

THE PROBLEMS OF EXPLANATION IN GEOGRAPHY

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There has been considerable discussion and disputes regarding the meaning of explanation. The word explanation is a logical procedure and comes out from a deep logical analysis. There are some issues regarding explanation which cannot be resolved independently of philosophical construct such as the problem of verification and confirmation. There are controversies regarding explanation in natural sciences, in the social sciences, in history and in geography (Harvey, D 1969). For our immediate purpose it is convenient to give the very broad interpretation of the explanation. It will be regarded, therefore, as any satisfactory or any reasonable answer to a 'Why' or 'How' question.

Toulmin (1960) suggested that the desire for an explanation originates from a reaction of surprise to some experience. This surprise he suggests is generated by a conflict between our expectations in a given situation and our actual experience of it. An explanation may, thus, be regarded as reducing an unexpected outcome, to an expected one. In the process of generating one explanation, however, we may find other surprises and conflicts which require explanation, and a process of question answer interaction may get under way that eventually leads to an organized body of knowledge to which we can refer for satisfactory explanations of all kinds of phenomena.

A particular generation may come to regard the dialogue of question and answer that has taken place in the past as leading up blind alleys. It is a charge that all disciplines at some time or other have been liable to, that they have become enamored of questions that have no real interpretation in terms of concrete experience, or that they have simply set up unrealistic questions and a neat mechanism for providing seemingly satisfying, if equally unreal, answers. On other occasions it seems as if a discipline has worked out a particular vein of thought and requires shifting the location of activity to some other plane. At these points in the history of a discipline, we are likely to find an example of what Thomas Kuhn (1962) calls a scientific revolution, the shift from one paradigm to another. Kuhn interprets the paradigm as: "Universally recognized scientific achievement that for a time provide model problems and solutions to a community of practitioners".

This concept of paradigm is useful because it expresses something rather important about explanation as a process and as an activity. In particular it brings together two aspects of explanation which cannot be divorced from an understanding of the behaviour of investigator, namely, the question which he asks and the criteria he sets up to judge whether or not a given explanation is reasonable and satisfying.

Kuhn's analysis is interesting from two points of view. In the first place it provides a conceptual framework for examining the history of scientific effort; and the history of geography could well be treated in that manner. Such a history would help us to understand,

many of the problems and questions posed by, say, Ratzel or Griffith Taylor. It seems that our conceptual apparatus, our current paradigm, cannot extend to the consideration of such questions. The shifting geographical focus of political power traced by Griffith Taylor and projected into the future, seems to be a question that is metaphysical rather than a question that can be given a rational answer. In the second place Kuhn's account provides us with some profound insights into the behaviour of scientists, into science as an activity. It helps us to understand the nature of paradigm conflict, the problems we face in choosing one mode of puzzle solving rather than another.

Geographers frequently form desperate alliances. Some involve themselves more in the work of the social sciences while others associate with the humanities and in particular with the history. Different national groups tend to develop rather different traditions in this respect. The French have traditionally maintained close contact with history, the British with Geology and so on. Whatever the view, the geographers have been open to be influenced by the methodological attitudes developed in neighboring disciplines. In general we may distinguish three sources of influences on geography. One lies in the natural sciences, another comes from the social sciences, finally the history has provided a major influence upon geographical thinking. Kant emphasized that we may classify our knowledge in either of two ways. Through geography we obtain a system of nature, through history, a geographical description of nature. Both geography and history fill up the entire circumference of our perceptions: geography that of space, history that of time (Hartshorne, 1939).

It is perhaps significant that most of the British and American literature in geographic thought has been concerned with defining the objectives, scope and nature of geography. Most controversy has thus centered on philosophical rather than methodological issues but by adopting a particular stance with respect to the objectives of geography, geographers have sometimes been forced to adopt some stance with respect to explanatory form. In some cases this has resulted from a largely false association between a particular view of the objectives of geography and a particular style of explanation. But the relationships are complex, for example, the relationship between natural sciences and geography where physics has forged a powerful paradigm of scientific explanation. In most disciplines the interaction between the questions which a discipline asks and explanatory form is extremely important. In geography this typically fruitful interaction of quarries and explanations has been reduced to rather more sterile one way dependence (Harvey, D. 1969). In particular, the tendency to be critical of the questions being asked on metaphysical grounds, without examining the explanatory form involved has led to a good deal of unnecessary and often undefining argument. If, for example, a particular type of question entails an explanatory form which is generally regarded as lacking in power, it amounts to saying that we frequently phrase a question in such a way as to presuppose the explanatory form of the answer. Under these conditions it is possible to dismiss questions on two grounds. First the objective may appear irrelevant to the needs of modern geography. Second, the explanatory framework entailed in asking that kind of question may appear very weak. Our task, therefore, is part metaphysical and part logical. In geography these two tasks have usually been confused. To demonstrate this number of controversies will be considered. Since it is explanatory form that is so frequently neglected we shall examine these from the point of view of the explanatory form involved rather than from the point of view of objectives.

Most geographers curiously enough, regard their discipline as some kind of science, but also submit that the question which geographers ask cannot be answered by way of rigorous employment of scientific method. Geography seeks to present that knowledge in the form of concepts, relationships and principles that shall, as far as possible, apply to all parts of the world (Hartshone, 1939). Finally it seeks to organize the dependable knowledge so obtained in logical systems, reduced by mutual connections into a small number of independent systems as possible.

The overall aim of geography is not, therefore, frequently held that the questions which geographers ask lie partly beyond science (Hartshone, 1957). There are, it is claimed, limits to the applications of scientific enquiry in any context and thus assumes a far enquiry of the achievements of the scientific method that exist in the minds of all.

The methodology of a discipline is not determined by the practitioners of that discipline in isolation. Philosophers of science have frequently been involved in direct debate with the practitioners of some discipline as to the nature and form of the explanations they pursue. Some disciplines have tended to avoid such direct debate and a gap thus developed between methodologists of that discipline and the philosophers of science. If prizes were to be awarded for the discipline where this gap was most marked then geography would come close to taking first prize. For the most part geographers have not argued about explanatory form but have argued about objectives.

Our search for professional identity led to an intellectual independence and eventually to a degree of isolation against which a number of the rising younger generation of geographers have now reacted. Geographers must admit that there are a number of draw backs in our approach to deal with the subject in a unified sense. The climatologist draws much in the way of basic methodology from the closely related disciplines of atmospheric physics. The biogeographers draw much from the soil scientist, the biologist, the chemist and so on. The historical geographer tends to look to history, and the economic geographer may look to economics and so on. Thus methodological separatism has grown in geography as each subdivision of the subject has matured and as the number of specialized subdivisions has increased. This is not necessarily an unwanted thing. What is regrettable, however, is that we lack a unifying vision.

Geographical writing and research work has in recent years lacked any generally accepted, overall view of the subject even though techniques have prolifered (Wrigely 1965). This has been recognized widely as a discouraging trend. A unifying vision is a comforting thing, but one may perhaps question whether it is as vital a thing as sometimes supposed. Without it there is always the danger of the drifting apart of interests which together make up the subject.

It is imperative to know that all historical developments have some representation over the present. In the same way there have been many deviations in geography from the course of development and all these deviations have some representation on the recent thought at any point of time. Because of the extreme diversity of both viewpoints in both philosophy and methodology, there has been a constant extension, even a shift, in the focus of discipline (Harvey, D 1969). Geography throughout the history has been confronted with the problem of dualism and dichotomy. In the delineation of the sphere of geography and the

methodology to be adopted for its study ,there have existed and still exist significant dichotomies like systematic and regional geography, physical and human geography etc.

The qualitative-quantitative dichotomy in geography at the present time might well represent a conflict in paradigms-a conflict that has nothing to do with whether or not one employs a chi-square test or calculate a regression line, but which is indicative of a conflict between two different views of what are tractable and interesting geographical questions, and what are satisfying and reasonable answers. Chorley and Hagget (1967) thus regard the so called quantitative movement as a symptom of the research of many geographers for some new paradigm. A paradigm thus provides an extraordinary efficient way of solving problems, but in general it buys concentrated effort at the cost of sacrificing comprehensive coverage (Harvey, D 1969).

Geography is short on theory and long on facts (Ballabon, 1975). Yet the development of theory appears vital both to satisfactory explanation and to the identification of geography as an independent field of study. Theory provides the sieve through which myriads of facts are sorted, and without it the facts remain a meaningless jumble (Burton, 1963). The theoretical route is probably now most favored since it clearly recognizes the hypothetical nature of much scientific thought. In general this style of thinking has not been prevalent in geography although there has been plenty of a priori thinking.

The failure to achieve a hypothetical-deductive unification of geographic principles-or to postulate such a structure-has serious implications. It has not relegated most geographic thinking and activity simply to the task of ordering and classifying data, but it has restricted our ability to order and classify in any meaningful way. Where explanations have been attempted, they have tended to be ad hoc and unsystematic in form. Nevertheless it is possible to identify a number of explanatory forms partly by reference to methodological statements and partly by reference to empirical work.

It is worth to mention that the problem of explanation with respect to dualism and dichotomy is not peculiar to geography only, it is shared by all sister disciplines, though in varying degrees. But the level of dualism is rather more in geography than any other scientific discipline. The most peculiar characteristic of geography results from the fact that it penetrates into both the natural and social sciences. "Acceptance of many dichotomies is a sementric trap and all dichotomies have done a particular damage to geographical thinking" (James, P.E 1972).

Almost all modern geographers are of the opinion that geography cannot adapt itself to a number of conventional divisions based on philosophy and methodology. Geography is not divisible into natural and social sciences; it is not the position of geography

Geographical problems cannot be solved by the mere selection of some logically consistent methodology. Something more is needed, this "something more" amounts to an adequate philosophy of geography. We cannot escape this since in any study we need to make assumptions. A very important value judgment is involved in deciding what questions to assume away and what questions to investigate. Further, it is impossible to make a good methodological decision without making prior philosophical decisions regarding the goals and objectives of a particular investigation. This proposition applies to theory construction, model use, the selection of an appropriate language, classification, measurement, sampling

and so on. It should be clear, therefore, that an adequate methodology provides necessary condition for the solution of geographical problems, philosophy provides the sufficient condition. Philosophy provides the steering mechanism; methodology provides the power to move us closer to our destination. Without methodology we will lie declaimed, without philosophy we may circle aimlessly without decision.

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