econometric models which assume equilibrium. In order to illustrate this point a widely acknowledged example will be taken from the field of development economics.

As has been shown [25] many economists writing on the capital needs of the developing countries have used the assumption of a stable overall capital-output ratio of the type used in the Harrod-Domar growth model. It is thus concluded that if the particular developing country has a population growth rate of 2% p.a. and if it wishes to grow at a rate equal to 4% p.a., that is, if it wishes to increase its per capita income at the rate of 2% p.a., then it must save 12% of its national income per year, assuming a capital-output ratio of 3. [26] The "problem of development" is thus reduced to one of raising the level of savings to 12% if that country wishes to increase its per capita income by 2% p.a.

Myint notes that the assumption of a stable overall capital-output ratio, which is justified for the mature

phase of the advanced countries, also assumes constant returns to scale for the economy as a whole and this assumption is not met in the developing countries which have important agricultural sectors. The use of a constant capital-output ratio thus has serious limitations. But there are other difficulties that are at least as important. The process whereby output increases in developing countries is very different to that of developed countries. For this reason it is being increasingly realized that the increase in material capital in the developing countries does not provide the answer to the development problem. Accordingly increasing attention is being paid to investment in "human capital" [27] and other (non-economic) variables such as the changing of attitudes. The application of a constant capital-output model derived from the equilibrium growth theory of the Harrod-Domar model amounts to a mechanical treatment of an extremely complicated matter and does not yield satisfactory results. It affords another example of policy recommendations being made on the basis of conclusions drawn from highly unrealistic assumptions. [28]

CHAPTER 10

ECONOMIC THEORY AND THE FUTURE

1. Introduction

It is intended in this C' ter to bring together several points that have already been made in different parts of this thesis with a view to deciding how useful economic theory can be in throwing light on the future. In order to answer this question it is necessary to summarize some views that have already been expressed.

2. The Prediction of Human Action

Future human action cannot be determined from a knowledge of past events. It is thus not possible to say what a given individual will do at a given point of time in the future. (1) It is this conclusion that is referred to when it is said that prediction in the social sciences is not possible.

The unpredictability of future human action can be contrasted with one example (not in all respects typical) from the natural sciences. In the field of celestial mechanics (2) prediction is possible. Given an initial situation, that is, the positions of the sun and planets at any one time, together with a universal law, the Newtonian theory of gravity, it is possible to predict their position at any other time either in the past or the future. It is thus possible to predict future eclipses

or explain eclipses that have taken place. We have faith in these predictions because they have not been refuted in the past. The system referred to here may be looked at as a closed system where all the relevant variables are known and interact only with one another. We thus possess "perfect knowledge" which enables us to stipulate the future state of the variables concerned.

In the social sciences, on the other hand, there is an irremovable element of uncertainty that results from the impossibility of predicting (future) human action. What are the implications of this for economic theory?

To begin with, it is necessary to distinguish between "pure" economic theory and "empirical" economic theory. Pure economic theory does not claim to have any empirical content. It only aims at deducing the consequences of certain assumptions whether or not real conditions can be found which correspond to these assumptions. Empirical economic theory, on the other hand, aims at an explanation of events that have taken place. Attention in this Chapter will be focussed only on empirical economic theory.

It has been shown that the hypothetico-deductive method (which some writers have claimed is the method of the empirical sciences) is entirely appropriate to the natural sciences. Furthermore, prediction is possible in the natural sciences where the "continuity of environment" axiom plays so important a part. (It is conceivable, but unlikely, that Newton's apple would suddenly move in the opposite direction.) Prediction in the natural

sciences thus "consists in deriving a statement about a certain future event ... from (i) statements describing certain known (past or present) conditions ... and (ii) suitable general laws ..." (3)

It has been contended by those supporting the "unity of method" that the same method is appropriate for the social sciences. This contention will now be considered.

There are at least two important differences in the subject-matter of the social and natural sciences that do influence the method that is appropriate in each case. Thus as has been noted elsewhere the hypotheses of the social sciences are often based on the understanding that acting individuals (or observers) have of the actions of some or all other individuals. This understanding, it is accepted, is not open to the natural scientists.

Nevertheless, it is argued, in spite of this important difference between human and natural phenomena, the method used by the natural and social sciences is still the same. In order to assess this argument it is necessary to take note of the second difference between social and natural phenomena. In the natural sciences, because of the realism of the postulate of the "continuity of environment", a hypothesis which has not been refuted by the observed facts does provide knowledge about the future. But this is not true in the case of the social sciences. For in this case the observed social phenomena, for example, prices and quantities, are the consequence of human action. And there is no logical reason to hold

that human beings will continue to act in the future as they did in the past. The continuity postulate is lacking in the social sciences. Thus although a hypothesis is supported by the observed facts at a point in time, these observed facts might change as human action changes at a later date. A social theory that has not been refuted thus cannot, logically, provide knowledge about the future.

It is accordingly necessary, in the social sciences, to separate historical explanation (explanation of past events) from social prediction (prediction of future events) although it has been demonstrated that prediction and explanation are formally the same. (4)

The hypothetico-deductive method is entirely adequate for the purposes of historical explanation in the social sciences. But it cannot be used to predict social events that will occur only in the future because future "initial conditions" consisting of future constellations of knowledge, cannot be predicted.

3. Economic Theory and Historical Phenomena

The use of the hypothetico-deductive method in historical explanation will now be elaborated upon.

An historical event is explained by finding the initial conditions and "explanatory hypotheses" from which the event may be deduced. If either the initial situation or the explanatory hypotheses are considered to be problematic then the conclusions of the deductive

chain of reasoning can be tested against the (historical) evidence and either supported or refuted. In this way a past event can be empirically explained.

It should be noted that we have *referred to* "explanatory hypotheses" and not, as is more usual, universal laws. The reason for this terminology is that, as has been shown, it is not possible in the social sciences to talk of "laws" of human action. At a later point of time an individual (or many individuals) might decide to act in a different way. It is thus misleading to talk of universal laws.

This may be illustrated with an example. Assume that the historical event to be explained is the killing of Smith by Brown. In explaining this event the following explanatory hypothesis may be used: When Brown is under the influence of alcohol and is angered he becomes violent. But although this explanatory hypothesis is adequate in explaining the killing of Smith it cannot be concluded that if Brown in the future is under the influence of alcohol and if angered, he will kill someone else. The explanatory hypothesis can thus be used for the purposes of historical explanation but not for social prediction.(5)

Although the example given refers to two individuals, the same principle could be illustrated with reference to large groups of people. A good example of the impossibility of predicting the actions of large groups of people is found in the inability to predict, for example, violent revolutions.

Thus the "backward-looking" nature of the

hypothetico-deductive method in the social sciences is to be stressed.

4. Economic Theory and the Future

Can economic theory say anything about the future and if so, precisely what can be said?

If a logically consistent theory is looked at as a conditional statement, in a way similar to the conclusions that follow from mathematical axioms, then theories can say the following about the future: if conditions in the future are the same as those contained in the assumptions of the theory, then the conclusions "predicted" by the theory will follow. But of course, human action may change with the result that future conditions may not approximate the assumptions of the theory and the "prediction" will accordingly be refuted. (6)

If human action does, in fact, change significantly over time then such a conditional statement will not be useful in illuminating what may be expected in the future. But can anything be said about the rate of change of human action over time? If it can be shown that much of the human action that is relevant for an understanding of economic phenomena does in fact, remain fairly constant over time then forecasts at least in the short-run, can be shown to be reasonably accurate. Whether such relevant human action does remain fairly constant over time or not is an empirical question. However we can say that in an uncertain world where people make plans

based on inconsistent expectations, the plans of some will be frustrated and will therefore be revised. But in such a world prediction is impossible since the exact nature of the revised plans cannot be predicted.

5. The Use of Statistical Techniques in Economics

The use of statistical techniques in the social sciences cannot enable us to overcome the obstacle presented by the unpredictability of human action. It is unsatisfactory to argue that "probability hypotheses" [7] based on statistical findings can be used instead of explanatory hypotheses in predicting future social phenomena. Nor can Brodbeck's statement that the social sciences "have developed techniques [most importantly statistical techniques] to compensate for lapses in closure and completeness" [8] be accepted. Statistics, as must be emphasized (and as we noted above has been emphasized by Mises) are by definition based on past events, the consequences of past human action. It is accordingly not possible to infer from these events what will happen in the future.

The observation made by Hicks with reference to econometrics also applies in general to what was referred to as empirical economic theory. As Hicks has put it: "the characteristic of econometrics ... that its theory is applied theory, not pure theory - explains why it is that it can only lead up to 'projections' or prognostications: forecasts of what will happen, if the same forces as have been operating continue to operate in the future, not

what will happen if a new form of organization (in the widest sense) is introduced. Once policy is introduced as a variable, we have to go beyond econometrics."[9] There is no doubt that Hicks accepts that this conclusion holds for all applied theory or empirical economic theory. However, we should add that, as shown by our prior analysis, the policy that Hicks mentions should be taken to refer to human action in general.

6. Conclusion

In this Chapter some consequences of the postulates of subjectivism have been examined with a view to deciding how much light can be thrown on events to be expected in the future by economic theory. Starting from the unpredictability of human action, a feature not important in the natural sciences, "the doctrine of the unity of method, that is to say, the view that all theoretical or generalizing sciences make use of the same method, whether they are natural sciences or social sciences" [10] was in part rejected. It was seen that although the hypothetico-deductive method can be used for the purposes of historical explanation it cannot be used for the purposes of social prediction. Thus the claim for the unity of method can be accepted as regards the explanation of past events. But while the natural sciences can predict future events, although this may be difficult in some cases, e.g. the prediction of an earthquake, prediction is not possible in the case

of the social sciences. It is here that an important asymmetry between the natural and social sciences arises.

The conclusions of this Chapter are illustrated with reference to an article by R.G. Lipsey. [11] In this paper Lipsey claims that he "as a practitioner in the field of economic science searches for stable patterns of human behaviour in the economic sphere. Such behaviour patterns provide the basis for making the testable predictions without which there can be no science." [12] The rest of the paper consists of an elaboration of the stable relationship between the demand for labour (as measured by the amount of unemployment) and the rate of increase in wages first noted by Professor Phillips. [13] For present purposes it is not necessary to examine the conclusions arrived at by Lipsey and comment is therefore restricted to his methodological conclusions.

According to Lipsey, the economist often postulates certain stable behaviour patterns and then deduces what their consequences would be. The final stage involves searching the data to see if these consequences can be observed. Lipsey thus postulates a direct relationship between the demand for labour (taken to be inversely related to the level of unemployment) and the rate of increase in wages. Subsequent attempts to test this postulate proved successful except for some minor difficulties. Lipsey therefore concludes that "One is left, at the end of all this, with a feeling of the

possibility of a truly scientific study of human behaviour in the economic sphere and with an attitude of optimism about the long-term development of such a science. In the past, economists both amateur and professional, have ... taken too much to heart the difficulties of predicting individual behaviour and forgotten the remarkable group stability in many fields ... [They have also] been too easily convinced, a priori, that every historical sequence is unique. When in fact we take a look in a sphere most affected by these defeatist arguments we find evidence of simple behaviour patterns, remarkably stable over, what in economics is a very long period of time, and, when complete stability has not been maintained, we find what looks like a reasonable chance of developing and extending our theories to cover these more complex patterns of behaviour." (14)

Just two comments will be made in connection with Lipsey's conclusions. In the first place the difficulty of confronting the consequences of postulates with the observed facts has already been noted above. In dealing with complex phenomena it is often difficult to come to clear-cut conclusions such as those arrived at by Lipsey. Thus, for example, Hines (15) has argued that although Lipsey and others have explicitly rejected the significant influence of trade unions on wages, his (Hines') research gives evidence to the contrary, namely that "trade unions do affect the rate of change of wages independently of the demand for labour." (16)

Secondly, even if it could be unambiguously shown

that a stable relationship has prevailed between different variables over time, this does not mean that the observed relationship must continue into the future. The "prediction" that an increase in the demand for labour as shown by a fall in unemployment will lead to a rise in the rate of increase of money wages must therefore be seen as a forecast based on the assumption that the factors underlying the stable relationship remain the same in the future. The development of significant changes in the institutional structure might, for example lead to a disturbance of the relationship. (17) The same can, of course, be said about the empirical studies done on the demand for money. A stable demand for money (so important as regards policy implications) that has prevailed in the past might not do so in the future. Friedman's observation that money may be regarded as a "luxury good" since the amount demanded increases at a rate somewhat faster than the increase in income might not hold true in the future. (18) Empirical studies are, by definition, based on the past whereas in the future, human action might change.

However, the usefulness of such empirical work must not be underestimated. A great deal is achieved from understanding, for example, the precise influence that trade unions have had on the money wage rate, and even though this does not eliminate all the uncertainty regarding what is to be expected in the future, it does allow a feeling of greater confidence in that the future can be faced with a firm understanding of the past.

NOTES

PREFACE

(1) Hayek, F.A. "The Dilemma of Specialization" in Studies in Philosophy, Politics and Economics. London: Routledge & Kegan Paul, 1967, p. 124.

(2) Kauder, E. A History of Marginal Utility Theory. Princeton, New Jersey: Princeton University Press, 1965, p. 231.

CHAPTER 1

(1) Lachmann, L.M. The Legacy of Max Weber. London: Heinemann, pp. 38, 39.

(2) This will be discussed in Chapter 4 on Mises.

CHAPTER 2

(1) Hayek, F.A. The Counter-Revolution of Science: Studies on the Abuse of Reason. London: Collier-Macmillan, The Free Press of Glencoe, 1955, p. 31.

(2) Smith, A. An Inquiry into the Nature and Causes of the Wealth of of Nations. London: J.M. Dent, (Everyman Edition), 1910, pp. 41, 42.

(3) See Myrdal, G. The Political Element in the Development of of Economic Theory. London: Routledge and Kegan Paul, 1953.

(4) Kauder, E. A History of Marginal Utility Theory. Princeton, New Jersey: Princeton University Press, 1965.

(5) Ibid. p. 6.

(6) Kauder, E. "The Genesis of Marginal Utility Theory" Economic Journal, September, 1953, p. 650.

(7) Letters of David Ricardo to John Ramsay McCulloch, 1816-1823, ed. by J.R. Hollander, Publications of the American Economic Association, Vol. X, New York: 1895, p. 72 quoted in Myrdal, G. op. cit. p. 77.

CHAPTER 1 cont.

(8) It has not been possible in this short historical introduction to consider in detail the classical theory of value. The aim has been rather to illustrate the essentials of the labour theory of value in order to compare it with the later conception of the neo-classical writers.

(9) Kirzner, I.M. The Economic Point of View. Princeton, New Jersey: D. van Nostrand, 1960, p. 18.

(10) See, for example, Roll E. A History of Economic Thought. Englewood Cliffs, New Jersey: Prentice-Hall, 1936, pp. 303-311.

(11) Hayek, F.A. "The Austrian School" in David L. Shills (Ed.) International Encyclopedia of the Social Sciences. New York: Macmillan, 1968, p. 458.

(12) Different writers have had different meanings in mind when referring to the "laws of human needs." Carl Menger's views on this topic will be discussed in the next Chapter with a view to deciding whether he can be regarded as a subjectivist.

(13) Schumpeter, J.A. op. cit. p. 84.

(14) Bowring, J. (Ed.) The Works of Jeremy Bentham. Edinburgh, 1843, 3rd Vol. Chapter IV p. 229.

(15) See Kauder, E. A History of Marginal Utility Theory. p. 11, et. seq.

(16) Ibid and Blaug, M. Economic Theory in Retrospect. London: Heinemann, 1962. p. 281.

(17) Kauder, E. op. cit. p. 14.

(18) Bentham, J. Introduction to the Principles of Morals and Legislation. London: Athlone, 1970, p. 1.

(19) To illustrate this point an extract is taken from J.S. Mill's Autobiography where he refers to his father: "It was my father's opinions which gave the distinguishing character to the Benthamic or utilitarian propagandism of that time. They fell singly, scattered from him, in many directions, but they flowed from him in a continued stream principally in three channels. One was through me, the only mind directly formed by

CHAPTER 1 cont.

his instructions .... Though none of us, probably agreed in every respect with my father, his opinions, as I said before, were the principal element which gave its colour and character to the little group of young men who were the first propogators of what was afterwards called 'Philosophic Radicalism.' Their mode of thinking was characterized by ... a combination of Bentham's point of view with that of the modern political economy, and with the Hartleian metaphysics." J.S. Mill, Autobiography p. 101, quoted in W.J. Ashley's Introductions to J.S. Mill Principles of Political Economy. London: Longmans, Green, 1926, pp. vii & viii.

(20) Myrdal, G. op. cit.

(21) Kauder, E. op. cit. p. 96.

(22) Menger, Carl. Problems of Economics and Sociology. Edited and with an introduction by Louis Schneider. Urbana: University Press of Illinois, 1963, p. 63.
Menger's views are examined in greater detail in the following chapter.

(23) Kauder, E. op. cit. p. 128.

(23a) Kauder, E. op. cit. p. 14.

(24) Robbins, L. An Essay on the Nature and Significance of Economic Science. London: MacMillan & Co., 1932.

(25) ibid, p. 16.

(26) ibid, p. 77.

(27) ibid, p. 122.

(28) ibid, pp. 23, 24.

(29) As Kirzner has put it: "To construct a model of action in terms of ends so conceived [i.e. as data] may lead one unwittingly to disregard the fact that to the actor himself ends are not data at all, but have been purposefully chosen and are constantly in danger of being supplanted by newly prized ends. In viewing economics as concerned with preselected ends that are the ultimate frame of reference for a particular economic problem, one must exercise constant care not to transform these chosen

CHAPTER 1 cont.

ends into objective "pulls" similar to physiologically conditioned "needs", for this would turn economic activity into a series of reflexes responsive to quasi-biological tropisms." Kirzner, I. op. cit. p. 130.

(30) The notion of the plan is obviously of fundamental importance to this thesis and is elaborated upon in detail particularly in Chapters 6 and 7.

(31) According to Kirzner, the contribution of Max Weber to "the evolution of praxeological ideas ... scarcely approaches that of Croce." Kirzner, op. cit. p. 57. However, for a view of the role of Weber's concept of verstehen in praxeological analysis, see Lachmann, L.M. The Legacy of Max Weber. London: Heinemann, 1970.

(32) See International Economic Papers, No. 3, London, 1953.

(33) in „Das Wesen und der Hauptinhalt der theoretischen Nationalökonomie," Leipzig, 1908.

(34) Kirzner, I.M. op. cit. pp. 69, 70.

(35) In this connection it is noted that Menger, who saw the wants of the consumer as the genesis of economic analysis and as the cause of the value of all goods, found the mathematical method used by Walras and Jevons unsuited to his approach to economic phenomena. See Kauder, E. op. cit. p. 98.

(36) Weber, Max. The Theory of Social and Economic Organization, translated A.M. Henderson and Talcott Parsons. London: William Hodge & Co., 1947.

(37) In Chapter 10, the point of view is discussed which claims that, although the subject-matter of the social and natural sciences differ, the method appropriate in the study of both is essentially the same.

(38) Machlup, F. "The Inferiority Complex of the Social Sciences," in Sennholz, Mary H. (Ed.) On Freedom and Free Enterprise Essays in Honour of Ludwig von Mises Princeton, New Jersey: van Nostrand, 1956.

(39) Edgeworth, F.Y. Mathematical Physics. London: C.K. Paul & Co., 1881 [London: The London School of Economics and Political Science Reprints, 1932], p. 15.

CHAPTER 2 cont.

(40) Myrdal, G. op. cit. p. 92.

(41) Weber, Max. Gesammelte Aufsätze zur Wissenschaftslehre. Tübingen, 1922, p. 373. Quoted in Mises, L. Human Action: A Treatise on Economics. London: William Hodge, 1949, p. 126.

(42) Mises, L. ibid. p. 124.

(43) The methodology espoused by Mises is examined in detail in Chapter 4.

(44) Lachmann, L.M. "Professor Shackle on the Economic Significance of Time." Metroeconomica Vol. XI, September, 1959, pp. 72, 73.

(45) Shackle, G.L.S. The Nature of Economic Thought. Selected Papers 1955-1964. London: Cambridge University Press, 1966, p. 28.

(46) See Chapter 7.

CHAPTER 3

(1) Translated as Problems of Economics and Sociology edited and with an introduction by Louis Schneider. Urbana: University of Illinois Press, 1963.

(2) Hayek, F.A. "Carl Menger" in David L. Shills (Ed.) International Encyclopedia of the Social Sciences, New York: Macmillan, 1968, p. 125.

(3) Schumpeter, J.A. History of Economic Analysis. New York: Oxford University Press, 1954, p. 812.

(4) ibid, p. 811.

(5) Grundsätze der Volkswirthschaftslehre, 1871. This book was translated into English in 1950. Carl Menger, Principles of Economics. Glencoe, Illinois: The Free Press, 1950, translated and edited by James Dingwall and Bert F. Hozelitz.

(6) See Hayek, The Counter-Revolution of Science. Footnote 33, p. 212.

(7) Hayek, F.A. The Counter-Revolution of Science. p. 39.

(8) Surányi-Unger, Theo. "The Historical School" in International Encyclopedia of the Social Sciences, Vol. 4, p. 454-458.

CHAPTER 3 cont.

(9) Hayek, F.A. "Carl Menger": Introduction to Grundsätze Der Volkswirthschaftslehre. London School of Economics and Political Science, Series of Reprints of Scarce Tracts in Economics and Political Science, N. 17.

(10) Menger, C. Problems of Economics and Sociology. p. 146.

(11) Menger, C. op. cit. pp. 72-73.

(12) ibid. p. 37.

(13) ibid. p. 79.

(14) ibid. p. 64.

(15) ibid. p. 72.

(16) ibid. pp. 72-73.

(17) ibid. p. 159.

(18) See Hayek, The Counter-Revolution of Science. footnote 33, p. 212

(19) See the discussion of methodological individualism below Chapter 3.

(20) For a definition of 'subjectivism' see above p. 1 as well as Chapter 5.

(21) ibid. p. 146.

(22) See Menger, C. "On the Origin of Money," The Economic Journal, 2, June, 1892, pp. 239-255.

(23) Menger, C. Problems of Economics and Sociology. Book 3, Chapter 1, pp. 131-134.

(24) ibid. p. 145.

(25) ibid. p. 159.

(26) ibid. p. 83.

(27) ibid. p. 84.

CHAPTER 3 cont.

(28) ibid. p. 86.

(29) ibid. p. 87.

(30) ibid. p. 87.

(31) ibid. p. 87.

(32) ibid. Appendix V, p. 214.

(33) ibid. p. 145.

(34) ibid. p. 158.

(35) ibid. p. 158.

(36) ibid. p. 63.

(37) See for example Hicks, J.R. "Monetary theory and history - an attempt at perspective." in Critical Essay on Monetary Theory. London: Oxford University Press, 1967, p. 158. "Metallic money is an expensive way of performing a simple function; why waste resources in digging up gold from the ground when pieces of paper (or mere book entries) which can be provided, and transported at a fraction of the cost will do as well? That is the reason why the credit system grows: that it provides a medium of exchange at much lower cost."

(38) Schneider, L. in introduction Menger's Problems of Economics and Sociology. p. 19.

(39) Menger, C. Problems Of Economics And Sociology. p. 156.

(40) This is an example of the distribution of knowledge referred to later.

CHAPTER 4

(1) Mises, L. Human Action A Treatise on Economics. London: William Hodge, 1949, p. 32.

(2) Mises, L. The Ultimate Foundation of Economic Science: An Essay on Method. Princeton, New Jersey: D. van Nostrand, 1962, pp. 4-5.

CHAPTER 4 cont.

(3) ibid. p. 18.

(4) ibid. p. 45.

(5) Mises, L. Human Action. p. 31 (emphasis added).

(6) See the quotation from Human Action p. 32.

(7) Mises, L. Human Action. p. 79. (emphasis added).
In similar vein Mises says that " ... complex phenomena can neither prove nor disprove any theorem and therefore cannot bear witness against any statement of a theory." Human Action. p. 51.

(8) Papandreou, A.G. "Economics and the Social Sciences", Economic Journal, Vol. 60, 1950, p. 716.

(9) ibid. p. 717.

(10) Mises, L. The Ultimate Foundations. p. 120

(11) Mises, L. ibid. pp. 69-70.

(12) Mises, L. The Ultimate Foundations. p. 45.

(13) I say some, because, of course, control is not possible in all the natural sciences. It is not, for example, possible in astronomy.

(14) Haysk, for example, holds that the social sciences can yield refutable conclusions.

(15) Mises, L. The Ultimate Foundations.

(16) Of course, there is also the possibility that the supplementary assumptions do not correspond with the events that are to be explained and for this reason the conclusions might be inadequate in explaining those events.

(17) It is hardly necessary to point out that social phenomena are the consequences (intended and unintended) of human action. See Chapter 8.

(18) Mises, L. The Ultimate Foundations of Economic Science. p. 39

(19) See example p. 53.

CHAPTER 4 cont.

(20) Mises, L. Human Action. p. 100

(21) Mises, L. The Ultimate Foundations Of Economic Science.

(22) Mises, L. Human Action. p. 16.

(23) Mises. L. Theory and History. p. 283.

(24) Lachmann, L.M. "The Science of Human Action." Economica, May, 1951, p. 19.
This also provides an answer to Popandreou's contention that praxeology is "empirically irrelevant."

CHAPTER 5

(1) The two essays referred to are reprinted as the first and second essays respectively in Hayek, F.A. Studies in Philosophy, Politics and Economics. London: Routledge & Kegan Paul, 1967.

(2) See, for example, Hayek's 'Scientism and the Study of Society', Parts I and II, Economica, vols. ix and x.

(3) Hayek, F.A. Studies In Philosophy, Politics And Economics. p. viii.

(4) Streissler, E. (ed.) Roads to Freedom: Essays in Honour of Friedrich A. von Hayek. London: Routledge and Kegan Paul, 1969.

(5) Degrees of Explanation. p. 5.

(6) ibid. pp. 3-4.

(7) ibid. p. 10.

(8) ibid. p. 10.

(9) Hayek, F.A. "Economics and Knowledge". Economica, 1937, pp. 33-54.

(10) ibid. p. 40.

(11) Hayek, F.A. The Theory Of Complex Phenomena. p. 34.

(12) ibid. p. 36.

CHAPTER 5 cont.

(13) Thus for example, Hayek says that a theory which does not tell us precisely what to expect but which will tell us "only what kinds of events we are to expect within a certain range ... will still make the world around us a more familiar world in which we can move with greater confidence that we shall not be disappointed because we can at least exclude certain eventualities." Degrees of Explanation. p. 16

(14) The 'rules of the road' may be taken to illustrate the certainty-creating importance of institutions, in this case intentionally created legal institutions. The task of driving to town would become incredibly complicated if the driver were not reasonably sure that the approaching car will remain on the opposite side of the road.

(15) Mises, L. The Ultimate Foundations. pp. 69-70.

(16) Mises, L. Human Action. p. 79.

(17) Hayek's views on this point in particular have changed as the following quotation shows: "All that the theory of the social sciences attempts is to provide a technique of reasoning which assists us in connecting individual facts, but which, like logic or mathematics, is not about the facts. It can, therefore, ... never be verified or falsified by reference to facts. All that we can and must verify is the presence of our assumptions in the particular case .... In this connection a genuine 'question of fact' arises -- though one it will often not be possible to answer with the same certainty as is the case in the natural sciences. But the theory itself, the mental scheme for the interpretation, can never be 'verified' but only tested for its consistency. It may be irrelevant because the conditions to which it refers never occur; or it may prove inadequate because it does not take account of a sufficient number of conditions. But it can no more be disproved by facts than can logic or mathematics." "The Facts of the Social Sciences" in Individualism and Economic Order. London: Routledge & Kegan Paul, 1949, p. 73.
It is thus evident from this quotation that Hayek was, at this stage close to the position of Mises. His later views show signs of change in this regard. His later views as expressed in Degrees of Explanation and The Theory of Complex Phenomena show that it is not possible to refute specific predictions because social theories cannot make such predictions. Nevertheless, it is possible to test the prediction of general patterns, as the following quotation shows: "Any model defines a certain

CHAPTER 5 cont.

range of phenomena which can be produced by the type of situation which it represents. We may not be able directly to confirm that the causal mechanism determining the phenomenon in question is the same as that of the model. But we know that, if the mechanism is the same, the observed structures must be capable of showing some kinds of action and unable to show others; and if, and so long as, the observed phenomena keep within the range of possibilities indicated as possible, that is so long as our expectations derived from the model are not contradicted, there is good reason to regard the model as exhibiting the principle at work in the more complex phenomena." Degrees of Explanation, p. 15. (emphasis added.) And: "We are however, interested not only in individual events, and it is also not only predictions of individual events which can be empirically tested. We are equally interested in the recurrence of abstract patterns as such: and the prediction that a pattern of a certain kind will appear in defined circumstances is a falsifiable (and therefore empirical) statement." The Theory of Complex Phenomena. p. 28. It is thus evident that Hayek started from a position close to that of Mises but subsequently moved to a new position closer to Karl Popper.

(18) Mises. L. Theory and History. p. 159.

(19) Ibid. p. 69.

(20) Hayek, F.A. The Theory of Complex Phenomena. p. 37.

(21) In fact many of Hayek's writings are aimed at redirecting a trend the consequences of which he deems to be undesirable.

(22) See Buck, R.C. "Reflexive Predictions" in Brodbeck, M. (Ed.) Readings in the Philosophy of the Social Sciences. New York: Macmillan, 1968. pp. 436-447.

(23) Hayek, F.A. The Counter-Revolution of Science: Studies on the Abuse of Reason. London: Free Press of Glencoe, 1955, p. 50.

(24) Hayek, F.A. "The Facts of the Social Sciences," in Individualism and Economic Order. pp. 57-68.

(25) Popper, K.R. The Poverty of Historicism. London: Routledge & Kegan Paul, 1966, p. 138.

(26) Hayek, F.A. The Counter-Revolution of Science. p. 77.

CHAPTER 5 cont.

(27) Nagel, E. The Structure of Science. London: Routledge & Kegan Paul, 1961, pp. 473-485.

(28) Quoted in Nagel, op. cit.

(29) ibid.

(30) Hayek, F.A. Economics and Knowledge. p. 52. (footnote.)

(31) Nagel, E. Op. cit.

(32) ibid.

(33) Of course, reference will have to be made to the relevant facts in order to support or refute this "subjectivist" hypothesis. In this way an adequate subjectivist explanation of the phenomenon may be found.

(34) Hayek, F.A. The Theory of Complex Phenomena. p. 39.

(35) ibid. p. 39.

(36) ibid. p. 40.

(37) ibid. p. 40.

(38) ibid. p. 42.

CHAPTER 6.

(1) Mises, L. The Ultimate Foundation of Economic Science.

(2) ibid. p. 18.

(3) Knight, F.H. "'What is Truth' in Economics?" Reprinted in On the History and Method of Economics. Chicago: University of Chicago Press, 1956.

(4) Melden, A.I. "Willing" in White, A.R. (Ed.) The Philosophy of Action. London: Oxford University Press, 1968.

(5) See Taylor, C. The Explanation of Behaviour. London: Routledge & Kegan Paul, 1964.

CHAPTER 6 cont.

(6) Misca, L. The Ultimate Foundations of Economic Science. p. 58

See also, for example, Mises' Theory and History. p. 69.

(7) See Chapter V.

(8) Hayek does admit, however, that not all physical phenomena are capable of being predicted. Thus it is not possible to predict the waves that will result in my coffee cup from a plane flying overhead.

(9) Shackle, G. L. S. Time in Economics. Amsterdam: North-Holland Publishing Company, 1967, p. 22.

CHAPTER 7.

(1) See Schutz, A. "The Well-informed Citizen: An Essay on the Social Distribution of Knowledge" in Collected Papers II Studies in Social Theory. The Hague: Martinus Nijhoff, 1964.

(2) The point being suggested here is similar to the argument put forward to show that "pure" induction is not possible and that, on the contrary, the problem comes first. See, for example Karl Popper The Poverty of Historicism. p. 131. "Science, we may say, is confronted with problems, at any moment of its development. It cannot start with observations, or with the "collection of data" as some students of method believe. Before we can collect data, our interest in data of a certain kind must be aroused: the problem always comes first. The problem in its turn may be suggested by practical needs, or by scientific or pre-scientific beliefs which, for some reason or other, appear to be in need of revision." (italics in the original.)

(3) Schutz, A. "Choosing Among Projects of Action" in Collected Papers I: The Problem of Social Reality. The Hague: Martinus Nijhoff, 1962, p. 69.

(4) Thus Hayek has said: "I have long felt that the concept of equilibrium itself and the methods which we employ in pure analysis have a clear meaning only when confined to the analysis of the action of a single person and that we are really passing into a different sphere and silently introducing a new element of altogether different character when we apply it to the explanation of the interactions of a number of different individuals." Economics and Knowledge "in Individualism and Economic Order. p. 35.

CHAPTER 7 cont.

(5) It becomes very clear in this context that we are not referring to all individuals but only to certain individuals. We thus exclude from our discussion for example, the young child and the person suffering under illusions. This is an assumption which is implied when the actions of the "individual" are examined.

(6) Professor Lachmann has shown that the transmission of knowledge does constitute an equilibrating force. Nevertheless the spread of knowledge is a slow process and is therefore "likely to be hampered by the divergence of expectations and overtaken by unexpected events." Lachmann, L.M. Ludwig Von Mises and the Market Process. (A paper not published at the time of typing this thesis.)

(7) Schutz, A. "The Well Informed Citizen: An Essay on the Social Distribution of Knowledge." p. 131.

(8) I say "in most cases" because some consequences are anticipated with certainty. I am certain that if a place a beaker of water under a sufficiently hot flame at sea level, that water will boil at a hundred degrees Centigrade or two hundred and twelve degrees Fahrenheit.

(9) This includes actions, the aim of which is to influence my own state of well-being, for example, in the case of the applying a cosmetic or the taking of medicine.

(10) For example, I might know that unpleasant consequences will follow if I insert my finger into an electrically charged socket without being able to explain why this happens.

(11) Smith, Adam, An Inquiry into the Nature and Causes of the Wealth of Nations. London: J.M. Dent, 1914, (Everyman Edition) Chapter 2, p. 12.

(12) Knight, F.H. The Economic Organization. New York: August. M. Kelly, 1951, p. 31.

(13) See for example Hayek, F.A. The Counter Revolution of Science. p. 84.

(14) Shackle, G.L.S. Time in Economics. pp. 103-104.

(15) ibid. p. 105.

(16) See Buck, R.C. "Reflexive Predictions" in "Readings in the Philosophy of the Social Sciences." Brodbeck, M. (Ed.) op. cit. pp. 436-447. See also Merton, R.K. "The Unanticipated Consequences of Purposive Social Action." American Sociological Review, 1936, vol. I pp. 894-904.

CHAPTER 7 cont.

(17) ibid. p. 437.

CHAPTER 8

(1) Mises, L. Human Action. p. 42.

(2) Watkins, J.W.N. "Ideal Types and Historical Explanation" in Readings in the Philosophy of Science. Feigl, H. and Brodbeck, M. (Eds.) New York: Appleton-Crofts, 1953, p. 729.

(3) Watkins, J.W.N. "Historical Explanation in the Social Sciences." British Journal for the Philosophy of Science. 8, 1957, pp. 104-117 and reprinted as "Methodological Individualism and Social Tendencies" in Readings in the Philosophy of the Social Sciences. Brodbeck, M. (Ed.) New York: Macmillan 1968, p. 280.

(4) It is for this reason that the reference in Watkins' definition to the "principles governing the behaviour of participating individuals" was rejected.

(5) Watkins, J.W.N. "Methodological Individualism and Social Tendencies." p. 273.

(6) Watkins, J.W. op. cit. p. 273.

(7) ibid.

(8) Gellner, E. 'Explanations in History", Proceedings of the Aristotelian Society, Supplementary Vol. 30, 1956, pp. 157-176. Reprinted in Readings in the Philosophy of the Social Sciences, Brodbeck, M. (Ed.) p. 260.

(9) In The Rules of Sociological Method Durkheim has defined social facts as follows: "A social fact is every way of acting, fixed or not, capable of exercising on the individual an external constraint; or again, every way of acting which is general throughout a given society, while at the same time existing in its own right independent of its individual manifestations." (emphasis added.)

CHAPTER 8 cont.

(10) Similarly Adam Smith, in his famous statement has noted that in the market each individual "intends only his own gain and he is in this ... led by an invisible hand to promote an end which was no part of his intention."

(11) A tool is thus understood in terms of the plans which its use is intended to help fulfil.

CHAPTER 9

(1) See for example, Knight, F.H. "Statics and Dynamics: Some queries Regarding the Mechanical Analogy in Economics," in Knight, F.H. On the History and Method of Economics. Chicago: University of Chicago Press, 1956.

(2) Machlup, F. "Equilibrium and Disequilibrium: Misplaced Concreteness and Disguised Politics" in Essays on Economic Semantics. Englewood Cliffs, New Jersey, Prentice-Hall, 1963, p. 54.

(3) Schumpeter, J.A. History of Economic Analysis. New York: Oxford University Press, 1954, p. 969.

(4) Lachmann, L.M. The Legacy of Max Weber. London: Heinemann, 1970, p. 20.

(5) The definitions are phrased in such a way that they include the steady-rate equilibrium of Growth Theory where all the relevant variables grow at the same rate. In the case of a steadily progressive economy, equilibrium will be maintained as long as the relevant variables do not "change", that is, as long as they all grow at the same rate.

(6) The relevance of this "insight" has been shown in the introduction with regard to the history of economic thought.

(7) Lachmann, L.M. "Ludwig Von Mises and the Market Process."

(8) See Machlup, F. "Statics and Dynamics: Kaleidoscopic Words" in Essays on Economic Semantics. pp. 9-42.

CHAPTER 9 cont.

(9) Hicks, J.R. Capital and Growth. London: Oxford University Press, 1965.

(10) ibid. p. 28.

(11) ibid. p. 16.

(12) Shackle, G.L.S "Equilibrium" in Shackle, G.L.S. A Scheme of Economic Theory. London: Cambridge University Press, 1965, p. 23.

(13) Hicks, J.R. Capital and Growth. p. 32.

(14) ibid. p. 32.

(15) ibid. p. 32.

(16) ibid. p. 25.

(17) ibid. p. 24.

(18) Thus in our legal system the actions of an individual are justified if his intentions were acceptable even though the consequences of his actions might have been entirely unacceptable.

(19) Clark, J.B. The Distribution of Wealth. New York: Macmillan, 1900, pp. 400-403.

(20) ibid. p. 402.

(21) Friedman, M. Essays in Positive Economics. Chicago: University of Chicago Press, 1953.

(22) Lachmann, L.M. Ludwig Von Mises and the Market Process.

(23) ibid.

(24) It must also be acknowledged that the flow of information does not have to be regarded as a "datum" but depends on other things and can, therefore, be changed. The use of the mass media as a means of distributing information is an obvious way of changing the rate of flow of information.

CHAPTER 9 cont.

(25) Myint, H. The Economics of the Developing Countries. London: Hutchinson, 1965, pp. 90 ff.

(26) By the Harrod-Domar model $gw = s / v$ where: g w = the warranted rate of growth, s = the proportion of income devoted to savings and v = the capital-output ratio. Thus $4\% = 12\% / 3$

(27) "Concern with education, human capital, or the quality of labour inputs as an important determinant of the residual element of economic growth that cannot be accounted for by increases in the inputs of labour and capital as conventionally measured dovetails neatly with the apparent lessons of ... experience with the planning of accelerated economic growth. This experience has strongly suggested that the early post-war emphasis on investment in material capital in the methodology of economic planning was seriously mistaken, and that economic development depends vitally on the creation of a labour force both equipped with the necessary technical skills for modern industrial production and imbued with a philosophy conducive to the acceptance and promotion of economic and technical change." Johnson, H.G. "Toward a Generalized Capital Accumulation Approach to Economic Development" in Economics of Education 1, Blaug, M. (Ed.) Harmondsworth, Middlesex: Penguin Books, 1968, pp. 34-35.

(28) Myint has also said that "a great deal of importance has been attached to this ratio, and the real reason seems to be that it offers a convenient shorthand basis for working out the case for increasing economic aid to the underdeveloped countries." op. cit. p. .

CHAPTER 10

(1) The reason for this conclusion has been given elsewhere in this thesis particularly in Chapter 7, Section 4.

(2) This example is taken from Brodbeck, M. "Explanation, Prediction, and 'Imperfect' Knowledge" in Brodbeck, M. (Ed.) Readings in the Philosophy of the Social Sciences. p. 371.

(3) Hempel, C.G. "The Function of General Laws in History" in Feigl, H. and Sellars, W. (Eds.) Readings in Philosophical Analysis. New York: Appleton-Century-Crofts, 1949, p. 462.

CHAPTER 10 cont.

(4) See for example, Popper K. The Poverty of Hist icism. p. 133. This conclusion is also suggested by Watkins. See Wat. J.W.N. "Ideal Types and Historical Explanation" in Feigl, A. and Brodbeck, M. (Eds.) Readings in the Philosophy of Science. New York: Appleton-Century-Crofts, 1953, p. 723 ff.

(5) Of course, an explanatory hypothesis can be tested by confronting the deductive conclusions drawn from this hypothesis by the facts.

(6) It is possibly better to substitute the word "forecast" for "prediction" in this context.

(7) See Hempel, C. op. cit. p. 465.

(8) Brodbeck, M. op. cit. p. 376.

(9) Hicks, J.R. Capital and Growth. London: Oxford University Press 1965, p. 10. (footnote 2.) (Emphasis added).

(10) Popper, K. op. cit. p. 130.

(11) Lipsey, R.G. "Can There be a Valid Theory of Wages?", in The Labour Market McCormick, B.J. and Smith E.D. (Eds.) Harmondsworth, Middlesex: Penguin Books, 1968.

(12) ibid. p. 269.

(13) Phillips, A.W. "The Relation Between Unemployment, and the Rate of Money Wage Rates in the United Kingdom, 1861-1967." Economics, November, 1958.

(14) Lipsey, R.G. op. cit. p. 283.

(15) Hines, A.G. "Trade Unions and Wage Inflation in the United Kingdom, 1893-1961", in The Labour Market. McCormick, B.J. and Smith, E.D. (Eds.) Harmondswirth, Middlesex: Penguin Books, 1968, pp. 284-319.

(16) ibid. p. 284.

(17) The institutional environment might change in such a way as to prevent a rise in the rate of increase in money wages and this change itself cannot be predicted.

(18) For example, money might not be regarded as a luxury good in a world characterized by a growing rate of inflation where people expect the rate of inflation to continue.

BIBLIOGRAPHY

Abel, T. "The Operation Called Verstehen." In Feigl, H. and Brodbeck, M. Readings in the Philosophy of Science. New York: Appleton-Century, 1953, pp. 667-687.

Addis, L. "The Individual and the Marxist Philosophy of History" In Brodbeck, M. (ed.) Readings in the Philosophy of the Social Sciences. New York: Macmillan, 1968, pp. 317-336.

Archibald, D. Some Sociological Aspects Of The Concept Of Rationality. Thesis presented to the University of the Witwatersrand, July, 1970.

Aron, R. Main Currents In Sociologics' Thought 2. Harmondsworth, Middlesex: Penguin Books, 1964.

Arrow, K.J. "Economic Equilibrium" in Sills, D.L. (ed.) International Encyclopedia of the Social Sciences. Macmillan, 1968, Vol. 4, pp. 376-389.

Barber, W.J. A History of Economic Thought. Harmondsworth, Middlesex: Penguin Books, 1967.

Bentham, J. Introduction To The Principles Of Morals And Legislation. London: Athlone, 1970.

Berger, P. & Luckmann, T. The Social Construction Of Reality: A Treatise In The Sociology of Knowledge. Garden City, New York: Doubleday, 1966.

Blaug, M. Economic Theory In Retrospect. London: Heinemann, 1962.

Bloch, H.S. "Carl Menger: The Founder of the Austrian School" in Journal Of Political Economy. Vol. 48, 1940, pp. 428-433.

Bode, K. & Stonier, A. "A New Approach to the Methodology of the Social Sciences," Economica. Vol. IV (New Series), No. 16, Nov. 1937, pp. 406-424.

Boland, L. A. "Economic Understanding And Understanding Economics", South African Journal of Economics, Vol. 37, No. 2, June, 1969, pp. 144-160.

Boulding, K. E. Economic Analysis. Vols. 1 & 2. (4th edition). New York: Harper & Row, 1966.

Boulding, K. E. Economics As A Science, New York: McGraw Hill, 1970.

Breger, L. "The Idealogy of Behaviourism" in Breger, L. (ed.) Clinical-Cognitive Psychology: Models and Integrations. Englewood Cliffs, New Jersey: Prentice-Hall, 1969, pp. 25-55.

Brodbeck, M. and Feigl, H. (eds.) Readings in the Philosophy of Science. New York: Appleton-Century, 1953.

Brodbeck, M. (ed.) Readings in the Philosophy of the Social Sciences. New York: Macmillan, 1968.

Brodbeck, M. "Methodological Individualisms: Definition and Reduction" in Brodbeck, M. (ed.) Readings in the Philosophy of the Social Sciences. New York: Macmillan, 1968, pp. 280-303.

Brodbeck, M. "Meaning and Action" in Brodbeck, M. (ed.) Readings in the Philosophy of the Social Sciences. New York: Macmillan, 1968, pp. 58-78.

Brodbeck, M. "Explanation, Prediction, and "Imperfect" Knowledge" in Brodbeck, M. (ed.) Readings in the Philosophy of the Social Sciences. New York: Macmillan, 1968. pp. 363-398.

Bronowski, J. The Common Sense Of Science. Harmondsworth, Middlesex: Penguin Books, 1968.

Buchanan, J. M. "Is Economics the Science of Choice?" in Roads To Freedom: essays in honour of Friedrich A. von Hayek. Streissler, E. (ed.) Routledge & Kegan Paul, London, 1969.

Buchanan, J. M. "What Should Economists Do?", The Southern Economic Journal, Vol. XXX, 1963-1964, pp. 213-222.

Buck, R.C. "Reflexive Predictions" in Brodbeck, M. (ed.) Readings in the Philosophy of the Social Sciences. New York: Macmillan, 1968, pp. 436-447.

Campbell, N.R. "The Structure of Theories" in H. Feigl, and M. Brodbeck (eds.) Readings in the Philosophy of Science. New York: Appleton-Century, 1953, pp. 288-308.

Carr, E.H. What is History? *Harmondsworth, Middlesex:* Penguin Books, 1964.

Carter, C.F. "Expectations in Economics" in Economic Journal, Vol. 60, 1950, pp. 92-105.

Chiang, A.C. Fundamental Methods of Mathematical Economics *New York: McGraw Hill, 1967.*

Chipman, J.S. "The Nature and Meaning of Equilibrium in Economic Theory" in Functionalism in the Social Sciences, Monograph No. 5 of the American Academy of Political and Social Science, Philadelphia, 1956, pp. 35-64.

Clark, J.B. The Distribution Of Wealth. New York: MacMillan, 1900.

Clower, R.W. (ed.) Monetary Theory *Harmondsworth, Middlesex:* Penguin Books, 1969.

Cooper, D.G. and Laing, R.D. Reason And Violence: A Decade Of Sartre's Philosophy. London: Tavistock, 1964.

Croce, B. 'On the Economic Principle: A Correspondence *between B. Croce and V. Pareto."* International Economic Papers, No. 3. London: Macmillan, 1953, pp. 172-207.

Curtis, M. (ed.) The Great Political Theories. New York: The Hearst Corporation, 1962.

Dobb, M. *Welfare Economics* And The Economics Of Socialism: Towards A Commonsense Critique. Cambridge: University Press, 1969.

Dobb, M. Papers On Capitalism, Development And Planning. London: Routledge, 1967.

Durkheim, E. "Social Facts" In Brodbeck, M. (ed.) Readings in the Philosophy of the Social Sciences. New York: Macmillan, 1968, pp. 246-254.

Edgeworth, F.Y. Mathematical Psychics. [London: C.K. Paul & Co., 1881 London: The London School Of Economics And Political Science Reprints, 1932] , p. 15.

Eltis, W.A., Scott, M.F.G., And Wolfe, J.N. (eds.) Induction, Growth And Trade: Essays In Honour of Sir Roy Harrod. Oxford: Clarendon, 1970.

Ewing, A.C. The Fundamental Questions Of Philosophy. London: Routledge and Kegan Paul, 1951.

Feigl, H. & Sellars, W. (eds.) Readings in Philosophical Analysis. New York: Appleton-Century-Crofts, 1949.

Feigl, H. & Brodbeck, M. (eds.) Readings in the Philosophy of Science. New York Appleton-Century-Crofts, 1953.

Feinstein, C.H. Socialism, Capitalism And Economic Growth: Essays Presented To Maurice Dobb. Cambridge: University Press, 1967.

Fransman, M.J. "A Comment On Leslie F. Bergman's Article Entitled 'Technological Change In South African Manufacturing Industry, 1956-1964'", South African Journal of Economics. Vol. 37, No. 2, June, 1969, pp. 161-163.

Friedman, M. Capitalism And Freedom. Chicago: Chicago University Press, 1962.

Friedman, M. The Counter-Revolution In Monetary Theory. London: Institute Of Economic Affairs, 1970.

Friedman, M. "The Methodology of Positive Economics" in Essays in Positive Economics. Chicago: University of Chicago Press, 1953.

Friedman, M. "Why Economists Disagree" in Friedman, M. Dollars and Deficits: Inflation, Monetary Policy And The Balance of Payments. Englewood Cliffs, New Jersey: Prentice Hall, 1968.

Frisch, R. "On The Notion Of Equilibrium And Disequilibrium" in Review Of Economic Studies. Vol. 3, 1935-36, pp. 100-105.

Gellner, E. "Explanations in History", Proceedings Of The Aristotelian Society. Supplementary Vol. 30, 1956, pp. 157-176.

Gellner, E. "Holism Versus Individualism" in Brodbeck, M. (ed.) Readings In the Philosophy Of The Social Sciences. New York: Macmillan, 1968, pp. 254-268.

Gellner, E. Words And Things. Harmondsworth. Middlesex: Penguin Books, 1968.

Gide, C. and Rist, C. A History Of Economic Doctrines From The Time Of The Physiocrats To The Present Day. London: George G. Harrap, 1950.

Gruchy, A.G. "The International School" in Sills, D.L. (ed.) International Encyclopedia Of The Social Sciences. Macmillan, 1968, Vol. 4, pp. 462-467.

Grünbaum, A. "Causality And The Science Of Human Behaviour" in Feigl, H. and Brodbeck, M. (eds.) Readings In The Philosophy Of Science. New York: Appleton-Century, 1953, pp. 766-778.

Grünbaum, A. "Temporally-Asymetric Principles Parity Between Explanation And Prediction And Mechanism Versus Teleology." Philosophy of Science. Vol. 29, 1962, pp. 146-170.

Hahn, F.H. and Matthews, R.C.O. "The Theory Of Economic Growth: A Survey." The Economic Journal. Vol. LXXIV, Dec. 1964, pp. 779-902.

Harré, R. An Introduction to the Logic of the Sciences. London: Macmillan, 1967.

Harrod, R.F. Money. London: Macmillan, 1969.

Harrod, R.F. "Scope and Method of Economics", Economic Journal Vol. 48, September, 1938, pp. 383-412.

Harrod, R.F. Towards A Dynamic Economics, Some Recent Developments Of Economic Theory And Their Application To Policy. London: Macmillan, 1948.

Harrod, R.F. "What 's A Model" in J.N. Wolfe (ed.) Value, Capital, and Growth. Papers in honour of Sir John Hicks. Edinburgh: Edinburgh University Press, 1968, pp. 173-191.

Hempel, C.G. Philosophy of Natural Science. New Jersey: Prentice-Hall Foundations of Philosophy Series, 1966.

Hempel, C.G. and Oppenheim, P. "The Logic of Explanation", in H. Feigl & M. Brodbeck, (eds.) Readings in the Philosophy of Science. New York: Appleton-Century-Crofts, 1953, pp. 319-352.

Hempel, C.G. "The Function of General Laws in History" in H. Feigl & W. Sellars, Readings in Philosophical Analysis. New York: Appleton-Century-Crofts, 1949, pp. 459-471.

Hicks, J.R. A Theory Of Economic History. London: Oxford University Press, 1969.

Hicks, J.R. Capital and Growth. London: Oxford University Press, 1965.

Hicks, J.R. Critical Essays In Monetary Theory. London: Oxford University Press, 1967.

Hicks, J.R. The Social Framework, An Introduction To Economics. Oxford: The Clarendon Press, 1958.

Hicks, J.R. The Theory Of Wages. London: Macmillan, 1932.

Hicks, J.R. Value And Capital: An Inquiry Into Some Fundamental Principles Of Economic Theory. Oxford: The Clarendon Press, 1939.

Hines, A.G. "Trade Unions And Wage Inflation in the United Kingdom, 1893-1961", in The Labour Market. McCormick, B.J. and Smith, E.D. (eds.) Harmondsworth, Middlesex: Penguin Books, 1968, pp. 284-318.

Hutchison, T.W. — A Review Of Economic Doctrines, 1870-1929. Oxford: Clarendon Press, 1953.

Hutchison, T.W. — "Professor Machlup on Verification in Economics" Southern Journal of Economics, April, 1956.

Hutchison, T.W. — The Significance And Basic Postulates Of Economic Theory. London: Macmillan, 1938.

Jevons, W.S. — The Theory Of Political Economy. 4th Edition, London: Macmillan & Co. Ltd. 1924.

Johnson, H.G. — Essays In Monetary Economics. London: Allen And Unwin, 1967.

Johnson, H.G. — Money, Trade And Economic Growth: Survey Lectures In Economic Theory. London: Allen and Unwin, 1964.

Johnson, H.G. — "Revolution And Counter-Revolution In Economics." *Encounter*, April, 1971, pp. 23-33.

Johnson, H.G. — "Toward A Generalized Capital Accumulation Approach To Economic Development" in Blaug,M (ed.) Economics Of Education 1. Harmondsworth, Middlesex: Penguin Books, 1968.

Kauder, E. — A History Of Marginal Utility Theory. Princeton, New Jersey: Princeton University Press, 1965.

Kauder, E. — "The Genesis of Marginal Utility Theory." Economic Journal, September, 1953, pp. 638-650.

Kauder, E. — "The Retarded Acceptance of the Marginal Utility Theory." Quarterly Journal Of Economics, Vol. 67, 1963, pp. 564-575.

Kaufmann, F. — "On The Subject-Matter And Method Of Economic Science," Economica, Vol. XIII, pp. 381-401.

Kaufmann, F. — Methodology Of The Social Sciences. New York: Oxford University Press, 1944.

Kendler, H.H. — "Some Specific Reactions to General S-R Theory" in Dixon, T.R. and Horton, D.L. (eds.) Verbal Behaviour and General Behaviour Theory. Englewood Cliffs, New Jersey: Prentice Hall, 1968.

Keynes, J.N. — Scope And Method Of Political Economy. London: Macmillan, 1930.

Kirzner, I.M. — The Economic Point Of View: An Essay In The History Of Economic Thought. Princeton, New Jersey: D. Van Nostrand, 1960.

Knight, F.H. — On The History And Method Of Economics. Chicago, Illinois: The University of Chicago Press, 1956.

Knight, F.H. — Risk, Uncertainty And Profit. London: The London School Of Economics And Political Science, 1933.

Knight, F.H. — The Economic Organization. New York: Augustus M. Kelly, 1951.

Knight, F.H. — "The Nature of Economic Science in SomeRecent Discussion," American Economic Review, 1934.

Knight, F.H. — "'What Is Truth' in Economics?" Journal Of Political Economy, Vol. XLVIII, 1940, pp. 1-32.

Koch, S. — "Psychology And Emerging Conceptions Of Knowledge As Unitary" in Mann, T.W. (ed.) Behaviourism And Phenomenology: Contrasting Bases For Modern Psychology. Chicago: University Of Chicago Press, 1964.

Koopman, T.C. — "The Construction of Economic Knowledge" in Brodbeck, M. (ed.) Readings in the Philosophy of the Social Sciences. New York: Macmillan, 1968, pp. 528-541.

Kuenne, R.E. — The Theory Of General Economic Equilibrium. Princeton University Press, 1963.

Lachmann, L.M. — Capital And Its Structure. London: London School of Economics and Political Science, 1956.

Lachmann, L.M. — Economics As A Social Science. Inaugural Lecture, University of the Witwatersrand, April, 1950.

Lachmann, L.M. — Economic Thought and Reality. A Series Of Four Talks Broadcast In The English Service Of Radio South Africa During April, 1966. Johannesburg: S.A.B.C., 1966.

Lachmann, L.M. Ludwig Von Mises And The Market Process. (Unpublished at the time of writing.)

Lachmann, L.M. "Methodological Individualism And The Market Economy", in Streussler, E. (ed.) Roads to Freedom: essays in honour of Friedrich A. von Hayek. London: Routledge And Kegan Paul, 1969.

Lachmann, L.M. 'Professor Shackle On The Economic Significance Of Time', Metroeconomica, September, 1959, pp. 64-73.

Lachmann, L.M. "Sir John Hicks on Capital and Growth," South African Journal of Economics, Vol. 34, 1966, pp. 113-123.

Lachmann, L.M. The Legacy Of Max Weber. London: Heinemann, 1970.

Lachmann, L.M. "The Market Economy and the Distribution of Wealth" in Sennholz, M. (ed.) On Freedom And Free Enterprise. Essays In Honour Of Ludwig von Mises. Princeton, New Jersey: D. Van Nostrand, 1956.

Lachmann, L.M. "The Role Of Expectations In Economics As A Social Science" Economica, Feb. 1943.

Lachmann, L.M. "The Science of Human Action" Economica, 1951, pp. 15-31.

Lachmann, L.M. "Uncertainty and Liquidity Preference" Economica, Aug. 1937.

Laing, R.D. and Cooper, D.G. Reason And Violence: A Decade Of Sartre's Philosophy. London: Tavistock, 1964.

Laing, R.D. The Divided-Self. Harmondsworth, Middlesex: Penguin Books. 1965.

Laing, R.D. The Politics Of Experience And The Bird Of Paradise. Harmondsworth, Middlesex: Penguin Books. 1967.

Lange, O. "The Scope and Method of Economics" in Feigl, H. and Brodbeck, M. (eds.) Readings in the Philosophy of Science. New York: Appleton-Century, 1953, pp. 744-754.

Lipsey, R.G. "Can There Be A Valid Theory Of Wages?" in The Labour Market. McCormick, B.J. and Smith, E.D. (eds.) Harmondsworth, Middlesex: Penguin Books, 1968.

Louch, A.R. Explanation And Human Action. Oxford: Basil Blackwell, 1966.

Luckmann, T. and Berger, P. The Social Construction Of Reality: A Treatise In The Sociology Of Knowledge. Garden City, New York: Doubleday, 1966.

McCormick, B.J. and Smith, E.D. (eds.) The Labour Market. Harmondsworth, Middlesex: Penguin Books, 1961.

Machlup, F. Essays On Economic Semantics. Englewood Cliffs, New Jersey: Prentice-Hall, 1963.

Machlup, F. "The Inferiority Complex of the Social Sciences" in Sennholz, M. (ed.) On Freedom and Free Enterprise: Essays In Honour Of Ludwig von Mises. Princeton, New Jersey: Van Nostrand, 1956.

Machlup, F. "The Problem of Verification in Economics", Southern Economic Journal, July, 1955.

Machlup, F. The Production And Distribution of Knowledge in the U.S. Princeton, N.J: Princeton University Press, 1962.

McNeill, D. "On Theories of Language Acquisition", in Verbal Behaviour and General Behaviour Theory. Dixon T.R. and Horton, D.L. (eds.) Englewood Cliffs, New Jersey: Prentice Hall, 1968.

Malmgren, H.B. "Information and Period Analysis in Economic Decisions" in Wolfe, J.N. (ed.) Value, Capital and Growth. Papers in honour of Sir John Hicks. Edinburgh: Edinburgh University Press, 1968, pp. 319-327.

Mann, T.W. (ed.) Behaviour And Phenomenology: Contrasting Bases For Modern Psychology. Chicago: University of Chicago Press, 1964.

Marcuse, H. — Reason and Revolution: Hegel And The Rise Of Social Theory. London: Routledge and Kegan Paul, 1969. (2nd ed.).

Matthews, R.C.O. and Hahn, F.H. — "The Theory Of Economic Growth: A Survey". The Economic Journal, Vol. LXXIV, December, 1964. pp. 779-902.

Melden, A.I. — "Willing" in White, A.R. (ed.) The Philosophy Of Action. London: Oxford University Press, 1968.

Menger, C. — "On The Origin Of Money" Economic Journal. Vol. 2, 1892, pp. 239-255.

Menger, C. — Principles of Economics. Glencoe, Illinois, The Free Press, 1950.

Menger, C. — Problems Of Economics And Sociology. Edited and with an introduction by Schneider, L. Illinois: University of Illinois Press, 1963.

Merton, R.K. — "The Unanticipated Consequences of Purposive Social Action" American Sociological Review. Vol. 1, No. 6, 1936, pp. 894-905.

Mill, J.S. — Principles Of Political Economy. London: Longmans, Green, 1926.

Morgenstern, O and von Neumann, J. — Theory Of Games And Economic Behaviour. New York: Wiley, 1944. (3rd Ed.)

Myint, H. — The Economics Of The Developing Countries. London: Hutchinson, 1964.

Myrdal, G. — The Political Element In The Development Of Economic Theory. (Translated from German by Paul Streeten). London: Routledge and Kegan Paul, 1953.

Nagel, E. — "The Problems of Concept and Theory Formation in the Social Sciences" in Natanson, M. (ed.) Philosophy of the Social Sciences: A Reader. New York: Random House, 1963, pp. 189-209.

Nagel, E. — The Structure Of Science. London: Routledge and Kegan Paul, 1961.

Natanson, M. — "Alfred Schutz" in Sills, D. L. (ed.) International Encyclopedia Of The Social Sciences. Macmillan 1968. Vol. 14, pp. 72-74.

Natanson, M. (ed.) — Essays In Phenomenology. The Hague: Martinus Nijhoff, 1969.

Natanson, M. (ed.) — Philosophy Of The Social Sciences: A Reader. New York: Random House, 1963.

Niehans, J. — "Reflections On Shackle, Probability And Our Uncertainty About Uncertainty." Metroeconomica. Vol. II, 1959, pp. 74-88.

Papandreou, A. G. — "Economics and the Social Sciences." Economic Journal. Vol. LX, 1950, pp. 715-723.

Pareto, V. — "On the Economic Principles: A Correspondence between B. Croce and V. Pareto." International Economic Papers, No. 3. London: Macmillan 1953, pp. 172-207.

Parsons, T. — "Some Reflections on 'The Nature and Significance of Economics'", Quarterly Journal of Economics, May, 1934, pp. 511-545.

Parsons, T. — The Structure of Social Action. New York: The Free Press, 1949.

Parsons, T. and E.A. Shills (eds.) — Toward A General Theory Of Action. Cambridge, Massachusetts: Harvard University Press, 1951.

Phillips, A.W. — "The Relation Between Unemployment And The Rate Of Change Of Money Wage Rates In The United Kingdom, 1861-1957." Economica. November, 1958.

Popper, K.R. — Conjectures And Refutations: The Growth of Scientific Knowledge. London: Routledge, 1963.

Popper, K.R. — The Logic Of Scientific Discovery. London: Hutchinson, 1968.

Popper, K.R. — The Open Society And Its Enemies. London: Routledge, 1962.

Popper, K.R. — The Poverty of Historicism. London: Routledge, 1957.

Ricardo, D. — Principles Of Political Economy And Taxation. New York: Irwing, 1963.

Rist, C. and Gide, C. — A History Of Economic Doctrines From The Time Of The Physiocrats To The Present Day. London: George G. Harrap, 1950.

Robbins, L. — An Essay On The Nature And Significance Of Economic Science. London: Macmillan & Co., 1932.

Robbins, L. — "Live And Dead Issues In The Methodology Of Economics." Economica, August, 1938, pp. 342-352.

Robbins, L. — The Theory Of Economic Policy In English Classical Political Economy. London: Macmillan, 1952.

Robertson, D.H. — "What Does the Economist Economize?" in Economic Commentaries, London 1956.

Robinson, J. — Economic Philosophy. Harmondsworth, Middlesex, Penguin Books, 1964.

Roll, E. — A History Of Economic Thought. Englewood Cliffs, New Jersey: Prentic-Hall, 1956.

Rosenstein-Rodan, P.N. — "The Role of Time in Economic Theory," Economica, New Series, Vol. 1, 1934, pp. 77-97.

Rothbard, M.N. — "Ludwig von Mises" in Sills, D.L. (ed.) International Encyclopedia Of The Social Sciences. Macmillan, 1968, Vol. 16, pp. 379-382.

Rotwein, E. — "On 'The Methodology of Positive Economics'," Quarterly Journal of Economics, November, 1959.

Russell, B. "On the Notion of Cause, with Applications to the Free-Will Problem," in Feigl, H. and Brodbeck, M. (eds.) Readings in the Philosophy of Science. New York: Appleton-Century, 1953, pp. 387-407.

Russell, B. History Of Western Philosophy. London: Allen and Unwin, 1961.

Russell, B. Sceptical Essays. London: Allen and Unwin, 1960.

Sartre, J.P. The Problem Of Method. Translated by H.E. Barnes. London: Methuen, 1963. Originally published in French as Question de Méthode The Prefatory Essay In Critique de la Raison Dialectique, 1960.

Schumpeter, J.A. Capitalism, Socialism And Democracy. London: Allen and Unwin, 1943.

Schumpeter, J.A. Economic Doctrine And Method: An Historical Sketch. London: George Allen and Unwin, 1954.

Schumpeter, J.A. History of Economic Analysis. New York: Oxford University Press, 1954.

Schumpeter, J.A. Imperialism And Social Classes Ed. and with an introduction by Paul Sweezy, New York: A.M. Kelley, 1951.

Schumpeter, J.A. Ten Great Economists. London: Allen and Unwin, 1952.

Schumpeter, J.A. The Theory Of Economic Development; An Inquiry Into Profits Capital, Credit, Interest, And The Business Cycle. Cambridge, Mass: Harvard University Press, 1936.

Schutz, A. "Choosing Among Projects Of Action," Collected Papers, Vol. I. The Hague: 1962, pp. 67-96.

Schutz, A. "Common-Sense and Scientific Interpretation of Human Action," Philosophy and Phenomenological Research, Vol. XIV, September, 1953, pp. 1-38.

Schutz, A. "The Well-Informed Citizen: An Essay On The Social Distribution Of Knowledge," Collected Papers, Vol. II, The Hague: 1964, pp. 120-134.

Sennholz, M. (ed.) On Freedom And Free Enterprise: Essays In Honour Of Ludwig von Mises. Presented On The Occasion Of The Fiftieth Anniversary Of His Doctorate, Feb. 20, 1956. Princeton, New Jersey: D. Van Nostrand, 1956.

Shackle, G. L. S. A Scheme Of Economic Theory. Cambridge: Cambridge University Press, 1965.

Shackle, G. L. S. Decision Order And Time In Human Affairs. London: Cambridge University Press, 1969.

Shackle, G. L. S. "Economic Expectations" in Sills, D. L. (ed.) International Encyclopedia Of The Social Sciences, Macmillan, 1968, Vol. 14, pp. 389-395.

Shackle, G. L. S. Expectation In Economics. London: Cambridge University Press, 1949.

Shackle, G. L. S. Expectations Investment And Income. London: Oxford University Press, 1968.

Shackle, G. L. S. The Nature Of Economic Thought: Selected Papers 1955-1964. London: Cambridge University Press, 1966.

Shackle, G. L. S. The Years Of High Theory: Invention And Tradition In Economic Thought, 1926-1939. Cambridge: Cambridge University Press, 1967.

Shackle, G. L. S. Time In Economics. Amsterdam: North-Holland Publishing Company, 1967.

Shackle, G. L. S. Uncertainty In Economics And Other Reflections. Cambridge: Cambridge University Press, 1955.

Sills, D.L. (ed.) International Encyclopedia of the Social Sciences. New York: Macmillan, 1968.

Simmel, G. "How is Society Possible?" in Natanson, M. (ed.) Philosophy of the Social Sciences: A Reader. New York: Random House, 1963, pp. 73-92.

Smith, A. An Inquiry Into The Nature And Causes Of The Wealth Of Nations. London: J.M. Dent, (Everyman Edition), 1910.

Smith, E.D. and McCormick, B.J. (eds.) The Labour Market. Harmondsworth, Middlesex: Penguin Books, 1968.

Stonier, A. and Bode, K. "A New Approach to the Methodology of the Social Sciences," Economica, Vol. IV (New Series), No. 16, Nov. 1937, pp. 406-424.

Streissler, E. (ed.) Roads to Freedom: Essays in honour of Friedrich A. von Hayek. London: Routledge and Kegan Paul, 1969.

Surányi-Unger, T. "The Historical School" in Sills, D.L. (ed.) International Encyclopedia Of The Social Sciences. New York: Macmillan, 1968, Vol. 4, pp. 454-458.

Taylor, C. The Explanation Of Behaviour. London: Routledge and Kegan Paul, 1964.

von Hayek, F.A. "Carl Menger" Economica. New Series, Vol. 1, 1934, pp. 393-420.

von Hayek, F.A. "Economics and Knowledge," Economica, IV, 1937.

von Hayek, F.A. Individualism And Economic Order. London: Routledge, 1949.

von Hayek, F.A. "Nature V. Nurture Once Again" in Encounter, Vol 36, No. 2, Feb. 1971, pp. 81-83.

von Hayek, F.A.	Studies In Philosophy, Politics And Economics. London: Routledge and Kegan Paul, 1967.
von Hayek, F.A.	"The Austrian School" in Sills, D.L. (ed.) International Encyclopedia Of The Social Sciences. New York: Macmillan, 1968.
von Hayek, F.A.	The Constitution Of Liberty. Chicago: University of Chicago Press, 1960.
von Hayek, F.A.	The Counter-Revolution Of Science: Studies On The Abuse Of Reason. London: Collier-Macmillan, 1955.
von Hayek, F.A.	The Road To Serfdom. London: Routledge, 1945.
von Hayek, F.A.	The Sensory-Order. London: Routledge, 1952.
von Hayek, F.A.	"The Trend of Economic Thinking", Economica, XIII May, 1933, pp. 133-134.
von Mises, L., Pierson, N.G., Halm, G. and Barone, E. (eds.)	Collectivist Economic Planning: Critical Studies On The Possibility Of Socialism. London: Routledge, 1935.
von Mises, L.	Epistemological Problems of Economics. Princeton, N.J.: Van Nostrand, 1960.
von Mises, L.	Human Action: A Treatise on Economics. London: William Hodge, 1949.
von Mises, L.	Theory And History. London: Jonathon Cape, 1958.
von Mises, L.	The Ultimate Foundation Of Economic Science. Princeton, New Jersey: D. Van Nostrand, 1962.
von Neumann, J. and Morgenstern, O.	Theory Of Games And Economic Behaviour. New York: Wiley, 1944. (3rd. Ed.)
Watkins, J.W.N.	"Ideal Types and Historical Explanation" in Feigl, H. and Brodbeck, M. (eds.) Readings in the Philosophy of Science. New York: Appleton-Century-Crofts, 1953, pp. 723-743.

Watkins, J.W.N. "Methodological Individualism and Social Tendencies" in M. Brodbeck, (ed.) Readings in the Philosophy of the Social Sciences. New York: Macmillan, 1968.

Weber, M. The Methodology Of The Social Sciences. Glencoe, Illinois: The Free Press, 1949.

Weber, M. The Theory Of Social And Economic Organization. tr. Henderson, A.M. and Parsons, T. London: William Hodge and Co., 1947.

Weckstein, R.S. "On The Use Of The Theory Of Probability In Economics." Review Of Economic Studies. Vol. 20, 1952-1953, pp. 191-198.

White, A.R. (ed.) The Philosophy Of Action. London: Oxford University Press, 1968.

Wilhelm, M.M. "The Political Thought of Friedrich H. Hayek" in Political Studies, Vol. XX, No. 2, June, 1942, pp. 169-184.

Wolfe, J.N. (ed.) Value, Capital And Growth: Papers In Honour Of Sir John Hicks. Edinburgh: University Press, 1968.