



THE METHODOLOGICAL BASIS OF HIRSCHMAN'S
DEVELOPMENT ECONOMICS: PATTERN
MODEL VS. GENERAL LAWS

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Abstract

This paper attempts to understand the methodological foundations of Albert Hirschman's work in development economics. His work clearly differs from the formal and econometric approach of standard economics. Because of this Hirschman is often dismissed as a pamphleteer. This paper argues that Hirschman's work can be understood as an example of what philosophers of social science call holistic pattern modeling.

Resumen

Este trabajo intenta una comparación de los fundamentos metodológicos del trabajo de Albert Hirschman sobre economía de desarrollo. Su trabajo difiere claramente del enfoque formal y econométrico típico de la teoría económica tradicional. Por esta causa se acusa a Hirschman de panfletario. Este trabajo mantiene que el trabajo de Hirschman puede entenderse como un ejemplo de lo que los filósofos de las ciencias sociales denominan patrones totalizadores.

THE METHODOLOGICAL BASIS OF HIRSCHMAN'S DEVELOPMENT ECONOMICS:
PATTERN MODEL vs. GENERAL LAWS

Charles K. Wilber and Steve Francis

Over the past three decades, Albert O. Hirschman has shaped the direction and broadened the scope of economic development theory in a manner that is matched by only a few seminal thinkers. Hirschman's central insights have been incorporated so thoroughly into mainstream theory that today many development experts may recognize Hirschman's contributions, from backward and forward linkages ¹ to the role of exit and voice in development processes ² without ever having read his original works.

What can be said about the truth value of explanations found in the work of Albert O. Hirschman? To discuss the truth value of propositions requires initially a consideration of models of explanation. Since Hirschman's method of explanation has developed, at least in part, in reaction to the inadequacies of mainstream economic theory to deal with development problems, the models of explanation underlying both mainstream economics and much of Hirschman's work must be analyzed and compared.

An examination of Hirschman's methodology will serve two purposes. First, it will allow us to discover certain features of Albert Hirschman's method of inquiry which differ significantly from that of mainstream economics. Second, it will allow us to show that Hirschman's methodological approach provides lessons and insights which, in some cases, better explain development experience than the explanations obtained by the methodology of mainstream economics.

Based on a thorough reading of Hirschman's development works, we contend that much of Hirschman's approach to explanation is best understood as a holistic pattern model. For the holist, explanation of reality cannot be had through the application of universal laws, with successful predictions the only form of verification. Rather, an event or action is explained by identifying its place in a pattern that characterizes the ongoing processes of change in the whole system. The formal models of mainstream economics, described below, cannot handle the range of variables, the specificity of institutions, and the nongenerality of behavior encountered in development. Before presenting a more detailed description of Hirschman's methodology, a brief description of the methodology of mainstream economics will help clarify how it differs from the method of the holistic pattern model.

Formalism, Positivism and Standard Economics

Standard economics has striven to become both formal and positive, where the former provides for logical deduction and the latter provides for empirical verification.

Formalism is a method that consists of a formal system of logical relationships abstracted from any empirical content it might have in the real world. For example, the theory of the firm in standard economics deals with the behavior of the firm involved in any process of production, using any inputs at any set of relative prices with any technology. It is characterized by the use of mathematics (at least implicitly) and by the development of an axiomatic, deductive structure. A set of postulates and definitions is derived by separating an empirical process into its obvious divisions and specifying the necessary or possible relations among them.

Once the definitions and postulates are established, the next step is to deduce the essential elements of the system. At this point in the formal method, the abstract model must be interpreted by providing a set of correspondence rules that relate formal terms of the theory to empirical concepts. For example, first derivatives are interpreted as marginal products, marginal utilities, etc., and in this way the theory attains empirical content. A theory, therefore, is merely an abstract model that has one or more interpretations. "Rules of interpretation do make a truth claim; they claim that the structure of relations in a calculus is the same structure that exists in some part or aspect of the empirical world."³ Thus it is assumed that the structure of reality is approximated by the logical structure of the calculus, or set theory, or difference equations.

Formal methods produce models that are capable of yielding law-like statements. These formal laws are not empirical generalizations but are logical deductions that make a priori statements about necessary connections between abstract entities. For example, the beginning postulates of the standard theory of the firm define the firm as a rational decision-maker that attempts to maximize expected returns and has the information and ability to do so. Law-like statements that can be deduced from this include the proposition that firms will continue buying inputs and producing and selling outputs up to the point where expected returns are maximized--where marginal cost equals marginal revenue. This statement does not describe how actual firms behave, but how an ideally rational firm would behave, and is determined not from observation but from logical deduction, in fundamental contrast to the pattern model approach described later. Implicit in standard theory, therefore, is the position that truth about reality lies in the logic of the theory.

Beginning in the 1940s, economists such as Paul Samuelson attempted to reconstruct this formal body of economic theory in a way that would make deduced implications empirically testable. They attempted to show that empirically falsifiable propositions could be derived from formal models. Due in part to the development of the computer and statistical techniques, most economists have become positivists; that is, they see empirical verification of propositions deduced from formal theories as the key to economic science. The resulting formal model requires that explanation and prediction be symmetrical. Explanation occurs when the hypothesis is derived after the event, whereas prediction occurs when the hypothesis is derived before the event takes place. Due to the ahistorical and universal nature of general laws, there is a logical necessity that explanation and prediction be symmetrical. Moreover, it is critical to the viability of this symmetric relation that tentatively held hypotheses, in practice, be potentially falsifiable, but as yet nonfalsified. Indeed, the explanation is not considered adequate unless it would have served as the basis of prediction.

In the words of Milton Friedman, the goal of positive economics "is to provide a system of generalizations that can be used to make correct predictions about the consequences of any change in circumstances. Its performance is to be judged by the precision, scope, and conformity with experience of the predictions it yields."⁴ Predictability, then, is the crucial element in positive economics, whereas, as we shall show it plays a minor role in pattern modeling.

Since correct predictions imply correct explanations, scientific explanation in economics proceeds by tentatively accepting those theories which yield hypotheses (or predictions) that, when tested, exhibit a high degree of correspondence with the real world. Testing the models' predictions

against experience serves to validate or verify the "system of generalizations" and leads to the accumulation of laws that constitute general theory. However, successful prediction of economic phenomena has been consistently lacking over past years for at least two reasons. First, the position of positive economics is that knowledge, whether in the physical or social sciences, is distinguished solely on the basis of the empirical subject matter and not by methodology. An implicit assumption is that the subject matter of economics is comparable to that of the physical sciences, where the subject matter and its response to external factors is characterized by its high degree of stability over time. Thus, the successful application of the theoretical methods used in the physical sciences to the subject matter of economics is contingent upon the stability of the data which, especially in development economics, are highly unstable. Second, the high degree of insulation afforded to standard theory arises because of the highly conditional nature of its predictions, which are dependent upon the ceteris paribus clauses holding and upon the data's being representative of economic reality. The economist is able to rationalize the failure of his predictions by blaming the ceteris paribus clauses, the data, or the specific testing procedure itself. These three mechanisms, examined below, make it easy for economists to reject a disconfirmation as invalid and, thus, insulate their theory from refutation.

First is the ceteris paribus problem. As mentioned briefly above, economists rely heavily upon ceteris paribus clauses when constructing their hypotheses in order to "control" their subject matter. Such hypotheses in economics are typically stated in the form of "if....then" propositions. Since the "ifs" do change, an econometric test that disconfirms the theory can always be rejected as "misspecified."

Second is the difficulty of constructing a clear-cut test of an hypothesis in economics. Most of the traditional statistical techniques, such as null hypotheses, are very weak ones which a variety of different theories are capable of passing. Thus, when empirical tests fail to discriminate adequately among competing theories, economists tend to assess theories on the basis of desirable logical qualities such as simplicity and generality, all qualities inherent in formal models.

Third, both the methods of collection and construction of economic data are unreliable. Typically, economic data are statistically constructed and are not conceptually the same as the corresponding variables in the theory. Therefore, econometricians and statisticians engage in data "massaging." If a test disconfirms an hypothesis, the investigator can always blame the data--they have been "massaged" either too much or not enough.

Positive economics thus becomes insulated from refutation. It cannot be harmed by demonstrating that the assumptions and laws of the formal model are abstract and unrealistic, and the model is not rejected when its predictions fail to fit the facts. What is left of "normal economic science"? When a theory is able to obtain such a high level of insulation that its substantive hypotheses are, in practice, nonfalsifiable, we contend that the theory collapses into an a priori formal model that compels assent by its logic, not by its conformity with empirical reality. As such, economic theory functions more as a prescriptive than descriptive device. That is, theory functions as a parable to elucidate the ideal toward which we should strive.

The final outcome of the use of formal methods in economics is that those methods fail to generate the hoped for results, and the investigators end up engaging in what Ben Ward calls "story-telling."⁵ Instead of explaining something by logically deducing an hypothesis as a specific instance of a more

general law and then subjecting it to empirical verification, economists tell a variety of stories--some more plausible than others. Some take their logical models and tell a story about a world of perfect competition. Institutions are characterized by smallness, everyone has the same motive, and all problems are frictions, externalities, and other "sociological penumbra." Other economists prepare econometric studies, "massage" the data on the basis of other information, vary the auxiliary hypotheses to paribus the ceteris, develop ad hoc explanations, and thus make up a story about what happened. The use of the term storytelling is not meant perjoratively. Rather, it is an accurate description of most work in the social sciences. To recognize that fact should be helpful to economics. Perhaps the science could be improved if we were more honest about this matter, for practitioners might then feel under less pressure to transform their studies into models of a procedure that has not worked and which really is not even believed. The result of that practice has been to sweep under the table some of the most important and profound issues that economics faces, as well as substantially to distort much potentially useful work.⁶ In light of these difficulties, a recognition of the importance of 'methodological pluralism' seems in order, and the method used often by Albert Hirschman, the holistic pattern model, is a major step toward such a pluralism.

Hirschman's Method - Holism and Pattern Model

Through his works, Hirschman has stimulated debate and research across a wide range of disciplines--sociology, political science and economics. The way in which Hirschman has gone about researching questions, developing ideas and extracting conclusions from a lifetime of observation and reflection is

the focus of the following discussion. We are interested not so much in what Hirschman wrote, although that certainly is important, but in how he constructed his particular views on economic development. Hopefully, by shedding light on Hirschman's methods we can come to an understanding of the relevance, importance and truth-value of his work.

Hirschman appears to have recognized that formal economic methods often fail to explain the nature of social reality. Thus he has been engaged in the task of developing his own explanations of social phenomena--particularly of economic development. The nature of Hirschman's approach has ruled out other than incidental use of formal methods. Instead he has engaged in a systematic form of storytelling that Abraham Kaplan calls a "pattern model."⁷

Holism.

At the most general level, Hirschman's method of inquiry can be characterized as holistic, systemic and evolutionary. Social reality is seen as more than a specified set of relations; it is the process of change inherent in a set of social institutions known as a political-economic system. The process of social change is not purely mechanical; it is the product of human action which is definitely shaped and limited by society in which it has its roots. When Hirschman investigates the development of Brazil's Northeast, land reform in Colombia and inflation in Chile⁸ he does so, not with the tools of traditional microeconomic techniques and macro variables, but through a considerably detailed discussion of each country's historical, political and economic situation. Within that context, Hirschman analyzes the particular role of public policy in order "to learn something about the problem-solving capabilities of public authorities in Latin America".⁹

Hirschman's methodology is holistic because it focuses primarily on the relations between the parts of a system and the whole.¹⁰ It is systemic because those parts make up a coherent whole and can be understood only in terms of the whole. Hirschman's method is evolutionary because changes in the pattern of relations are seen as the very essence of social reality. There is an inter-connectedness between the elements that make up an economic system and the political and social context in which they function. Thus, in a review of the field of development economics¹¹ Hirschman claims that the inability of the field to take into account the "political disasters that struck a number of Third World countries...that were clearly somehow connected with the stresses and strains accompanying development"¹² led to the failure of development economics to adequately explain historical events. It is the ability to explain that is paramount in the holist method, as opposed to the ability to predict which logical positivists hold in high esteem. Later chapters show Hirschman's attempt to incorporate an analysis of political factors such as authoritarianism and social inequalities into an explanation of economic phenomena.¹³

For the holist, the explanation of reality cannot be achieved through the application of universal laws. Rather, an event or action is explained by indentifying its place in a pattern that characterizes the ongoing processes of change in the whole system. Hirschman has criticized the application of mechanistic processes which were discovered in a developed country context to problems in the developing world. In describing the rejection of what he calls "monoeconomics" Hirschman supports:

The view that underdeveloped countries as a group are set apart, through a number of specific economic characteristics common to them, from the advanced industrial countries and that traditional economic analysis, which has concentrated on the industrial countries, must therefore be recast in significant respects when dealing with underdeveloped countries. 14

Traces of this rejection of universally applied laws can be found in Hirschman's earlier works as well, in which Hirschman questions the 'applicability' of the then new-macro growth models of Harrod-Domar to the less developed world,

theories which, because of their high level of abstraction, [may] look perfectly 'neutral' as between one kind of economic system and another, often are primarily relevant to the conditions under which they are conceived. 15

Hirschman explores whether the use of growth theories is a help or a hindrance to economists trying to understand development processes and concludes that they may be far less useful in LDCs than in developed countries:

Its [the growth theory's] predictive and operational value is low. It does not really tell us much about the key mechanisms through which economic progress gets underway and is carried forward in a backward environment...16

Hirschman suggests that "the economics of development dare not borrow too extensively from the economics of growth...it must work out its own abstractions".17

In the remaining chapters of The Strategy of Economic Development Hirschman does just that: works out his own abstractions about the development process which are based less on general laws and center more on the interrelations of various aspects of development within the whole social system. Thus, backward and forward linkages are identified as important

elements of dynamic development processes that proceed in 'sequences' or spurts of growth activity. The focus of his schema is not on macroeconomic variables but on imbalances that exist in the society and the way in which they operate to energize human action in a certain direction. The forces of development are not those that have been identified by the logical positivist approach in 'monoeconomic theory' (i.e., savings rates, capital/output ratios and the like) but are powerful development stimuli such as mechanisms to induce investment, 'pacing devices', imbalances in supply and demand, and important social side effects of "the creative role of imports in the development process."¹⁸ The insights one discovers in this important work could only be elucidated by a method that rejects a rigid, disciplinary approach to development based on universal laws and proceeds by identifying the dynamics of development in a pattern that characterizes the ongoing processes of change in the whole society.

Hirschman's view of development is one that explains complex, interrelated processes rather than one that predicts specific results. This emphasis on the explanatory rather than predictive power implicit in Hirschman's method is typical of the holist approach. Holist theories are couched in the belief that the whole is not only greater than the sum of its parts, "but that the parts are so related that their functioning is conditioned by their interrelations".¹⁹ As if to confirm this view, Hirschman writes on the effects of linkages,

the joint linkage effects of two industries, say beer and cement, considered as a unit, are likely to be larger than the sum of their individual linkage effects...²⁰

Recent attention to holism by philosophers of science has led to a coherent expression of its methodology. Most notably, the works of Abraham Kaplan and Paul Diesing each contain explicit presentations of the holist model of explanation which will be used to characterize Hirschman's work. These two authors seek to uncover the implicit structural framework which facilitates holist theorists' explanations of reality.²¹ Diesing finds a commonality among such theories which includes the holists' conception of reality, the structure of their explanations, the primacy of their subject matter, and their particular form of logic. While all holist approaches may not conform completely to Diesing's ideal-type, as Hirschman does not, Hirschman's method includes elements of these four categories.

Conception of Reality.

First is the holist conception of reality. Holistic social scientists argue that social reality must be studied as a whole human system in its natural setting. Obviously, human systems will tend to differ greatly with respect to size, complexity, degree of self-sufficiency, and relationships to the larger wholes that include them. However, the crucial element of this view is the concept of interrelationship or unity. That is, according to Diesing, "the holist standpoint includes the belief that human systems tend to develop a characteristic wholeness or integrity."²² This unity may take the form of a set of values that expresses itself throughout the system, or it may be that a particular socioeconomic structure tends to condition everything else. Holists may disagree on whether this unity derives from some basic source (for example, religion, ethics, technology, personality) or from some complex interweaving of a number of factors, but they all agree that the unity is there.

The implication is that the characteristics of a part are largely determined by the whole to which it belongs and by its particular location in the whole system. Thus, if two superficially similar parts of different systems, let us say markets, are compared closely, they will be found to vary in characteristic ways.

In one provocative work,²³ Hirschman observes the neglect by the economist of the role of voice, typically associated only with politics, in response to the decline in quality of a firm's product, and he notes a similar neglect of exit (i.e., ability to leave) in the realm of politics. An analysis of the role of voice and exit together in relation to the economy as well as the body politic is undertaken, and Hirschman argues that the incorporation of both into a unified look at the political-economic system is vital to improving our understanding.

Some policy conclusions drawn from a unified analysis are quite striking, and run contrary to traditional economic prescriptions derived from general laws. Monopolies may not become more efficient if broken up or by allowing competition, because such action would tend to reduce the role of voice in improving the firm's performance.²⁴ Through the use of consumer surplus analysis, Hirschman argues that the consumers who exit are likely to be the ones who would ordinarily exercise the loudest voice and prompt improvement of the firm's product. In this example, we see a result of holistic methodology that runs counter to 'traditional economic wisdom'.

The holist believes that it is inappropriate to take parts of an interdependent system out of context, and indeed such an approach leads to erroneous conclusions. Hirschman argues that Milton Friedman's voucher plan for education whereby private schools compete with public education disregards

the role of voice in the performance of public schools. He maintains that the first to leave the public school under such a system at the first sign of quality decline may be those who have the strongest voice in improving the school's quality. Thus, the plight of public schools and the general public may not be served by greater competition.²⁵ The neglect of the role of voice in this case is the culprit in such a proposal. The whole has been broken up into its parts and the policy conclusions are questionable in Hirschman's view.

Hirschman himself may deviate at times from the characteristic of not taking the parts out of context. In Development Projects Observed, Hirschman looks at eleven projects in various parts of the world and extracts policy 'lessons' from them. In his analysis, he molds the successes and failures of the projects into his self-defined categories, as if the projects could be viewed in isolation from a socio-political analysis. This is a departure from the holistic approach, particularly since each project was undertaken within a unique political, economic and social system, and lessons learned in one may not be easily applied to other situations. Hirschman, however, attempts to gather from the various projects identifiable common themes and, as shall be shown, this is acceptable in forming a 'pattern model' if certain procedures, such as contextual validation, are followed.

Moreover the holist conception of reality is that reality is a process of evolutionary change driven by the dynamic interaction between the parts and the whole. Hirschman's early view of inflation, "inflationary impulses are communicated to the economy by certain types of development sequences rather than indiscriminately by the general desire for development," is one that contributes to an understanding of the dynamic process of unbalanced growth.²⁵ Hence, imbalances in the economy, supply shocks and bottlenecks are an essential part of the development process and motivate the expansion of human

activity leading to sequential economic development. The parts of the system are at once conditioning and conditioned by the whole.

The Structure of Explanation.

Holist theory is distinguished by the structure of its explanations. To use Kaplan's terminology, the structure of holistic theories is concatenated (linked together) rather than hierarchal, as in formal theories. Several relatively independent parts are linked together in composing holistic theories, rather than logically deducing an hypothesis from a formal theory. As such, a concatenated theory with its relatively independent subsections provides a many-sided, complex picture of the subject matter. Much of Hirschman's earlier work appears to be composed this way. The theory of unbalanced growth, for example, links together clearly identified themes such as the scarce resource of "genuine decision-making,"²⁷ imbalances on the supply side, bottlenecks, balance of payments disequilibria, and demand imbalances, and combines these themes to form a theory of development characterized by unbalanced growth.

development has of course proceeded in this way, with growth being communicated from the leading sectors of the economy to the followers...the balanced growth that is revealed by the two still photographs taken at two different points in time is the end result of a series of uneven advances of one sector followed by the catching-up of other sectors.²⁸

Hirschman further steps outside the discipline of economics and links market forces to nonmarket forces in the unbalanced growth process, and contrasts his view to that of classical economics this way:

Tradition seems to require that economists argue forever about the question whether, in any disequilibrium situation, market forces acting alone are likely to restore equilibrium...As social scientists we surely must address

ourselves to the broader question, is the disequilibrium situation likely to be corrected at all? It is our contention that nonmarket forces are not necessarily less 'automatic' than market forces. ²⁹

Here, Hirschman has not only linked together economic phenomena but he has also connected those economic forces to broader societal concerns and in the holistic tradition has created a coherent, multi-dimensional view of the development process.

A hierarchal theory, in contrast, is always one-sided. It takes one set of relations, one structure, or a single process and abstracts it out of the coherent whole, and then subjects it to logical study. For example, standard economists will focus on the process of exchange or resource allocation in isolation from the society in which the process is imbedded.

The linked structure of holist explanations is necessitated in part by the holist's conception of reality. The holist maintains that we have an explanation for something when we understand its place in the whole, as opposed to the formalist's approach which maintains that we understand something when we can predict it. Consequently, to the holist, reality cannot be understood simply by exhibiting it as a concrete reflection of some universal principle; instead, the best one can do is to identify it as part of an organized whole by constructing a model which links its particular function to the whole network of themes and connections.

Primacy of Subject Matter.

The primacy of the subject matter is a crucial element of holist methodology. Their concepts are relatively concrete, particularized and close to the real system being described. Throughout Hirschman's work the analysis is close to a particular situation, although in his later more theoretical work he becomes further removed from specific observations. Although the

ostensible purpose of Development Projects Observed was "to learn something about project behavior in general" 30, Hirschman conducts his study through specific, detailed analysis of concrete project experiences. In the Introduction, Hirschman writes:

It will, I hope, be apparent that almost all of these observations owe their every existence to a year of looking at projects and talking about them with their originators, builders, administrators, financiers, and customers. 31

Hirschman appears to depart from the primacy of subject matter in his later works, however. In Exit, Voice and Loyalty, the first significant departure from development analysis for Hirschman, he becomes more abstract in his analysis, and further removed from his subject matter--the firm, the state and organizations. Nevertheless, throughout the discussion the reader is constantly brought closer to the subject matter through frequent references to specific examples of the functioning of voice and exit.

Formalist economists assert that whatever else method is, it should first and foremost be 'scientific'. For them, if the canons of the scientific method are violated, or worse, if the method is radically altered or a new one adopted to fulfill the specific requirements of the subject matter, then the result cannot be science. Holists, on the other hand, do not predetermine the appropriate framework in which to explain their subject matter. In fact, holists would not object to those who would attempt to recast holistic theories into a more traditionally 'acceptable' form, but they would insist that the end product not distort the uniqueness and individuality of the system. Hirschman affirms this view:

I am very conscious that many of my statements must be considered hypotheses which remain to be tested...I certainly hope that some of my propositions--on efficient

sequences, on linkage effects, on productivity differentials, etc.--will lend themselves and be subjected to critical empirical research. 32

In fact, many others have responded to that challenge and recast Hirschman's hypotheses into testable form. 33

A final point with respect to the primacy of subject matter is that external formulas such as general laws or other universal categorizations are never imposed on the subject matter a priori. No statement within the pattern explanation need be generalized beyond the particular system. In this sense, holists allow the nature of the subject matter to dictate the specific method most appropriate to the task of interpreting, understanding and explaining it. Kaplan makes the point with his usual clarity and preciseness.

The point is that the attainment of acceptable explanations is not the accumulation of eternal and absolute truths; we have not, in attaining them, laid another brick on the edifice, not fitted another piece into the mosaic. What has happened is that we have found something which serves the ends of inquiry at a particular time and place, we have gotten hold of an idea which we can do something with--not to set our minds at rest but to turn their restlessness into productive channels. Explanations do not provide us with something over and above what we can put to some use, and this statement is as true of understanding as it is of prediction. 34

Hirschman's use of 'possibilism' and his insistence upon the element of surprise in the development process is not contradicted by his use of holistic methods. On the contrary, the holist resists the temptation to construct a mosaic of truth, to use Kaplan's term, and uses ideas to constantly startle the mind rather than 'to set our minds at rest'. Hirschman's penchant for the surprise element at work in development processes certainly corresponds to this characteristic of holistic thought.

Form of Logic.

The fourth and final characteristic of holistic concepts is that they are frequently, though not always, related dialectically. The use of the dialectic is the particular form of logic of the holist approach. Diesing describes the use of dialectics by the holist:

Two concepts are dialectically related when the elaboration of one draws attention to the other as an opposed concept that has been implicitly denied or excluded by the first; when one discovers that the opposite concept is required (presupposed) for the validity of the first; and when one finds that the real theoretical problem is that of the inter-relation between the two concepts, and the real descriptive problem that of determining their inter-relations in a particular case. 35

The use of the dialectic in this manner is found throughout Hirschman's work but is particularly apparent in the contrasting nature of exit and voice. Voice has been implicitly denied by the economist's focus on exit (i.e., competition) yet when the two are considered together equally, which is precisely the focus of Hirschman's book, they shed light on the responses to decline in firms and organizations with a quite different result than if only one had been employed. A quote by Hirschman illuminates the importance he attributes to both exit and voice in observing particular situations.

Exit and voice...have been introduced as two principle actors of strictly equal rank and importance. I hope to demonstrate to political scientists the usefulness of economic concepts and to economists the usefulness of political concepts. 36

To use Diesing's terms, the 'real descriptive' problem later in the book becomes one of showing the interrelationships between exit and voice in specific cases. The contrasting nature of exit and voice is used to illuminate ideas concerning monopolies, public education and urban-suburban movements. In another application 37 it is the tensions and conflicts

inherent in the development process that contain the incentives to further development growth. In this view, "development also draws new strength from the tensions it creates" 38, and, quite remarkably, bottlenecks become signals for action, linkage effects stimulate investment activity, obstacles to development become incentives, and unbalanced growth creates its own forces to further the development of society. In this book and subsequent articles, Hirschman criticises the approach of balanced growth paths and concentrates instead on seemingly paradoxical situations where disequilibria call forth the actions necessary for true development to occur.

What explains the frequent occurrence of dialectical concepts in holist theories? One reason is that they serve to counterbalance the human tendency to be biased, one-sided, abstract. They make thought and theories more concrete. "One begins with some historically or empirically suggested viewpoint and develops it until its shortcomings are clear enough to suggest the outlines of an opposing, formerly excluded viewpoint; then the latter is developed and related back to the first".³⁹ In effect, dialectic is the logic of the concrete.

The Participant/Observer Method

The particular exploratory method by which Hirschman constructs a holistic model, better known as a pattern model which will be explained later, is through analysis as a participant-observer. In Diesing's view, the participant-observer method has achieved the greatest success in constructing holistic explanations in which the primary subject matter is a single, self-maintaining system. As an advisor to the Colombian government in the 1950s Hirschman describes his role as a participant-observer,

I was engaged primarily in an attempt to elucidate my own immediate experience in one of the so-called underdeveloped countries. In the course of this attempt, the various observations and reflections I gathered began to look more and more like a common theme. So I undertook to discover this theme and then used it in reinterpreting a variety of development problems.⁴⁰

The book is the result of a distillation of observations Hirschman obtained while working as a consultant to the Colombian government in 1952-56. He went to Colombia as a relative newcomer to the field of economic development, as he says in an upcoming World Bank publication,

When I returned to the U.S. after four years' intensive experience as an official advisor and private consultant, I began to read up on the literature and discovered I had acquired a point of view of my own that was considerably at odds with current doctrine.⁴¹

His book, The Strategy of Economic Development, is the fruit of years of observation as well as a generalization of the themes Hirschman encountered observing Colombian experience.

The first step of the participant-observer method is the 'socialization' of the theorist. As participants, investigators allow the subject matter to impress its norms and lessons upon them. Unlike positivists, who impose external formulas upon the subject matter, the participant-observer attempts to remain close to the concrete form of the system. In describing his approach to observing Colombian development patterns Hirschman relates that "my instinct was to try to understand better their patterns of action, rather than assume from the outset that they could only be 'developed' by importing a set of techniques that they knew nothing about."⁴² In addition to Hirschman's obvious reluctance to impose ideas and norms from outside Colombian development experience, he views his initial role as an observer, to "look for elements and processes of the Colombian reality that did work, perhaps in a roundabout and unappreciated fashion."⁴³ And Hirschman finds

'hidden rationalities' for development practices which the logical positivist would have overlooked.

In research for Development Projects Observed Hirschman steeped himself in the experiences of eleven projects in Asia, Africa, and Latin America, and first allowed the projects to impress upon him the lessons of each particular success and failure. In later works, however, it appears that Hirschman backed away from the participant-observer approach, particularly in his theoretical books. In Exit, Voice and Loyalty Hirschman takes a more distant analytical tack and in Essays in Trespassing he picks up on themes in previous works which are based on concrete observation, albeit once-removed. In Hirschman's latest book, Shifting Involvements, he becomes the most distant observer of all his works, analyzing the shifts in society from public to private involvement. This attempt to engage in more general theorizing will be discussed later in the section on typologies and universal laws.

In remaining close to the concrete reality of the system under study, the theorist is in a unique position to perceive a wide variety of recurrent themes that appear in a variety of contexts. In one essay⁴⁴ Hirschman tries to form a "body of principles and meaningful generalizations which would permit the economist to be concretely helpful in the location and elaboration of promising, specific investment projects."⁴⁵ In this example, Hirschman draws upon his experience in Colombia in order to identify themes relevant to investment planning and to organize them in a unified, more general context (i.e., general guides such as the capital extensiveness of the process, the penalty of failure to maintain equipment, etc.) which help "elaborate criteria which may enable him [the economist] to make a highly useful contribution to the process of detailed investment planning".⁴⁶

The use of abstract, general laws and universal categories is especially unsuited to the task of unifying themes. Hirschman has on more than one occasion expressed his dislike for universally applied laws and approaches which do not take into account the particular traits of the society being observed.⁴⁷

To the participant-observer, a theme is more important the more connections it has with other themes, because the ultimate end is the construction of a model which emphasizes the inter-connectedness or unity of the system. Thus, loyalty becomes an important theme because the "presence of loyalty makes exit less likely" and gives scope to voice.⁴⁸ It is the connection between loyalty, voice and exit that makes the theme more important and relevant to the observer's analysis. The next step after initial observation is to make explicit the information which, as a participant, the researcher is not able to perceive. Initially, this process is rather haphazard. The researcher constructs tentative hypotheses about parts of the system out of the recurrent themes that become obvious to him or her in the course of the 'socialization' process. The themes are then woven into a complex, multi-dimensional story which includes some generalizations from observed experience. In Development Projects Observed, Hirschman constructs hypotheses about the importance of latitudes or "the characteristic that permits project planners and operators to mold a project".⁴⁹

Instead of looking at these decisions from the point of view of the 'objective' analyst and his optimizing techniques, our inquiry shall deal with the propensities and pressures to which decision-makers themselves are subject.⁵⁰

As a result, in a detailed look at why Nigerian railroads failed to respond to competition from highways, Hirschman attributes the problem, at least partially, to the latitude for poor performance permitted by the existence of an alternative method of transport. Incidentally, this theme is

picked up later in another book ⁵¹ to elucidate an explanation for the special difficulties in combining exit and voice.

The hypothesis or themes are tested by consulting a wide variety of data which is different in form and substance from the data of the logical positivists (previous case studies, survey data and personal observations, rather than strictly 'hard facts' and quantitative material). Evidence in support of an hypothesis or interpretation is evaluated by means of contextual validation--a process of cross-checking different kinds and sources of evidence to validate the themes. In Hirschman's work, examples of contextual validation can be seen when his earlier themes are elaborated on and expanded in later works. In fact, Essays in Trespassing is organized in thematic categories based on Hirschman's previous work, and as one reads his work chronologically a remarkable thread of consistency runs throughout. Exit and voice are applied in different contexts⁵², the elements of unbalanced growth are extended ⁵³, and backward and forward linkage are expanded to include consumption and fiscal linkages.⁵⁴ Hirschman goes one step further in his contextual validation with an extension of the linkage concept to a generalized linkage approach to development.⁵⁵ As a specific example of contextual validation, Hirschman describes a revision of his original formulation of linkage effects,

In my original treatment of the subject, the relation between market size and the economic size of the plant was singled out as the key variable that would trigger the private or public entrepreneurship needed...Further reflection and observation have made it clear, however, that other variables are also at work and help explain the differential speed with which these investments come into being. ⁵⁶

Hirschman goes on to identify 'technological alienness' and other compelling technical characteristics as additional key variables in the linkage 'hypothesis'. The importance of this example is the way in which Hirschman has altered his original linkage idea and, upon further reflection and observation, expanded it to a more generalized approach. Contextual validation serves as a means of cross-checking different kinds and sources of evidence, and it serves as an indirect means of evaluating the plausibility of one's initial interpretations. If the researcher is unable to secure evidence in support of earlier hypotheses, or if the validity of the evidence or its source appears questionable, the interpretations and/or hypotheses are revised or discarded. The technique can never produce the rigorous 'certainty' espoused by logical positivists; it can only indicate varying degrees of plausibility. However, a test of a particular theme at the initial stages of development need never be conclusive to have importance for the holist, since later tests are likely to catch errors that were missed by earlier ones. Consequently, Hirschman's later reflections on exit and voice reminded him that the costs of voice (i.e., in time and effort) can quickly turn into a benefit and become a "sought-after, fulfilling activity".⁵⁷ There are numerous other examples of 'contextual revisions' in Hirschman's work but, curiously, precious few examples where an earlier theme is completely discarded.

Certainly a weakness in Hirschman's work is the failure to specify in detail the process of contextual validation followed. Too often one is left with the feeling that his "themes and patterns" were not subjected to extensive cross-checking of different types and sources of evidence.

The Pattern Model and Generalization

We now turn our attention to the way in which Hirschman builds a more general thematic model from particular observations and hypotheses which have been tested contextually. This type of model, with its emphasis on recurrent themes, is known to philosophers of science as the pattern model of explanation. It is constructed by linking validated themes into a network or pattern. In the pattern model, the theorist's account of a particular part should refer to the multiplicity of connections between that part and the whole system. In this way the holist attempts to capture the interactive relationship between the part and the whole system. In his essay on the political economy of import-substitution,⁵⁸ Hirschman weaves together various themes concerning the evolution of the principal difficulties encountered by import-substitution. The importance of interrelations between economics, politics, and social factors is stressed,

Some purely economic aspects of the problem will be discussed, but particular attention has been directed to interrelations with social and political life. The ease with which such interrelations could be suggested--mostly in the form of tentative and untested hypotheses--indicates serious neglect by social scientists of a fertile terrain.⁵⁹

From this passage, Hirschman's concern for the interrelationship of themes is evident, and his subsequent analysis shows the pattern modeller at work. Hirschman goes on to describe the 'typical' process of import-substituting industrialization and its development, incorporating his previous themes of backward linkages and their role in furthering industrialization beyond the initial import-substitution strategies in a generalized pattern of explanation. He examines the economic, political and technological factors related to backward linkages and connects them to import-substitution

strategies in a generalized pattern of explanation. Though he admits the hypotheses are untested, the model has developed an internal consistency because it is linked to his previous works, including the recurring themes of linkages and sequential development, as well as being linked to the socio-political situation in a 'type' of developing country.

As the holist constructs the system model, his earlier descriptions of the parts are continually tested by how well they fit together in a pattern, and to what extent new evidence can be explained with the pattern. As an example, the pattern developed by Hirschman in Strategy of Economic Development is brought into play in an analysis of import-substitution over ten years after initial publication. The holist is seeking to obtain a finer and finer degree of coherence between his account of the system as a pattern of inter-connected parts and the real system. However, since new data and observations are constantly evolving, the model is continually being revised and can neither be completed nor rigorously confirmed.

Verification of the pattern model as a whole consists of expanding it further and filling in more details. Indeed, looking at the historical evolution of Hirschman's writing one can see this process at work. The themes elaborated in Strategy of Economic Development show up continually in later works, sometimes in slightly revised form; the notion of unbalanced growth, importance of 'pacing devices' and, of course, linkage effects appear in nearly all of his later works. An observation and its accompanying theme in early works can be the takeoff point for an entire book, as the Nigerian railway experience was the basis of Exit, Voice and Loyalty.

Holists argue that their explanation is a correct one if, as the pattern becomes more and more complex and detailed, a greater variety of evidence

easily falls into place. At this point, it is more difficult to imagine an alternative pattern or explanation which manages to include the same themes. As a consequence, the explanation of the whole system is tentatively held as 'true', until an alternative or revised pattern is able to supersede the old model by incorporating an even greater variety of data or observation. And finally, the pattern model may be used to enable understanding of a theme in a different context, clearly Hirschman's approach in the following passage,

I was eager to explore whether concepts such as linkage effects and exit-voice I had developed in quite different contexts could shed light on old problems.⁶⁰

Furthermore, the accuracy of predictions, central to formalist methods, cannot be the main form of verification in the pattern model. Hirschman's themes are meant to explain, not to predict specific quantitative results, although as mentioned previously he may have no objection to someone attempting such a feat as long as the unity is not disturbed. His models can be used to recommend policy alternatives and to construct hypotheses which can be tested empirically; by itself, the pattern model cannot be used to predict because knowledge of the whole pattern and of some of the parts does not necessarily enable the holist to predict any or all unknown parts. The explanation still explains even though it leaves open a range of possible outcomes. The primary function of laws and theories within the pattern model is to provide understanding; whereas from the view point of the logical positivist it is to allow accurate predictions. Hirschman's 'principle of the hiding hand' explains the tendency to underestimate the problems encountered in a development project but it can't be used to predict or estimate which problems may arise.⁶¹ Since the ultimate goals of the holist and the logical positivists are not identical, it is difficult to fault one method for failing to live up to the ends of the other. If pattern models are not very

good at predicting, it is quite understandable since their purpose is to explain and create validated understanding through the use of themes drawn from concrete experience.

Few holistic social scientists have attempted to construct more general theory from the pattern model approach. Throughout the process of building a pattern model the holist is continually comparing his case with others known to him, thereby using one case to suggest areas to explore in another. One potential result of such a process of comparison is the development of a typology: 'Exit, Voice and Loyalty' in Hirschman, for example. The use of typologies can guide the researcher in asking relevant questions of a new case. However, there is always the risk of converting the type into a stereotype, which usually results from inadequate empiricism.

The apparent tendency of Hirschman to become more speculative in his later works, and more distant from specific observation, represents in our view an attempt of the pattern modeler to generate general themes or typologies that can be applied to a variety of contextual situations. In this attempt to construct general theories in a way significantly different from formalism, the pattern modeler risks being accused of uncontrolled speculation. Hirschman has not escaped entirely this accusation; however, since the pattern is always open to revision, he will no doubt continually recast his speculations should new evidence deem it necessary. Comparison of widely varying types enables one to identify still more general characteristics of many human systems--universal or nearly universal values, institutions, system problems, mechanisms and the like. Needless to say, few have been found. General theorizing of this kind attempts to transcend the relativity inherent in the pattern model approach by seeking general characteristics of human systems.

Problems with Hirschman's Holistic Methodology

Hirschman has found holist concepts more useful than formal models for dealing with considerations of power, conflict, distribution, social relations, nonmarket institutions and processes, and the like. However, there are severe limitations to holism. First, because of their lack of precision, the use of holist concepts must be continuously monitored by reference to observation, cases, and examples. Holism separated from its empirical base easily becomes loose, uncontrolled speculation. Hirschman's use of the themes of unbalanced growth, linkage effects, pacing devices, and the principle of the hiding hand were empirically derived from extensive observation. His later writings exhibit themes more distant from observation and thus, he has not entirely escaped this fate.

A second problem is that the imprecision and generality of holist concepts make any definitive verification of hypotheses impossible. Warren Samuels points out that "it is uncertain as to the degree to which the holistic conception of the economy can be (1) specified, (2) separated from the rest of society, and (3) made manageable for analytical purposes, quite aside from its being made operational for testing purposes."⁶² As a consequence the social scientist using holist theories should remember that these theories are always tentative and subject to change.

The precision and rigor that characterize formal theories are not unqualified virtues. If a school of thought, for example, certain traditions within standard economics, begins to over-emphasize precision and rigor it will tend to fall into theoretical stagnation and preoccupation with logical and empirical detail. Diesing points out that "every scientific tradition

I have examined contains a balance of precision and vagueness, rigor and suggestiveness, but...different traditions apportion the two elements in different fashions".⁶³ Balance serves the conflicting scientific needs of creativity and control. Precision and rigor provide empirical or logical control. Vagueness and suggestiveness facilitate creativity. If a school of thought begins to over-emphasize vagueness and suggestiveness it will tend to fall into diffuse and uncontrolled speculation. A central problem of any methodology is how to strike a balance between precision and rigor, on the one hand, and vagueness and suggestiveness, on the other, and how to relate the two so that they synergize rather than cancel each other.

Conclusion

In conclusion, Hirschman's methodology can be characterized as holistic in approach, proceeding by the linking of themes together into a pattern model based upon observations obtained in the field close to the subject matter at hand. His continual reference to the political and social realm as important and vital factors influencing economic development, despite the narrowing world-view of the field of economics, is testimony to the resilience of the holistic method and pattern modeling as an alternative method. The method is distinctly different from the approach of the logical positivist in several ways. In general, the emphasis in formal models is on general laws and universal principles, while in pattern models it is on facts or on low-level empirical generalizations. Empirical facts are included as part of a formal model, but only as circumstances that condition the applicability of general laws. Deductive laws and abstract empirical generalizations are sometimes used in a pattern model but only as suggestive guides in the search for observable concrete connections or patterns; and these laws and empirical generalizations are open to modification in the process.

Use of the pattern model appears appropriate when an explanation involves many diverse factors, each of which is important; when the patterns or connections among these factors are important; and when these patterns can be observed in the particular case under study. Use of the formalist model appears more appropriate when one or two factors or laws are better known and understood than the specific instance.

Hirschman attempts to generalize from the facts of experience about the working of the development process as a whole. Traditional development economists do not generalize from the facts of experience; rather, they attempt to construct models based on assumptions about how economic agents would behave if they acted rationally in their self-interest and this rationality is bounded by the competitive equilibrium model of economic theory. If one is interested primarily in how the real world with all of its imperfections does in fact behave, the Hirschman approach may prove to be more fruitful.

The intent of this exploration into Hirschman's methodology and the 'truth-value' of his work was not meant to force his writings into an inappropriate ideal form, but to explain how Hirschman often explores the world around him and how his method presents lessons to us all, in a way that is strikingly different than traditional economics but nonetheless just as valid. His explanations have 'truth-value' much as some of those 'truths' obtained through the formalist approach, and hopefully we have shed some light on his process of explanation.

Hirschman has been, and no doubt will continue to be, the eternal heretic, casting doubt upon our discovered 'truths' and presenting his unique interpretation of society; exciting some, inciting others, but always 'trespassing' on other disciplines and in the process stimulating many of us to carry on with what he calls the 'passion for the possible'.

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8. Albert O. Hirschman, Journeys to Progress, (New York: Twentieth Century Fund, 1963).
9. Ibid., p. 1.
10. It must be emphasized at this point that Hirschman is not a conscious holist in that he recognizes the characteristics of holist methodology and sets out to practice holistic inquiry. Noting that Hirschman's method often differs from that of mainstream economics, this article attempts to explain Hirschman's method as reflecting many of the characteristics of holistic pattern modeling, and does not suggest that Hirschman always follows these characteristics. Indeed, Hirschman himself has resisted attempts to place his thought in one category or another. His method is more varied and escapes complete categorization, but reflects much of what is described below as holistic pattern modeling.
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13. Ibid., Chs. 3 & 4.
14. Ibid, p. 3.
15. Hirschman, Strategy, p. 29.
16. Ibid., pp. 32-33.
17. Ibid., p. 33.
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20. Hirschman, Strategy, p. 103.
21. Diesing, Patterns of Discovery, Ch. 7.
22. Ibid., p. 137.
23. Hirschman, Exit, Voice & Loyalty.
24. Ibid., Ch. 5.
25. Ibid.
26. Hirschman, Strategy, pp. 156-66.
27. Ibid., p. 63.
28. Ibid.
29. Ibid.
30. Albert O. Hirschman, Development Projects Observed, (Wash. D.C.: Brookings Institution, 1967), p. 1.
31. Ibid, p. 3.
32. Hirschman, Strategy, pp. v-vi.
33. For a recent example see K. Shahid Alam, "Hirschman's Taxonomy of Industries: Some Hypotheses and Evidence for a Tested Model of Hirschman's Product-Oriented Industry", in Economic Development and Cultural Change, (Jan. 1984).
34. Kaplan, Conduct of Inquiry, p. 355.
35. Diesing, Patterns of Discovery, p. 212.
36. Hirschman, Exit, Voice and Loyalty, p. 19.
37. Hirschman, Strategy, pp. 62-72.
38. Ibid., p. 209.
39. Diesing, Patterns of Discovery, p. 278.
40. Hirschman, Strategy, p. v.
41. Hirschman, Pioneers in Development (Forthcoming publication of the World Bank).

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42. Ibid., p. 10.
43. Ibid.
44. Albert O. Hirschman, Bias For Hope, (New Haven and London: Yale University Press, 1958), pp. 41-63.
45. Ibid., p. 44.
46. Ibid., p. 61.
47. See Bias For Hope, pp. 342-360, for a view of two different research approaches. Hirschman criticizes one of these approaches for precisely these reasons.
48. Hirschman, Exit, Voice and Loyalty, p. 77.
49. Hirschman, Development Projects Observed, p. 86.
50. Ibid., p. 87.
51. Hirschman, Exit, Voice and Loyalty, Ch. 4.
52. See Hirschman, "Further Reflections on Exit, Voice and Loyalty" in Essays In Trespassing.
53. See Hirschman, Bias For Hope, pp. 64-66.
54. See Hirschman, "A Generalized Linkage Approach to Development, with Special Reference to Staples", in Essays In Trespassing.
55. Ibid.
56. Hirschman, Essays In Trespassing, p. 71.
57. Ibid., p. 215.
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59. Ibid., p. 86.
60. Hirschman, Essays In Trespassing, p. 212.
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62. Warren Samuels, "Journal of Economic Issues and the Present State of Heterodox Economics," Report to 1974 and 1976 AFEE, p. 24.
63. Dising, Patterns of Discovery, p. 221.