CHAPTER III

THE LOGICAL METHOD OF ECONOMIC SCIENCE

Two Conceptions of Economic Method

In considering economic method we are dealing with a branch of applied logic, the object being to determine the nature of the logical processes specially appropriate to the study - that is, the methods of investigation and proof of which it can avail itself - and the logical character of its conclusions as affected thereby.

John Neville Keynes has broadly categorized two distinguished but contrasting schools in the conception of economic method, one of which describes economic science as positive, abstract, and deductive, while the other describes it as ethical, realistic, and inductive.[1] However, the sharp contrast is not to be found in the writings of the typical economists of either school simply because there is to a great extent substantial agreement in the methods that they employ, and the difference only lies in the relative importance that they attach to different aspects of

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[1] J. N. Keynes, The Scope and Method of Political Economy, 4th. ed., New York, 1963, p.9-28.

their work.

The question of the right method of economic enquiry was not as such discussed by Adam Smith, but it has been said of him that he first raised economics to the dignity of a deductive science.

Senior and J.S. Mill were the English classical economists who also formulated principles of economic method.[2] The problem is discussed in more detail by Professor Cairnes[3] in his Character and Logical Method of Political Economy.

Though there were minor differences in their principles, they were basically in agreement in regarding economics as a science that is in its scope positive and in its method abstract and deductive. While Senior contended that economics depends more on reasoning than

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[2] Senior's views are contained in his introductory lectures before the University of Oxford and in his treatise on Political Economy;
Mill's views are to be found in his Essays on some Unsettled Questions of Political Economy.

[3] J. E. Cairnes, (1823-1875) was a Professor at Dublin and Galway, and later at London. In the Preface to First Edition of his Character and Logical Method of Political Economy, Professor Cairnes specifically disclaims "all pretense to the enunciation of any new method of conducting inquiries"(p.7). He later states that the logical method to use in economic inquiry is the ascertainment of "the place, order, and importance which induction (in the narrower meaning of the term), deduction, verification, observation, and experiment ought to hold in economic inquiry." (p.76).

on observation, Mill and Cairnes insisted that the appeal to observation and experience must come in, before the hypothetical laws of the science could be applied to the interpretation and explanation of concrete facts.

The German school consisting of Roscher and Knies, on the other hand, held that there could be no purely positive science of economics, such as was contemplated by Professor Cairnes. The school held that economics could not be adequately treated except in close connexion with other branches of social science. As to the method of reasoning by which economic knowledge is to be extended, emphasis is laid on the specific observation of the actual economic world, and generalizing therefrom. Hence, this school is spoken of as inductive and statistical, though it is still distinctively designated as historical because of its insistence on the importance of historical material in building up the science.

The Historical Method

Jevons, it must be remembered, was writing at a time when a group of economists styling itself the Historical School, were urging that economics should be studied historically. The basic and distinctive article of this historical school's methodological faith was

that the organon of economic science should mainly consist in the results of, and in generalisations from, historical monographs.

The Historical School's conception of scientific procedure in the study of economics goes as follows:

That the economist should first of all master the historical technique, which is the basic scientific equipment, after which he should "dive into the ocean of economic history in order to investigate particular patterns or processes in all their live details, local and temporal, the flavour of which he should learn to relish."[4] The only kind of general knowledge that is attainable in social sciences would then slowly grow out of this work. This was the original core of what became known as the Historical Method in Economics.

This method implies that every law, custom or social fact was a product of past history. In the same way, it must have been argued that the laws of economics must be sought in history and the general laws of society and social evolution.

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[4] J.A. Schumpeter, History of Economic Analysis, London, 1955, p.807.

Although Jevons was fully aware of the need to treat economics in its historical perspective, he entirely rejected the view that historical political economy was to oust and replace deductive economic theory. His argument against the historical approach runs as follows:

That there are two aspects of any subject-matter to which we must give special attention, namely:

a) its logical or formal aspect;

b) its historical aspect.

We can study, Jevons said, any group of objects "either as regards the laws of action of their component parts, irrespective of time, or as regards the successive forms produced from time to time under the action of those laws."[5] These two aspects, however, do not necessarily conflict. In the historical aspect of the subject we merely study how these laws of action are worked out in time, as for instance, if we study the history of the earth we hope to find the same geological laws exemplified throughout the vast catyclysmic changes it has gone through. Similarly, the first principles of political economy may be studied apart from their exemplification in any particular society.

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[5] W.S. Jevons, "The Future of Political Economy," in The Principles of Economics, p.196.

Mill's System of Logic

Mill in his System of Logic considered science to be a case of the Physical or Concrete Deductive Method, by which we may start from some obvious psychological law, as for instance, what Jevons used to say, that a greater gain is preferred to a smaller one, and we may then reason downwards, and predict the phenomena which will be produced in society by such a law. Jevons agreed with Mill in this respect, but added that because of the great complexity of the causes in action in society, it would be difficult to discover the undisturbed effects of any one law. Nevertheless, Jevons said, we could obtain some verification of our reasoning by careful analysis of the statistical data in our possession.

What Jevons really objected to in Mill's treatment of science was that Mill had described the Concrete Deductive Method as if it were one of many inductive methods. Jevons suggested an alternative method, known as the Complete Method, a method which combines observation, deduction, and induction in the most complete and perfect way.

Mill's Deductive Method is in fact of no special significance at all to Jevons, for the latter had explained in his Principles of Science that induction is merely an inverse operation, the inverse of deduction. Thus Mill's Deductive Method is nothing but simply induction

itself in its essential form.

Problems of the Inductive Process

In discussing the logical method to be used in economics, Jevons emphasized its deductive character. He gave a number of what he called "simple inductions" from which we could proceed to reason deductively in economies, as for example, "that every person will choose the greater apparent good; that human wants are more or less quickly satiated; that prolonged labour becomes more and more painful."[6] From these axioms, Jevons said, we could deduce the laws of supply and demand, of value, and all the intricate results of commerce.

Dr. Mays, commenting on these inductions, remarks that not all these laws have the same status, and it is wrong for Jevons to assume so. Dr. Mays contends that some are inductions based on physiological and psychological factors, which seem to be relatively constant from person to person, while others seem rather to reflect the type of society we live in and the values we accept.[7] The first proposition, for

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[6] W.S. Jevons, The Theory of Political Economy, 5th. ed., New York, Kelley & Millman, inc., 1957, p.18.

[7] W.Mays, "Jevons' Conception of Scientific Method", in The Manchester School of Economic and Social Studies, Vol. XXX, 1962, ed. by Prof. B.R. Williams, p.234.

example, assumes that people do in fact choose the greater apparent good, an assumption which Freudian psychology has thrown some doubt on.

Jevons was aware of the difficulties in the application of the inductive process in social science, especially in economics, because any study of social phenomena involves more than just one independent factor and it is most difficult to isolate the social factors in play from each other. The difficult part of the inductive process is the verification of the deductions made from our hypotheses, and this difficulty is further aggravated when the extremely complex social factors are involved. "To fulfil the conditions of inductive inquiry," Jevons said, "we ought to be able to observe the effects of a cause coming singly into action, while all other causes remain unaltered."[8] But the difficulty lies in the fact that not only "other causes" change, they cannot be isolated at all.

Jevons gave the example of England's Free Trade to clarify this point. He said, "Entirely to prove the good effects of Free Trade in England.....we ought to have the nation unaltered in every circumstances except the abolition of burdens and restrictions on

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[8] W.S. Jevons, op.cit., p.18.

trade."[9] But he noted that during the period of Free-Trade many other causes of prosperity were also coming into action, for instance, the progress of invention, the construction of railways, etc. Nevertheless, Jevons contended, it is still possible to construct a simiplified conceptual model of the social situation, that is a deductive theory. It does not matter whether the beneficient results of Free Trade were sufficient to warrant the existence of a posteriori,[10] since deductive reasoning from premises of almost certain truth had led to such expected results, and there was nothing in experience which in the least conflicted with the expectations. The immense prosperity of the country since the adoption of Free-Trade, he continued, tended to confirm the anticipations. However, one would not dare to say that beneficient results of Free-Trade are self-evident. As such, we must avoid taking economic laws as if they were independent of the type of society in which they occur.

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[9] W.S. Jevons, op. cit., p.19

[10] Propositions whose truth(or falsity) can be shown by pure reason, prior to observations, are called a priori propositions. The remaining propositions, which can be decided only after facts are available, are called a posteriori.