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THE LOGIC OF FUNCTIONAL AND SYSTEMS ANALYSES IN POLITICAL SCIENCE

by

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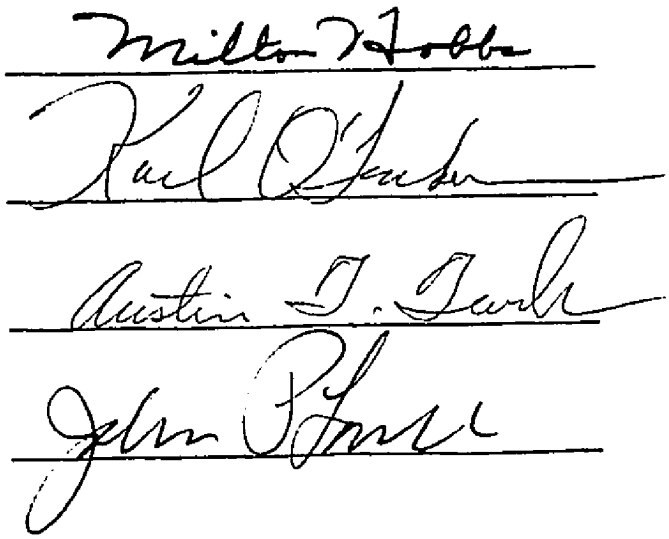

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INTRODUCTION

In this work, my primary purposes are to point up the logical problems prevalent in functional explanations provided by political scientists, and to show how functional explanations fit into the larger context of scientific explanation in general. To achieve these aims, it will be necessary first to delineate the various uses of the term 'function' employed by functionalists. In considering eight common uses of 'function', I show how one use is unique among the other uses, and how explanations in which this use of 'function' is central employ several assumptions which must be brought to the surfact and discussed if we are to see clearly how functional explanations are, or are not, like explanations that are non-functional in character.

In chapter two, I will deal with many of these assumptions, while also pointing out how functional explanations are, or can be, related to scientific explanation in general. In considering the latter, I discuss explanations where our knowledge about a system is perfect, as well as when our knowledge is imperfect. In doing so, I point out several types of laws that are used in perfect and imperfect explanations, and discuss the criteria that distinguish one type of law from another. These various laws provide us with a focal point for considering the different patterns of functional explanations found in the literature of political science. I identify four distinct patterns of explanation and deal with each pattern in chapters three, four, five and six. In each chapter, I also attempt to relate each pattern of

explanation to the other patterns, and to consider the more salient issues, that is, causality, reduction, functional equivalents, necessary and sufficient conditions for adequate operation, and so forth, now being discussed by functionalists and others who write about functionalism.

In chapter seven, I discuss the claim that functional analysis, systems analysis, and general systems theorists are engaged in similar undertakings. And in the final chapter, I sum up the logical problems encountered in functional analyses by political scientists; here I place particular emphasis on a discussion of the use of the terms, 'function',, 'system', 'equilibrium', and 'self-regulating', and show that functionalists and systems theorists, whose works are often considered quite diverse by political scientists, share the same, or some of the same methodological problems.

CHAPTER 1

THE USES OF THE TERM 'FUNCTION' IN FUNCTIONAL ANALYSES OF POLITICAL SYSTEMS

Although the terms "functional" and "functional analysis" have long been used by political scientists, the number of studies so labeled has greatly increased in the past decade and a half. This increase has evidently resulted from greater contacts between political scientists and other social scientists who believe functional analysis is a useful way to study behavior. Although much of this increase has occurred in the area of comparative government, there has been a number of studies that deal with single nations where the author says that he is conducting a "functional analysis."

But because of the past employment of "function" in numerous ways, the introduction of new meaning of the term from other social and biological sciences, and attempts to combine the older and newer senses of the term, there is a great deal of confusion as to what constitutes a functional analysis as well as numerous disputes over the definition of "function" itself. With regard to the latter, for example, there has been a denial by Lowi that activities are functions,[1] and by Holt that functions are

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[1]Theodore Lowi, "Toward Functionalism in Political Science: The Case of Innovation in Party Systems," American Political Science Review, LVII (Sept., 1963), 571.

effects.[2] As to what constitutes a functional analysis itself Lowi and Holt are not in agreement with each other nor with numerous other political scientists. Lowi, for instance, writes that "Political scientists are not new to functional analysis,"[3] and Fellin echoes this in saying that "The relationship of political scientists to functional analyses is like that of Mr. Jourdain to prose...."[4] Both of these authors, however, are critical of the use of "function" in functional analyses that use the term to indicate activities or tasks that are carried on in a particular institution, as in the statement 'the functions of the judiciary are not explicitly stated in the Constitution.'

But there are other political scientists who disagree with Lowi and Fellin, and think that if functional analysis is nothing more than what has always been done by political scientists, there is little to be gained from it.[5]

In section one of this chapter, I will discuss eight frequent uses of the term "function," but before proceeding I want to note the criticisms of two philosophers who have singled out functionalism

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[2]Robert T. Holt, "A Proposed Structural Functional Framework for Political Science," in Functionalism in the Social Sciences, ed. Don Martindale. Monograph five of the American Academy of Political and Social Sciences (Feb., 1965), 87.

[3]Lowi, "Toward Functionalism," 582.

[4]Alan Fellin, "The Functions of Informal Groups in Legislative Institutions," Journal of Politics, 24 (February, 1962), 72.

[5]Harry Eckstein, "A Perspective on Comparative Politics, Past and Present," in Comparative Politics, ed. Harry Eckstein and David Apter (New York, 1963), p. 26.

in political science as having even more problems to cope with than are found in other social sciences where functional explanations are given. David Braybrooke thinks that it is highly unlikely, because of the past use of "function" by political scientists in making value judgments, that we will be able to use the term in a value-free way, although he does not deny that it is possible to use the term without either approving or condemning the effects some institutional or behavior pattern has upon society.[6] That the use of "function" to make value judgments can, however, be profitably employed in empirical research is the crux of Braybrook's argument, an argument which I will shortly consider when I examine some examples of the use of "function" in making value judgments.

A second philosopher, Robert Brown, discusses three uses of the term by political scientists: as effect, purpose, and recommendation.[7] He considers a statement from Schumpeter, whom he lists as a political scientist, and then comments that it is difficult to tell whether or not Schumpeter is using 'function' to indicate purpose or effect. This failure to clearly distinguish purpose from effect results, Brown thinks, from the political scientists' concern with documents where they often have occasion to refer to the intentions of the individuals when they passed laws, drew up charters, or adopted constitutions, with many political scientists often referring

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[6]David Braybrooke, "The Relevance of Norms to Political Description," American Political Science Review," LII (March, 1958), 989-1006.

[7]Robert Brown, Explanation in Social Science (Chicago, 1963), p. 124.

to these purposes or intentions as "functions".

But the same political scientists, Brown continues, also refer to the effects some institutional pattern has as being "functions" even when it is clear that there is no reference to the intentions of the individuals that founded the institution. In using the term in the above two ways there are numerous works where it is impossible to distinguish the way the writer is using the term, and a great deal of confusion results. If "function" is used in the former sense, Brown adds, there must be an agent present "who believes in a connection between his goal and some action which he can take to reach it."[8] Moreover, if it is intentions that the political scientist wants to talk about, he can provide an explanation in terms of these intentions and does not have to refer to functions at all.

But despite the general soundness of Brown's analysis, he fails to make it clear that intention statements can be included in a functional analysis, although the concepts used in the statements will have to be introduced as special 'variables of state'. A full discussion of these special variables will have to be defered until later chapters, however. All that needs to be added here is that in the sense of the term that I will be primarily concerned with, unless intention statements are introduced as special variables of state, we will have to consider all function statements as referring to non-purposive behavior. At any rate, the use of

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[8]Brown, Explanation, p. 109.

"function" to connote purposive behavior is not unique to political science functional explanations and does not present any problems that are not present in other social science functional explanations.

A second problem in Brown's discussion of functional analysis and political science is that he limits himself to an examination of writers who wrote at the turn of the century. Goodnow's work for instance, has been criticized by several people who are sympathetic to functional analyses, but who believe that the type of functional explanations they offer is different from, and an improvement over, the earlier political scientists' functionalism.[9]

But in a discussion of political science functional analysis it is not especially fruitful to take examples from just any political scientist who has used the term "function", since the term has been used in political science as long as there has been a discipline so labeled.[10] The pertinent questions are: how do the present functionalists differ from previous ones in the use of functional terms, what claims do they make for functional explanation, and are the problems encountered by functionalists in other social sciences recognized and dealt with by political scientists?

Once the various uses of the term "function" by modern political scientists have been indicated, I can then begin to discuss the difference between the previous uses of the term

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[9]Brown, Explanation, p. 125.

[10]Goodnow, for example, was the first President of the APSA.

and its more recent employment by political scientists to indicate the role that an item plays in the maintenance of a property of a system. It must be kept in mind, however, that even those political scientists who are definitely employing the term in a sense that is like the past uses by political scientists, functionalists who have written within the last few years do think that what they are doing constitutes a new "approach" in that they are moving toward either "middle range" or "general theory" and away from "narrow gauge" theory; thus, one question that we will want to ask is, does the employment of the term in any of the eight senses constitute a theoretical approach that is either distinct from the way that physical scientists do science or different from the way that political scientists in the past have studied the phenomena of their area?

1.1 One quite frequent use of 'function' by political scientists past and present is in making value judgments about political institutions, contents of legal documents, or the activities or effects of the activities of 'voluntary organizations' (labor unions, business groups, etc.). It is sometimes stated that a system will not "function properly" unless some activities of a group or legal body are curtailed, or as in the case of the recommendations of the "Committee For a More Responsible Two Party System," there are references to the functions that parties should engage in if the people are to have adequate representation.[11]

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[11]See Fellin, "Functions of Informal Groups," 72.

In the case of the committees recommendations for parties or Goodnow's recommendations as listed by Brown, there is little doubt that the "proper functions" are value judgments. And since it is clear that these "proper functions" are recommendations of what should be and not of what is, this use of 'function' has no explanatory value.

But while the questions of whether the political scientist should discuss the "proper functions" or governments, legislative bodies, etc., often arose in the past, the advent of the new functionalism in political science again raises the question of whether or not all that the new functionalists were doing was stating their preference of the activities a formal governmental body should engage in, or whether the effects that some functionalists are concerned with are observed effects or merely preferences. Braybrooke, as I noted previously, doubts that the consequences of an activity can be reported by a political scientist without either condemning or approving of the consequences; but as Braybrooke notes, the value judgment can be used to advantage in discovery and need not be a handicap to empirical research.

Professor Irving Horowitz, however, seems to believe that the preferences a social scientist holds does limit the functionalist not only in <u>discovery</u> but also in <u>justification</u>[12] of functional statements. Horowitz's attack is leveled against Merton's claim that functional analysis does not support any particular political

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[12]I will discuss my use of these two terms shortly.

ideologies and is entirely neutral. Horowitz attempts to refute this claim by considering writings of numerous functionalists and concludes that:

> While Merton is discomforted by the "motley company" claiming the functionalist mantle, he nonetheless draws astonishingly positive conclusions about the worth of functional theory for sociology. The very existence of a "motley crew" . . . "suggests anew that agreement on the functional outlook need not imply identity of political or social philosophy." True enough, but since it does as a matter of fact imply some type of political commitment, where does that leave the widely repeated claim for the neutrality of functionalism, I submit that it entirely nullifies the claim.[13]

The underlined part of Horowitz's comment above would seem to be an example of committing the genetic fallacy. If Horowitz is claiming, as I think he is, that the worth of functional explanations is negated because of the ideologies of the people contributing to functional explanations, then he is commiting the genetic fallacy. The explanatory worth of a theory cannot be determined by a reference to the individual(s) who either formulate or make use of a theory. And while Horowitz says at the outset that he knows that the origin of a statement or theory has nothing to do with the truth of the statement or theory, he seems to have forgotten this when he wrote the above.

Two other comments are in order here that will aid us in clarifying Horowitz's argument. Only one of them, however, deals strictly with the genetic fallacy. I will consider this one first.

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[13]Irving I. Horowitz, "Sociology and Politics: The Myth of Functionalism Revisited," Journal of Politics, 25 (May, 1963), 255. Underlining mine.

At one point Horowitz writes "it is difficult to fathom how Davis can offer an explanation of social stratification in terms of the 'functional necessity of stratification', and then recoil in amazement that this is to be sure a cornerstone of conservative theories on natural law, and not a scientific explanation."[14] This seems to be the assertion of a genetic fallacy. It certainly does not mean that Davis' explanation of social stratification is not a scientific explanation just because it may also be the cornerstone of conservative theories. Whether it is a scientific explanation can be determined only by empirical inquiry, not by whether the explanation itself is either put forth by someone holding conservative beliefs or whether conservatives, or those having other values, have in the past used similar statements to support their position. It is also possible, of course, that once a scientific explanation has been put forth, it may be used to buttress numerous moral positions, but this does not detract from its worth as an explanation. This last quote from Horowitz's work and the previous one do seem to be instances where functional statements are considered false on the basis of either Davis' values or else the values of others who have used similar statements in the past in offering an explanation.

But even if the genetic fallacy is not committed, there is a great deal of confusion in Horowitz's comments. In the following passage from his work it will be even more evident that Horowitz

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[14]Horowitz, op. cit., 260.

is confused about the nature of functional statements. One of his contentions is that "Where value considerations do not obtain in any form, the term functionalism is being employed tautologically, and not as a special research method."[15] It is clearly absurd to say that a statement has no empirical import unless the person making the statement bases it on his own values, whatever they may be. Suppose that we have a functional statement that is used in an explanation, but we do not know whether the one making the statement did indeed make value judgments when he formulated the statement. Would we claim that this statement is logically true? Of course not. By logical analysis we can often show that a statement is logically true, but even then we do not refer to the values of the writer making the statement. We look at the way the writer defines terms and how he then uses these terms in statements.

Before moving on I want to add two more comments on Horowitz's work. We might ask, first of all, what leads Horowitz to hold such absurd positions as the contention noted in the last quote? The answer, I think, is that Horowitz is opposed to the scientific study of human behavior _if_ if being scientific we abandon a committment to making moral evaluations. He seems to be taking this view when he writes that "by assuming that sociology has 'fully matured' because it is now as dismal a science as economic theory is reputed to be, is to short change the advanture of science no less than to muddle the tasks of present day sociology--which I take to include

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[15]Horowitz, _op. cit._, 250.

an examination of the conditions under which a society does not work as well as the conditions under which it does."[16] To assert that the study of behavior is "dismal" suggests that the scientists do not make value judgments and it is this failure that makes some of these sciences dismal.

Moreover, whether Horowitz succeeds in "entirely nullifying" Merton's claim of neutrality is completely irrelevant; the social or political "philosophy" of the functionalists has no more to do with the truth or falsity of the theory or statements the functionalist puts forth than does the social or political philosophy of the various medical researchers who are concerned with heart research, say, has on the truth or falsity of their theories. The confusion that is present in Horowitz's comment above and similar ones by political scientists results from a confusion of <u>discovery</u> and <u>justification</u>. The former refers to the origin of a statement and the latter to its confirmation or testing.[17]

The place of values in discovery is that by making value judgments about the consequences some activity or institution <u>ought</u> to have for society, we can perhaps discover the consequences that the institutional pattern does have. Braybrooke thinks that political scientists cannot dispense with the term 'function' for it does lead to asking significant questions. Thus, the use of the term is fruitful not

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[16]Horowitz, <u>op. cit.</u>, 263.

[17]For a discussion of the use of these terms see Milton Hobbs, "On the Possibility of Scientific Political Science: an analysis of anti-science arguments," unpublished paper, n.d. 2.

only for empirical inquiry, but also in fulfilling the expectations that political scientists will make value judgments about the workings of governmental institutions: even if we tried to abandon the term, he adds, it would be forced on us.[18] Braybrooke's comments are well taken for the most part, but as Professor Milton Hobbs has pointed out, political scientists "can (especially in principle, but even in practice) pursue scientific inquiry without asserting value judgments."[19]

An examination of a political scientist's work that seems to use value judgments to discover functions will point up many of the problems that are encountered in numerous functional analyses when political scientists use "function" to indicate the activities that an organization should engage in if the consequences of these activities are to be beneficial to society. Theodore Lowi, a recent advocate of functional analysis, first writes that "activities are not functions. The functions of party can be determined only as assessments of the consequences of party activities."[20] Lowi lists several consequences that are required if parties are to "function properly" for the system, then continues with the comment,

> Quite obviously the "functions of party" are not actually functions at all but standards for the proper functioning of party. And if they are standards they should be guides

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[18]Braybrooke, "The Relevance of Norms to Political Description," APSR, LII (Dec., 1958), 991.

[19]Milton Hobbs, "Values: Methodological Problems in Political Science," unpublished paper, n.d., 1.

[20]Lowi, op. cit., 571.

for inquiry rather than terms in an inventory.[21]

We note that Lowi first wants to restrict the term 'function' to observed consequences of activities but immediately changes this to indicate that 'function' means only that there are several effects that must be present if the system is to "function properly." Obviously, the proper functions are not consequences since they may not be present. The introduction of 'proper' above could indicate two things, however; one, that the activities listed by Lowi are necessary and/or sufficient to maintain the party system in a given state, or second, that the 'proper functions' are those that must be carried out if a political party is going to operate in a way that will provide a choice of programs to the people, without suggesting that if the 'proper functions' are not present the system will fail to survive. If Lowi means only the second of the above, then this might be a case of making value judgments to facilitate discovery. Although it seems that Lowi is only indicating the second of the above when he says that functions are standards of inquiry, a later comment confuses the question of whether or not he means that the 'proper functions' are more than just value judgments to facilitate inquiry. He writes that,

> We look for consolidative and innovative functions because something tells us that these functions are necessary to the maintenance, survival and legitimacy of the political system. We identify functions of party in terms of their educational, integrating and differentiating consequences likewise because we assume they are somehow important to the system.[22]

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[21] Ibid.

[22] Lowi, op. cit., 583. Underlining mine.

It is, of course, possible that even if Lowi does mean that there must be some functions performed if the system is to "survive," these necessary and/or sufficient conditions can be found more easily if we consider them as standards for the proper functioning of party in order to begin inquiry, and thus is indicating the same thing in both instances quoted above. But even more confusion is introduced later on when Lowi quotes favorably the sociologist, Fellding, who writes, "To ask the function of any social arrangement is to call for its justification or alternatively for its condemnation...."[23] But if 'function' is to indicate the consequences of an activity, the truth of the statement 'the function of the minority party is to promote innovation' is not dependent on whether or not we approve or disapprove of this activity of the minority party; to think that it does is again to confuse discovery and justification.

Because of the several shifts of the definition of the term 'function' in Lowi's work from observed consequences to consequences that should be present for "proper" functioning, it is practically impossible to determine what he considers a functional analysis to be. He does use the term in several other ways also, but even if we consider only the two mentioned above we can never be sure that when Lowi makes a statement, he is talking about observed consequences and not merely what he thinks ought to be present if the system is to operate adequately. It is extremely important

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[23] Ibid.

therefore, that when the functionalist does use the term 'proper function' to indicate what should be present that he make it quite clear that the 'proper function' is not observed consequences but is used only to facilitate discovery. It would, of course, be a step forward if the functionalist confined his use of 'function' to observed consequences alone, but it is not likely that he will do so. For the sake of clarity, we should note that the term 'proper function' does not always indicate value judgments are being made. The term might also appear in a law-like statement.

1.2 A second quite frequent use of the term is to connote some type of division of a group. In a functional analysis of this type it would be pointed out that France had 'functional representation' before the revolution in 1789, or that Mussolini established functional representation in Italy. In most discussion employing 'function' in this way, it is indicated that representation or division of labor of some group, or representation or division of labor within a group, is based on a class, occupational, or geographical basis. Taylor Cole presents us with a functional analysis of this type in his discussion of a German labor federation's demands for "a type of functional representation embodying the principles of parity...."[24] And Professors Beer and Mitchell also use 'function' in this way in the following: Professor Beer writes that in England "The Ministry of pensions is divided

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[24]Taylor Cole, "Functional Representation in the German Federal Republic," Midwest Journal of Politics, 2 (August, 1958), 266.

into a number of functional units, dealing with legal, medical, and other problems.";[25] and Mitchell asserts that "the federal division and the separation of powers (in the U.S.) were devised on a functional basis."[26]

But a functional analysis that only relates the division of a group either for purposes of representing diverse interests within the group, or to better carry out a task of some particular group, is hardly a "new approach" to the study of politics, and certainly there is nothing theoretically distinct in this type of functional analysis. Nor is there anything that is different from the way that political scientists and others have employed the term 'function' previously. And a functionalanalysis of this kind certainly is not going to provide political science with the knowledge that functionalists claim they provide now or will provide in the future.

1.3 A third use of the term is to indicate relations of dependence and independence between two or more variables.[27] This is simply an adoptation of a technical term from mathematics, but this employment of 'function' is quite popular in current writings by political scientists; especially by those who think that functional analysis is going to provide political science with "middle range" theories. Professor Eckstein uses the term

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[25]Samuel Beer, "The Analysis of Political Systems," in Beer and Ulom, (ed.) Patterns of Government, 2nd ed. (New York, 1962), p. 17.

[26]William Mitchell, The American Polity (New York, 1962), p. 109.

[27]The next six uses of the term are adopted from Ernest Nagel, "Explanation and Understanding in the Social Sciences," in The Structure of Science (New York, 1961), pp. 522-526.

in this sense when he writes that "pressure group politics in its various aspects is a function of three main variables...."[28] Professor Macridis' use of the term in the following is also in the sense indicated above: "Efficiency," he writes, "is a function of governmental response to such (interest) groups and demands."[29] There is a strong possibility that when some political scientists use the term in the above way that they are trying to indicate the consequences that some item has for the system. In discussing Lowi's use of the term to indicate consequences, I pointed out that he was concerned with the effects of party activity for the political system; in stating the hypothesis to be investigated, however, he stated it thusly: "innovation is a function of minority party." In this form all that he is indicating is that the values of the dependent variable 'innovation' vary with the values of the independent variable 'minority party.' A functional analysis that does nothing more than indicate possible relations of dependence and independence is, however, exceedingly trivial as far as providing political science with a "framework" that is going to be beneficial in the construction of theories.

Non-functionalists have, of course, been carrying out studies for years where they indicate that two or more variables are related so that when one varies, so does the other, but they have never claimed that this was a new approach to the study of politics

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[28]Harry Eckstein, Pressure Group Politics (Stanford, 1960), p. 38.

[29]Roy Macridis and Robert Ward, eds., Comparative Political Systems: Western Europe, I (New Jersey), p. 10.

that is going to produce significant results in the construction of "middle range" theories. These non-functionalists realize, of course, that all they are doing is using a technical device to relate the values of two variables, a fact which seemingly escaped Lowi, and perhaps Eckstein and Macridis, because of their failure to pay very close attention to the words they use.

1.4 Another use of the term that is often found in the current writings of functionalists is to connote a number of operations or activities that are taking place in the system as a whole without specifying how the parts performing the functions are related to any part of the system. This use of the term has been severely criticized by many functionalists, but even those who use the term in another sense often lapse into this usage also. Almond, Cole, and Macridis, in a jointly authored paper, use it in this way when they write "Once we begin to ask about the role and functioning of the executive, the bureaucracy, and the legislature, and their interrelations in the Continental European countries (a) serious research need becomes obvious - the absence of realistic studies of the operations of governmental institutions."[30]

Other "functional" inquiries list the activities that a given organization are supposed to carry out without attempting to show that these activities are in fact carried out, or, if they are, how the parts are related to the system. Goodspeed, for example,

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[30]Gabriel Almond, Taylor Cole, and Roy Macridis, "A Suggested Research Strategy in Western European Government and Politics," American Political Science Review, XLIX (Dec., 1955), 1045.

writes that "the functions of FAO are contained in Article One of its Constitution."[31] And Parsons uses 'function' in this way also when he states that "On the federal level . . . the main functions of government are relatively clearly set forth in the Constitution itself."[32]

The use of 'function' to connote activities has been criticized, as noted, by functionalists as well as by non-functionalists. It is the use of the term in this way that is often confused with purpose and for obvious reasons. But aside from the problems connected with 'function' when used in this way, the usage is inconsequential as far as being a distinct theoretical approach to the study of politics. The discussion of purpose and functional analysis will be considered in the second section of this chapter.

1.5 Political scientists also employ the term in a fifth way to indicate the "essential," "indispensable," or "vital" functions. This use seems to be similar to the physiologists use of vital functions which serve to define a system. There is a great deal of confusion surrounding the assertion that an item is "essential" to the operation of a system. In the first place, the political scientist functionalist, like most functionalists, often assert that all systems must contain functional requisites. They then assert that some item is either a necessary or sufficient condition

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[31]Stephen S. Goodspeed, The Nature and Functions of International Organization, (New York, 1959), p. 8.

[32]Talcot Parsons, "Voting and the Equilibrium of the American Political System," in Burdick and Bradbeck (eds.) American Voting Behavior (New York, 1959), p. 236.

for the requisite to occur. Thus, it is almost always unclear whether the functionalist is claiming that the essential item is included in the definition of a system, is a system requisite which is not included in the definition, or an item which is essential for a requisite to occur.[33] A full discussion of these problems cannot be undertaken here, but I will provide an example where the term is used in empirical statements as well as examples where there is some doubt as to the nature of the use of the term 'function'. I will note first an example from Aberle, Cohen, Davis, Levy and Sutton's paper on "The Functional Prerequisites of a Society."[34] After noting Aberle et al.'s remarks, I will then turn to the discussion of Kingsley Davis' 1959 presidential address and complete the discussion by noting a comment from Beer.

Aberle et al. write that a society is "a group of human beings sharing a self-sufficient system of action which is capable of existing larger than the life span of an individual, the groups being recruited at least in part by the sexual reproduction of the members."[35] For Aberle to then state that recruitment into the society is a necessary condition for "survival" would be an empirical statement since some of the recruits can come from another society. To make the above type of assertion, however,

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[33]See, for example, Eckstein, "A Perspective on Comparative Politics," pp. 26-27.

[34]Aberle, Cohen, Davis, Levy, Sutton, "The Functional Prerequisites of a Society," Ethics, LX (January, 1950), 101.

[35]Aberle et al., 102.

would be trivial since there is no other way of obtaining recruits than from either sexual reproduction within the system or by inducing those who have been born outside a given society to immigrate. At any rate, while trivial, a statement asserting that a necessary condition for survival is that people must be born or recruited into a society is empirical, not tautological. It may very well be, however, that many of Aberle's other statements are tautologies in that the terms used in the definition also are claimed to be necessary conditions for the survival of a society. I am not interested, however, in Aberle's work except to note that a statement that seems to be a tautology may be empirical but trivial.

Turning to Kingsley Davis 1959 presidential address to the American Sociological Association, we have an example that would seem to be tautological. Professor Davis first writes that:

> Evidence is especially scarce insofar as functionalism attempts to state the requisites for the existence of any society or to explain the universals of social organization. In such matters there can be no proof by co-variation, because by definition, all actual societies exhibit the traits in question.[36]

And in a later comment he adds the following:

> If somebody states that a society must have economic support or biological reproduction, the proposition is taken as a harmless truism made for the purpose of facilitating reasoning. If on the other hand it is said that normative control, attitudinal consensus, or social inequality is required one is likely to be accused, among other things, of making an unwarrented assumption.[37]

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[36]Kingsley Davis, "The Myth of Functional Analysis as a Special Method in Sociology and Anthropology," American Sociological Review, 24 (December, 1959), 763. Underlining mine.

[37]K. Davis, "Myth," 764.

In Davis' first quote he is clearly saying that the requisites are the defining characteristics of society. To then say that these conditions are required is to say that they are necessary conditions for the survival of a society and would indeed constitute a tautological statement. It hardly matters whether the statement is made to "facilitate reasoning" or not. It is hardly fruitful in facilitating reasoning to make a statement true by definition, although it may prove useful in some cases to include logical statements in an explanation. Davis would claim that the definition of society and the necessary or required conditions are not the same; in this case, then, it would be an empirical question whether or not an item was required for system maintenance.

Hopefully the discussion of Aberle and Davis will serve to point out the problems connected with using the term 'function', or seeming to so use the term, to indicate the defining characteristics of a system. I will take up this problem again in later chapters, but I will add the comments of one political scientist here to indicate that the problem is as acute in political science functionalism as it is in sociology. Professor Beer's comments on functional explanations provide us with our example. Professor Beer writes that,

> Indeed, no society can survive or develop, we might plausibly assert, unless it has a political system performing such a function (goal-attainment); that is, we might hold that a political system is a functional requisite of a society. Going further, we could say that there are other necessary

> functions that must be performed by other systems or structures if a society is to have more than a brief and unstable existence.[38]

It seems that Beer is using the term 'functional requisite' to indicate the definition of society and a functional analysis of this type would then be an attempt to show why specific 'functional requisites' were included in the definition of a system. This type of functional analysis would not, however, provide an explanation of an item (behavior pattern, social norms, etc.) and thus would not conform to what many functionalists think they are achieving (including those who use the term in this way) when they offer a functional explanation.

1.6 A sixth way the term is used is to signify the utility of an object or behavior pattern, as in the statement 'the function of a hammer is to drive nails' or in Mitchell's statement that "income may be well conceived of in functional terms, but not power."[39] The use of 'function' in this sense is usually a single statement of a factual connection and can hardly be considered as a new or fruitful way to study politics. It is often difficult, however, to distinguish this use of 'function' from a seventh use of the term to connote the effect that an item or activity has for the system as a whole or for some part of the system. It is also the case that the functionalists often use 'function' for 'purpose' in this sense, although it is not the

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[38] S. Beer, "The Analysis," in Patterns of Government, p. 24.

[39] Mitchell, Polity, p. 22.

only sense in which 'function' and 'purpose' are used interchangeably.

1.7 Sourauf employs the term in the seventh way when he states that "the most common function among the parties of the world's democracies . . . is the mobilization of voters behind candidates for elections."[40] And Mitchell seems to employ it in this way in the statement that "A good illustration of the role of symbolism in parties may be seen in the functions played by conventions for the membership."[41]

Richard Rose provides a clear use of function in this seventh sense in his functional analysis of English politics. In discussing political symbols he writes:

> The activities of the Foreign Secretary may be intended to achieve great changes in international affairs. But because of England's reduced position in international affairs, these activities may have the equally important latent function of symbolizing great power status for a nation that no longer has the substance to go with its symbolic status.[42]

The important point above is that all Rose is pointing out is that the consequences of some activities have unintended effects on the political opinions of the British people. He does not say, for instance, that the functions (consequences) fulfill a "need" or requisite of the system. Specifically, he does not claim either that symbolic great power status must be maintained for the system to remain in a given state, or that the activities of the

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[40]Frank Sourauf, Political Parties in the American System, (Boston, 1964), p. 2.

[41]Mitchell, Polity, p. 30.

[42]Richard Rose, Politics in England, (Boston, 1964), p. 51.

Secretary contribute to the fulfillment of any system requisite. It is also the case that the effect that the activities have upon the system may be "dysfunctional" for the system; for example, if the activities of the Foreign Secretary led the British people to believe that Britain was powerful enough to undertake international obligations beyond her capacities, thus altering the state of the system. Used in the seventh sense, however, it would clearly be absurd to label some effects functional and others dysfunctional. Only if there are traits within a system which are maintained by some of the activities is there a need to separate 'functions' from 'dysfunction'. Why this is the case will be discussed when I consider the eighth way 'function' is used.

Nagel points out that, except for the language used, functional analysis of this seventh type does not differ "from the analysis of a physicist directed to discovering what consequences follow from, say, the radiation of energy from the sun which affects the constitution of the sun itself or of the various planets."[43]

1.8 An eighth use of "function," the effects an item has for the maintenance of a state or trait of a system, is quite similar to the seventh use, but there are important differences that must be preserved. One difference is that in the seventh use it is not specified that there is some state or property that is being maintained in a steady state; it is only noted that one item has consequences which effects the other variables in some way. A

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[43]Nagel, Structure of Science, p. 525.

second difference is that the term "system" need not enter into the statements when the seventh sense is employed, and when it does, it is likely that the seventh and eighth senses of the term are not distinguished, resulting in a failure to recognize the distinction between a functional and non-functional explanation.

Political science functionalists, as well as other social scientists, use "function" in this eighth sense to indicate that an item has an effect which maintains some stated property of the system, without which the system would not remain in a given state. It is this sense of the term that leads some functionalists to deny that the term 'function' applies to any effects of an item, but insist that the effects must be "system relevant," that is, maintain a state or property of the given system, for an item to have a function. Professor Holt in a recent work on functional analysis states that,

> Function is not a synonym for effect; it is a subtype of effect. Functions are system relevant effects of structure.[44]

And Matthews and Mitchell use it in the above sense too; the former writes:

> . . . normative rules of conduct--called here folkways--exist in the Senate. Moreover, we have seen that they perform important functions. That is, the folkways contribute to the survival of the system without change.[45]

And Mitchell, in one of his numerous uses of the term, asks what

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[44]Holt, "Framework," p. 87.

[45]Donald Matthews, "The Folkways of the United States Senate: Conformity to Group Norms and Legislative Effectiveness," American Political Science Review, LIII (December, 1959), 1074 and note 17 on the same page.

"functions or contributions socialization makes to the maintenance of our society and polity."[46] It is this eighth sense of the term with which I will be concerned in the remainder of this work. This is the use of 'function' associated with a distinctive theoretical approach to the study of politics.

The distinct theoretical approach associated with the eighth use of 'function' is that there are "needs" occurring later in time than the items which fulfill these needs. The objective of political science functionalists is to show that the items or activities which contribute to these needs" are to be expected; that is, an attempted explanation of the item shows that a behavior pattern or item maintains a state or trait of the system by contributing to the fulfillment of system needs. By calling something a "need" we assert that the occurrence of an object later in time is a necessary condition for adequate operation of the system, and to explain an item in terms of its contribution, we show that the item is either a necessary or sufficient condition for the fulfillment of the system need. Such a short summary of the nature of functional explanation will take considerable unpacking, and I will turn to this task in chapter two, but before doing so, other aspects of the use of 'function' in so many ways deserves attention.

The first aspect is the great similarity between the different senses of 'function'. To say, for example, that an organization, nation, department, etc. is functionally specialized is to say that

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[46]Mitchell, Polity, p. 127.

tasks are performed by different agencies. If we add that it is necessary that tasks be performed in a certain way, then, we are shifting from the use of our third sense of function to the eighth sense. Also, to say that an object has a utility or function is to assert a law-like statement similar to the following: 'The function of a political campaign is to increase or maintain party allegiance.' To then say that party allegiance is necessary for maintenance of a system would change the above use of 'function' from the sixth to the eighth sense of the word. It would be fairly easy to point out similarities between the other uses of 'function' and the eighth use, but the above examples suffice to make the point as clearly as need be for the present. In the second chapter it will be necessary to return to a discussion of functional analysis and scientific explanation, and to clarify the terms 'system', 'adequate operation', etc. Only then can there be a full explication of the eighth sense of 'function'.

The second aspect of the eighth sense of 'function' that must be calrified is the interchangeable use of the term 'purpose' with 'function'. In pointing out the eight frequent uses of the term 'function' by political scientists, I mentioned that many political scientists often substitute 'purpose' for the former term in most or all of the eight uses of the term. And while the two words can be substituted in many cases without ambiguity, to interchange 'purpose' in the eighth use of 'function' can create confusion over what it is the functionalist is asserting. When purposes are referred to as being causally related to activities which have a

function (eighth use), then, a special state co-ordinate must be introduced into the state description.[47] The functionalist seldom distinguishes between 'purpose' and 'function' in the eighth use of the term any more than he distinguishes between the other uses of 'function'; of all the social sciences where functional explanations are attempted, political scientists are probably least concerned with attempting to establish and maintain the distinction between the two terms. In this section, I will provide several examples from political science functional analyses of the uses of 'purpose', 'function', and the phrase 'in order to', but before doing so, I will attempt to clarify the distinction between the first two terms more explicitly than has been necessary heretofore.

The difference between saying that an item serves a purpose and saying that it serves a function can be clarified by introducing a modified form of Merton's terms 'manifest function' and 'latent function'.[48] In the modified form I will use, a manifest function still refers to an item which serves the purpose it was intended to serve by the designers of an object, including institutions, and the object contributes to the adequate operation of a system. A latent function, on the other hand, is not intended, but it contributes to the fulfillment of a trait or state of a system. Whereas Merton says that the contributions of a latent

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[47]Ernest Nagel, "A Formulation of Functionalism," in Logic Without Metaphysics (New York, 1956), pp. 265-66.

[48]Robert Merton, Social Theory and Social Structure, 2nd edition (New York, 1957), p. 51.

function are neither intended nor recognized, in our modification the effects are unintended but they may be recognized.[49] I will provide an example of a latent function further on in this chapter.

In some cases, it might seem that it is not greatly important to make the distinction, as when we say that the function or purpose of the post office is to deliver mail or the function or purpose of the axe is to cut wood. We could, however, also say that the function or purpose of the axe is to serve as a murder weapon or the purpose or function of the post office is to distribute pornography, as there are conscious human purposes that are served by the use of the axe and post office in committing both murder and distributing pornography. To eliminate the above type of examples, we must add that the purpose served by an item is the one that is normally or usually expected by most people who use an item, including an institution, to achieve their ends. The purposes of the individuals can then be stated as dispositions to act in a given way under given conditions.

The distinction between latent and manifest functions must be made explicit if a functional explanation is to be distinguished from an intention explanation. In this latter form of explanation, intentions can be defined in terms of behavior and an explanation of an event can then be subsumed under tendency statements. While an intention explanation is often incorporated into a functional

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[49]Carl Hempel also makes the distinction in this way. See his "The Logic of Functional Analysis," in Aspects of Scientific Explanation (New York, 1965), p. 304.

explanation, it must be made clear that the purposes are causally related to activities which then contribute to the maintenance of a trait or state. We now see why an intention explanation and a functional explanation may be logically independent. An intention explanation can often be provided when a functional one cannot; there are many examples that the reader could think of to illustrate this, and I will not bother with presenting my own example. Instead, I will turn to an example of a functional explanation where an intention explanation could not be provided. The example will also point up my modified use of latent function.

Statements like the following are often found in functional analyses, 'The purpose of the post office is to deliver mail,' as well as 'The purpose of the post office is to promote big business and destroy small ones.' The functionalist might support the latter as follows: in the normal course of carrying out their activities, postal employees provide communication between large businesses and people living in rural small towns. And through package delivery, there is provided a means of getting merchandise to individuals who are far removed from areas of big business; thus one purpose of the post office is to maintain big business, it might be said. But it is not the purpose of postal employees, we assume, to either promote big business or destroy small ones. In fact, postal employees might even recognize that they destroy local businesses in the course of their activities, and some may even have as their purpose the maintenance of small local business but still continue delivering mail, packages, etc.

We also assume that individuals, in buying merchandise through the mails, do not have as their intention the maintenance of big business. But the functionalist often uses either 'purpose' or 'function' when talking about the effects the activities of the post office have for big business. Clearly, the use of 'purpose' in the above is problematic and in like cases the functionalist does not want to attribute purposes to activities which have an effect that maintains a system. The functionalist does want to attribute a function to the activities, however, and while 'function' in this sense is unproblematic, 'purpose' is problematic. In some cases where 'purpose' is used as in the above example, it is fairly clear that 'function' is the word that the functionalist should have used; in other instances, there is a great deal of confusion over whether the purposes an item serves, or was designed to serve, or the effects it has is of primary concern. The use of manifest and latent functions would do much to clarify the distinctions between the two terms.

Many functionalists do attribute purposes to groups for purely heuristic reasons, but in numerous instances, 'purpose' is used when 'latent function' is intended and no conscious human purposes are mentioned. It is difficult, however, in most political scientists' functional analyses to determine whether 'purpose' is used for heuristic reasons or is meant to be used systematically. In the remainder of this section I will examine several uses of 'purpose' as well as 'function'. A good place to begin the discussion is with examples from functionalist works where the

use of 'purpose' is neither clearly heuristic nor clearly systematic. I will begin by citing all three of the statements I want to consider before discussing any of them.

David Apter writes:

> All regimes can be regarded as oligarchical in some respects, but the important question is whether or not the oligarchy serves the wider purposes of the system or is free to serve its own.[50]

And Beer asserts that:

> Perhaps from the very start of the Soviet regime, the drive to industrialize and to banish Russian backwardness has had a far higher priority, as a national purpose, than "democratic centralism." Thus the pre-eminence of the economic drive contributed to the erosion of the remnants of democratic control that Lenin's doctrine had allowed.[51]

While Eckstein adds:

> This chaotic (authority) system served a purpose upon coming into being, but lost its raison d'etre when the conditions that created it ceased to exist.[52]

The first question that is relevant in assessing both Beer and Apter's use of 'purpose' is to ask where do the national purposes emanate from? If they come from the conscious purposes of the individual members of a governmental body, then it is perhaps possible that collective purposes of the individuals mentioned in the quotes above could be used as a heuristic device for trying to predict national purposes from individual purposes. But a reference to the regime or oligarchy which may behave to achieve

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[50]David Apter, The Politics of Modernization (Chicago, 1966), p. 85.

[51]Beer, "The Analysis," p. 38.

[52]Harry Eckstein, "British Political System," p. 81.

either its own ends or those of the system, or in Beer's comment, to place a higher priority on one and rather than another, is much too vague to even attribute purposes to for the heuristic reason of trying to predict "national purposes."

In Eckstein's statement, there is not even an implicit reference to any conscious purposes, but it is quite possible that the use of 'purpose' in Eckstein is a substitute for 'function', and the authority system based on land holdings and contractual relationships is a pattern which had the function of maintaining or contributing to the development of a central organization. Eckstein, throughout his work, uses both 'function' and 'purpose' interchangeably; if he intends to convey the functions of authority rather than the purposes behind some complicated pattern, the statement makes much more sense. In all of the examples above, then, 'purpose' has neither a clearly heuristic nor clearly systematic use. Statements like these, however, abound in political science functionalism, and while they seem to be of little value, they lead the functionalists to believe that progress is being made in the development of the study of politics as a science.

There are numerous examples of the use of 'purpose' where it is quite clear whose conscious purposes are referred to as well as the means used to gain objectives. Mitchell, among others, does so when he writes:

> A similar purpose is served (in the U.S.)--stimulating private efforts--by the use of honorific rewards, although not to the extent employed by European polities. The

> armed services, for example, reward valor with medals and even with financial benefits.[53]

And so does Eisenstadt in his functional analysis of empire building when he states:

> The development of the rulers goals usually provided the initial impetus for the evolving of these political systems. To implement their aims and to withstand the oppositions of the traditional-aristocratic forces, the rulers had to secure both material manpower resources and political support. For these purposes, they tried to find or coerce allies who could provide such resources and to create or foster various organs for mobilizing resources and implementing their policies.[54]

Both Mitchell and Eisenstadt list both the purposes as well as the means that an individual or a clearly defined group like a military command took, or will take under certain conditions in attempting to achieve an objective. This permits us to explain the behavior of a ruler or governmental official by subsuming an instance of the act under tendency statements about purposes and behavior. The disposition to act in a given way is thus related to the intentions of the actor, and there is no problem involved in referring to the purposes of the actors in functional analyses that is not present in non-functionalist accounts--as far as representing purposes as dispositions to act in a given way under certain conditions. And yet even the mention of the purposes of the actors who establish an institution, a pattern of awards, etc., is counter to the professed aims of functionalists, who certainly attempt to

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[53]Mitchell, Polity, p. 263.

[54]S. N. Eisenstadt, The Political Systems of Empires (New York, 1963), p. 28.

explain a given pattern on the basis of system needs or requisites.

If the functionalist adheres to his stated aims, however, there is no reason why Mitchell or other functionalists should be concerned with more than the effects that honorific rewards, for example, have for the system. In this case, 'purpose' does not enter into functionalist explanations. If purposes are included as a state coordinate in a state description, then there must be some reason for doing so. Eisenstadt refers to various organs the ruler used to consolidate his control over the aristocracy, indicating that there might be special considerations which lead the functionalist to include the purposes of individuals in establishing the means to an end rather than just the effects of a pattern rulers designed or used which has system relevant effects. But when he does so, there is added difficulty, from an empirical standpoint, in including both the conscious purposes for constructing or using an item as well as the functions the item has for a system.

The use of 'purpose' and 'function' in instances where it might be warranted to use 'purpose' as well as 'function' leads, however, to the use of the former for the latter term when it is completely unwarranted, as when inanimate objects have purposes rather than functions attributed to them. In these cases, however, 'purpose' is taken to mean 'function', and while unwarranted, the use of the former term does not present the problems which are incurred when 'purpose' is used where there are indeed some conscious purposes present, but the functionalist often makes no attempt to distinguish between the intentions of an individual or group acting as they did,

and the functions, if any, of the action. In the following, I will present two examples of this use of purpose.

I want first, however, to add further to my comments about purposes by noting a statement from Holt and Turner. In their functional analysis they write that in post-Stalin Russia:

> Through popular assemblies--the "antiparasite" courts and the comrades courts--the regime attempted to exert the pressure of public opinion upon political offenders. The purpose of these instruments of control was to detect an "antisocial" individual before he committed a serious crime, and to make him painfully aware of the civic intolerance toward violations of socialist norms. . . . Thus the regime sought to develop socially based substitutes for the openly oppressive social control methods employed by Stalin.[55]

In the above as throughout the work, the authors refer to the purposes of the regime, government, etc. in a way that makes it practically impossible to determine who within the regime has the purposes. Without a further specification of the individuals it is quite possible that the comment is to be used merely as a heuristic device rather than an explanation or partial explanation for the change from one means of social control to another. Waiving whether the individuals or group within the regime could be further specified so that it would be possible to explain why they acted as they did by subsuming this instance under a tendency statement, the question that is unresolved is whether or not Holt and Turner want to convey the functions of the antiparasite and comrade courts,

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[55]Robert Holt and John Turner, The Political Basis of Economic Development (Princeton, 1966), p. 370. Hereafter referred to as Political.

or the purposes behind their formation. If the former is intended, then function, not purpose, should be the term used in their statements. The purposes for establishing these types of courts could be as Holt and Turner indicate, but they may not have a function--a system required effect in Holt's formulation.

And if the effects an institution has for system maintenance are not specified, the explanation is not in terms of functions, but of purposes, and while related, the two are not the same, although I will again state that a purposive explanation can be incorporated into a functional analysis. In the above quote from Holt, it must be assumed that he is more interested in the functions of the courts than in the purposes for establishing them, but we can never be sure; and it is for this reason that 'purpose' in similar statements as the above must always be interpreted in the eighth sense of 'function'. And once we do so, it then becomes much clearer that the effects might also by dysfunctional; a consideration which is obscured in references to purposes. It is this excessive use of 'purpose' in political science which probably accounts for the relative unconcern with dysfunctions in most political scientists' writing.

Two examples where both terms are used to refer to a pattern of behavior should make the above discussion clearer. The remarks are found in Mitchell and Apter's functional analyses. As previously, I will list both statements before commenting on either. In his discussion of American politics, the former states:

> A good illustration of the role of symbolism in parties may be seen in the functions played by conventions for the membership. The purpose of the convention is primarily one of selecting candidates and writing a platform. But these are hardly the only functions. Support must be generated, and this is accomplished by appeals to emotion as well as reason.[56]

And Apter writes:

> If we consider democracy as a system of rule, a function of which includes public checks on arbitrary power, then it is possible to conceive of situations in which a single party, through its internal factions, serves much the same purpose.[57]

Mitchell's use of 'purpose' in the second sentence and 'function' in the first one makes it clear that he considers the two terms to be interchangeable, and the use of the latter term seems to be to connote the activities of the convention and used in the fourth sense--as activities performed by an organization--or possibly the sixth sense, the utility of conventions, discussed in section one. His use of the term in the third sentence seems, however, to me more like our eighth sense in that he seems concerned with the effects the convention has for the maintenance of the system. His last sentence also indicates that he has the eighth sense of 'function' in mind when he says that support is necessary and that appeals to emotion accomplish this support. This certainly does not indicate only that the purposes to gain support are present, but the activities carried out by convention members do have this affect. It is thus somewhat misleading to mention, also, the

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[56]Mitchell, Polity, p. 131.

[57]Apter, Modernization, p. 17.

purposes of the convention unless Mitchell intends that one state co-ordinate refers to the purposes of the convention and another refers to the unintended effects which the activities have. Is it that symbolism is a conscious purpose of the party leaders or members, or is it an effect which is unintended, a latent function? The use of 'purpose' makes it unclear and the only way which some semblence of clarity is to be introduced is to consider 'purpose' as meaning 'function' in the eighth use of the term.

Apter's comment is less open to any other interpretation of 'purpose'. One function of democracy is to check arbitrary power and the internal factions of a single party nation serve the same function, that is, the effects of activities are the same for the system. The conscious human purposes behind the activities in a democracy and single party system evidently differ greatly, or there may not even be the conscious purpose of checking arbitrary power in one of the systems, but these purposes would seem to be of little importance in Apter's comments so that 'purpose' must be taken as referring to the functions of internal factions regardless of the purposes present for the behavior.

There are, of course, numerous expressions which often replace the word 'purpose', and thus in many cases 'function', but I will concern myself below with only one such expression, namely the phrase 'in order to'. The phrase is often used as unproblematically as the word which it replaces, as when Eisenstadt writes:

> In order to utilize these potential allies to mobilize necessary resources and to implement their policies, the rulers had to forge some reliable instruments of political

> and administrative action that they could use to provide various services to the strata from which they got their political allies or supporters.[58]

The expression here is undoubtedly a report on the purposes of the rulers in attempting to gain allies and presents no problem that is not present when 'purposes' are mentioned rather than the phrase used above. But if there is no problem raised here by use of the expression 'in order to', it would still have to be established that the function of the instruments to gain allies does indeed have effects which maintain the system. The use of 'in order to' for 'purpose' does seem to point out quite clearly, in this case, that purpose may be present and the resulting behavior to gain ends may not have the intended effects or that the purposes the rulers had in mind may never be fulfilled, and it becomes impossible to talk about the function of the instruments. Since this is rather an elementary point, but one often neglected by functionalists, a comment from one of the leading functionalists will point out why the above possibility may often be overlooked. David Apter writes:

> Individual minds within the system become independent units that act upon the external world in order to make it conform to their perception of meaning. Individual minds are, in summation, the means by which the external world is given subjective meaning; yet the objectification of these subjective meanings is the basis of scientific knowledge.[59]

It certainly seems that Apter is asserting that mental facts,

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[58]Eisenstadt, Political Systems of Empires, p. 15.

[59]Apter, Modernization, p. 26.

purposes in this case, and the facts which they intend are causally related. It is, of course, quite true that because of our values we may distort the factual, that is, the perceived object, but we do not thereby change the object; it seems however, that Apter is suggesting that our purposes do change the objects and not merely that because of our values we may fail to ascertain the facts. Even if he does not intend to say this, it is rather easy, given statements like the above, to lapse into a use of 'purpose' which does imply that all that is necessary for an activity to have effects for a system is that the purpose be present. The objectification of subjective meanings is a rather awkward assertion that value-facts are important; whether they are the basis of scientific knowledge in the social sciences is debatable, to say the least, but the functionalist should be the first to demur from this view.

But to return to the main concern at hand, it is more often than not that 'in order to' is used at least as vaguely as the word which it usually replaces. In his formulation of functional analysis Holt, in writing of a functional requisite, states, "In order to maintain desired relationships with the environment, it is necessary to have resources and thus the most significant process related to goal attainment is the process of mobilizing societal resources for a societal effort."[60] In Holt's formulation, there is a body which can act purposively included in all

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[60]Holt, "Framework," p. 94.

structures, and an activity, or set of activities, which has a system maintaining effect; the phrase 'in order to' possibly refers, however inadequately, to the purposes of the individuals composing the body, or in a small group, the purposes of the group in taking some action, results in the mobilization of resources. The use of the above phrase, is, however, inadequate unless a much more specific group is referred to than Holt ever indicates. And while Holt believes that he has solved several problems by including a decision-making body in his structure, his reference to the purposes of any decision-making body is so vague that his use of 'in order to' is quite comparable to Eisenstadt's use in the following:

> [The political system's] organization imposes severe secular sanctions in order to implement the society's main collective goals, maintain its internal order, and regulate its foreign relations.[61]

To merely state that a decision-making body is present is of very little benefit unless a great deal more is said about who is included and excluded from the group, but to say that the organization of the political system imposes restrictions in order to implement goals is no less inadequate than is Holt's statement. In both cases, the use of the phrase adds to the confusion of whether or not the phrase is used to describe conscious purposes or to merely specify items which must be present if the functional requisites are to be fulfilled. The type and composition of the groups involved in mobilizing resources must be clearly specified

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[61]Eisenstadt, Political Systems of Empires, p. 15.

also in any functional analysis but are most often ignored. Thus, just as the expression 'in order to' is often beneficial in separating 'purpose' and 'function' it is often used so vaguely that confusion, not clarity, results. It must also be pointed out that the expression 'in order to' as well as 'function' make the statements they appear in lawlike or else must be justified by lawlike statements. We see an example of the former case in Apter's statement that "Personal and fragile parties need crises in order to maintain their following."[62] But often the phrase 'in order to' seems to be used heuristically, not systematically.

Professor Chalmers Johnson in his functional analysis uses the expression in constructing ideal types of revolutionaries in an attempt to co-ordinate group purposes to the individual purposes of this ideal type. He writes that one type of revolutionary, a jacquerie:

> Is motivated by a belief that the regime has been betrayed by its elite (the government) and violence is invoked in order to purge the regime of its violators and, so to speak, set it back on the tracks . . . As an ideal type of revolution, a jacquerie aims at the restoration of legitimate government within a regime rather than at making unprecedented structural changes in the social system.[63]

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[62]David Apter, "A Comparative Method For the Study of Politics," AJS, LXIV (November, 1958), 8.

[63]Chalmers Johnson, Revolution and the Social System, Hoover Institution Studies: Number 3 (Stanford, 1964), p. 32.

As long as Johnson or other functionalists make it clear that the expression 'in order to' is used for 'purpose' in an attempt to gain insight into revolutions, there is no problem raised. The expression does often obscure the fact that purposes are referred to and leads the functionalist into thinking that he is providing an explanation of revolutionary behavior rather than merely using the ideal type in an attempt to predict group behavior from individual purposes. I will return to this point in a later chapter.

For now, I want to add several other statements to those I listed in 1.8 of section one, where the word 'function' is used in the eighth sense of the term. This will provide us with several clear cases where the term is employed in explanations. Richard Fenno uses it thusly in the statement that "The important function of apprenticeship (in the House Appropriations Committee) is that it provides the necessary time during which socialization can go forward."[64] Whether the committee members have the conscious purpose of socializing the new members is of no importance in asserting that apprenticeship has this function, nor are they in Mitchell's assertion that, "In some instances (monuments). . . become national shrines with the function of perpetuating great ideals of service, patriotism, and devotion."[65] The item can

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[64]Richard Fenno, "House Appropriations Committee as a Political System," American Political Science Review, LVI (June, 1962), 314.

[65]Mitchell, Polity, p. 136.

have a function, in a perfectly unproblematic use of the term, even without it being intended that monuments have the effects they have for the system. Eckstein also uses 'function' in the eighth sense when he points out the effects of ideologies, stating that "The emotional value of political ideologies is not their only raison d'etre; they have an even more important function . . . they make it unnecessary to deal with individual cases on their merits."[66] While it is unproblematic to say that ideologies have this effect which stabilizes a system, we could hardly say that the purpose of ideology is to make it unnecessary to consider some issues on their merits.

I have attempted to show that the interchangeability of 'purpose' and 'function' often leads to a great deal of confusion in political science functional analyses, and the only way to avoid this is to consider many uses of the former term as referring to the latent functions of an item rather than to the manifest ones. In some cases it may be necessary to include both the manifest and latent functions of an item as a state co-ordinate, but there should be a special reason for doing so; if we know the function of an item there is no reason at all for including the purposes the item serves or was designed to serve. If the interest is in the purposes alone, then, this is a form of an intention explanation, but it is not a functional explanation in the eighth sense of the term since the purposes may be present but not the function. If the

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[66]Eckstein, "British Political System," p. 97-98.

functionalists or others discussing the formulation of functionalism do not distinguish between the two types of explanation, it is likely that confusion, not clarity, will result.

CHAPTER 2

TERMS, ASSUMPTIONS, AND HYPOTHESES USED IN FUNCTIONAL EXPLANATIONS

In part one of chapter one, I pointed out that several terms used in functional analysis need to be explicated. Foremost among these terms are 'system', 'adequate operation' and 'self-regulation'. By concentrating on the use of these terms we begin to penetrate to the core of the methodological problems usually found in functional explanations in political science. In explicating the concept of system, we must consider the nature of functional explanation and, also, the nature of scientific explanation in general. In discussing explanation we must consider the ideal form of explanation all sciences hope to achieve--process knowledge.[67] Once this discussion is behind us, we can turn to an examination of the different patterns of functional explanation used in political science and show how each of these patterns stands with respect to process knowledge. In the following chapters, I will examine these patterns of functional explanation.

Professor Milton Hobbs has pointed out that "methodological problems tend to appear in clusters and . . . the resolution of a relatively small number of fundamental issues in each cluster . . . [is] crucial to the resolution of all the rest."[68] In functional

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[67]For a discussion of process knowledge, see Gustav Bergmann, Philosophy of Science (Madison, 1958), pp. 84-130.

[68]Milton Hobbs, "Values: Methodological Problems," 1.

analyses the methodological problems cluster around the stress on the interdependence of social life. Functionalists employing the term in the eighth sense above consider this interdependence as the primary reason for adopting a functional analysis, since this "approach" seems to offer a theoretical framework that relates one part to the "whole" or to another part by showing how a part contributes to the self-regulation of a system, or to one of the sub-systems. Unless an effect of an item does contribute to the maintenance of a system or sub-system, then it will not be considered as a 'function' in the eighth sense of the term.

It would seem, then, that interdependence serves as the frame of reference or thesis of the functionalist in the same way that determinism serves as a frame of reference for all of science, as in the assumption that the world is "comprehensively lawful." And just as it wouldn't make sense to do what one does in the sciences if one didn't believe his frame of reference, it doesn't make sense for the functionalist to do what he does if he denies his frame of reference. I say "seems" above because functionalists, even those who use the term in the eighth sense of 'function', sometimes at least, deny what their frame of reference implies.

Many "assumptions" in the functionalists' frame of reference, as is true of all frames of reference, are matters of fact and cannot be resolved by a methodological examination of these "assumptions." The question of fact for functionalists enters when they begin discussing systems in the sense of a group of items that are interconnected, and affect each other in some way so that all of them

together affect some outcome of the system.

The above definition of 'system' is often employed by political scientists conducting a functional analysis. It is not always clear, however, whether the functionalist is talking about a physical system or about the theory about a physical system. Physical systems investigated by political scientists range from congressional committees and the Supreme Court to a nation. A theory about a system, on the other hand, permits us to describe, explain, and predict the workings of a physical system. Professor Nagel points out that:

> A proposed list of state co-ordinates does not become definitive until an adequate theory (or system of general laws) has been established to account for a given set of traits of the subject matter.... For ideally the state co-ordinates must describe completely the state of a system that is causally relevant to the occurrence of a given property.[69]

To identify a physical system, then, is only a first step; we must then discover the theory behind the system. In my discussion of functional explanation, I will use Nagel's term 'trait' to refer to the necessary or sufficient conditions which are maintained, and I will use his term 'state co-ordinate' and the term 'item' interchangeably. Before continuing our discussion of the term 'system', however, I want to point out how two issues that are often debated concerning functional analysis are resolved by maintaining a clear distinction between a physical system and

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[69]Ernest Nagel, Logic Without Metaphysics (The Free Press, 1956), 264.

a theory about the system. First of all, it is important to note that functional analysis is only one theory (or the attempt to develop a theory) about a physical system. This does not mean that other theories about physical systems are going to provide less knowledge about a system simply because they do not employ functional terms and hypotheses. Neither does it mean that all scientists are functionalists, as some social scientists assert,[70] simply because they seek to establish relationships between variables (concepts).

A second issue that is resolved concerns the debate over whether the functionalist studies "real systems" or analytical (conceptual, abstract) systems. In our formulation a real system is a physical system, while a conceptual, abstract, or "analytical" system is the theory about the physical system. Thus, the issue is a pseudo one; functionalists use theories about a physical system to describe, explain, and predict the operation of the system.

While most functionalists in political science use the term 'system', it is worth a brief discussion as to whether or not it makes sense to use the term 'function' without also using the term 'system'. This discussion will lead us into a brief examination of the nature of ideal explanations in empirical science.

We can begin our discussion by referring to a comment by Professor Alvin Gouldner. He writes that:

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[70]Alan Bellin, "The Functions of ...," 72; and Theodore Lowi, "Toward Functionalism...," 571.

> The only logically stable terminal point of a functional analysis is not the demonstration of a social pattern's function for others, but the demonstration of the latter's reciprocal functionality for the problematic social pattern. . . . It is in this sense that the notion of a system is necessarily involved in Merton's analysis of the political machine as, we think, it must be in any functional analysis.[71]

While Gouldner's insistence that the notion of 'system' is required in any functional analysis seems fundamentally sound, if functionalists are going to gain the type of knowledge they are striving for, there needs to be more amplification of this than is present in his work. Consider the statement, "The function of an increase in news media circulation is to increase advertising revenue, which in turn increases circulation." Let us assume, first, that a certain level of revenue is necessary for the news media and that nothing except an increase in circulation will provide the revenue; thus there is a necessary condition--and reciprocity, but if there is not a further statement, "unless there is a given level of revenue available, news media organizations of a given class will not operate adequately," then there would be no reason to include the notion of a system in the explanation. It is only when there is a statement in the form of the latter mentioned above that provides us with the knowledge needed to begin to delineate the boundary conditions of a system by seeking the relevant variable(s) which contribute to the

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[71]Alvin W. Gouldner, "Reciprocity and Autonomy in Functional Theory," in Symposium on Sociological Theory, ed. Llewellyn Gross (New York, 1959), p. 249. Reciprocity, of course, refers to "feedback." In chapter three, I will discuss functional analysis and feedback.

fulfillment of a requisite(s). The mention of boundary conditions and relevant variables leads us into a discussion of scientific explanation.

Professor Bergmann states that the nature of scientific knowledge is best revealed by process knowledge, which is knowledge of "(1) the conditions of closure, (2) a complete set of relevant variables, and (3) the process law." Provided that we have process knowledge, we can, in principle at least, compute the values of the system variables at a future time from the values at a given time. Professor Bergmann also calls process knowledge perfect.[72] Imperfect knowledge, then, provides us with less information concerning the conditions under which a given law holds, imprecision of terms, lack of knowledge concerning rate of change, and is indefinite with respect to time. But imperfect knowledge does not mean that we cannot provide explanations of limited scope or that imperfect knowledge must always remain so.[73]

In the following discussion, I will again return to process knowledge and functional analysis in political science, but one more comment needs to be added concerning 'system'. In my discussion of Gouldner above, I stated that unless we know the individually necessary and jointly sufficient conditions that must be fulfilled

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[72]Gustav Bergmann, "Purpose, Function, Scientific Explanation," Acta Sociological (May, 1962), 228.

[73]For a discussion of imperfect knowledge see May Brodbeck's article "Methodological Individualisms: Definition and Reduction," Philosophy of Science, 25 (January, 1958), 89.

for a system to operate adequately, the concept 'system' would not need to be used in explaining why an increase in circulation increases advertising; the importance of knowing the requisites, aside from all other reasons for requiring that they be present, is that without the knowledge of a trait, we would not know where to begin looking for closure, that is, for items entering or leaving the system that are causally relevant for the fulfillment of the requisites.[74]

In his writings on the nature of scientific explanation, Professor Bergmann points out that the ideal explanation to be achieved in any science is accomplished by discovering a process theory about a physical system.[75] To have process knowledge of a system means that from the state of a system at a given time, all future states can be predicted. The unpacking of such a short statement about the ideal of scientific explanation requires considerably more space than is available for our purposes, but the rudiments of process knowledge will make it immediately clear that some political science functionalists are attempting to discover, or contribute to the discovery of, a process theory for societies as physical systems.

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[74]Philosophers of science disagree as to whether or not the consequences brought about by an item must be mentioned in the explanation. Bergmann does assert that the consequences are not mentioned, while both Nagel and Hempel include the traits being maintained in the explanation. Needless to say, I agree with Hempel and Nagel. Not to include the consequences would be to abandon functional explanations entirely. For a contrast between Bergmann's ideas and Hempel and Nagel, see pages 61 and 62 in this chapter and Bergmann's "Purpose and Function."

[75]Bergmann, "Purpose and Function," 228.

A physical system can be anything from the celestial bodies to the Supreme Court, Congress, or a committee. If a system is closed, as the celestial system is, then nothing entering or leaving the system affects it in any way. This brings out the possibility of predicting a state of the system in the future from a present state. To know, however, that a system is closed is only the first step in achieving process knowledge. The theory behind a system must be discovered. It is the theory about the system that provides us with the means of explaining a given state of the system and predicting future ones. A state of a system is composed of individual state variables which together form the state description. The state variables are, of course, statements of individual fact. A state description consists in a number of statements of individual fact.[76]

We now see the importance of having a closed physical system in predicting one state of a system from another; the relevant variables in the theory about the system interact only with each other. The extension of the idea of closure, however, is of importance to social scientists. It is unlikely that the systems social scientists investigate will be closed in the strict sense of the term discussed above. Moreover, it is unlikely that any one social science will achieve closure in the extended sense of 'closure' that I will discuss in the following pages.[77] A

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[76]Bergmann, Philosophy of Science, p. 88.

[77]For comments on a super social science, closure and completeness, see May Brodbeck, "Methodological Individualism," 9-16.

discussion of how functional analysis by political scientists is an attempt to contribute to closure in the extended sense will be discussed in chapter three and again in the last chapter. I mention this here only to emphasize that closure in the previous and following senses will have to be brought up again in later chapters.

The extension of the term 'closure' involves the boundary conditions of a system. If we know what enters and leaves a system, we know the relevant variables for the system. Thus, the theory about the system is complete. Professor Bergmann writes that in a piece of space represented by a container--the system--when we cannot provide complete insulation, we can post "border guards" to register what "comes in" and what "goes out." For instance, we cannot "turn off" gravitation, but we can take into account the effect of gravitation for a system.[78] Nor can we, of course, "turn off" information, for example, which has effects for a social system, say the Supreme Court. But if we know how to account for the effect information has on the court, then we can achieve completeness of the theory about the system. The boundary conditions in functional analysis are usually referred to as the "inputs" and "outputs" of the system. The "interaction" between the variables inside the system as well as those which describe what comes from outside the system provide us with the theory for a given system. It must be emphasized, however, that unless the theory about the system is complete, the predication from one

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[78]Bergmann, Philosophy, p. 95.

state description to another will fail. I hope that this point is obvious from what has been said thus far, but it is important enough to state explicitly.

In Professor Bergmann's words, then, a process theory "refers to the temporal sequence of the 'states' of a system as predicted by a process law, whether one that we know and could actually apply if we went to the trouble, or one we expect to discover, or one that at least in principle can be discovered and applied."[79] Since a process theory provides us with "dynamic" knowledge at its best, we see the relevance of a discussion of process knowledge in relation to a problem that has been central in functional analysis for a long time--the debate over the dynamic-static dichotomy.

If a system is closed and we know the theory behind the system, or the theory about the system is complete, then it is obvious that from the values of the variables at any one time, the values of the variables at some future, or past time, can be computed. And since the predictions are over time, this provides us with dynamic knowledge. But as we can also deduce the state of the system as time t, then we also have knowledge of the "statics" of a system. It follows also that we can know the "statics" of a system without knowing the process law, and once the process law is discovered, we can provide an explanation of these static states. As Professor Bergmann puts it "An equilibrium [static] law, such as the law of the lever, says that some

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[79]Bergmann, Philosophy, p. 96.

change will take place if the connections do not obtain. Accordingly, the equilibrium laws of the system follow deductively from its process law, but not necessarily conversely."[80]

It makes sense, then, for functionalists, as well as non-functionalists, to look for dynamic laws. This does not mean, however, that functionalist is either inherently dynamic or static theory. While sociological functionalism has often been criticized for its static orientation, political scientists often view functionalism as being the only theory about a system which can provide us with dynamic knowledge. I will state here, and discuss later, the proposition that functionalism itself is neither inherently dynamic or static, although those people using the theory may be oriented toward establishing static or dynamic laws. But the proclivities of individual scientists do not impose limitations upon, nor improve, the truth value of a theory.

Moreover, there are dynamic laws that are non-functional extant in the social sciences; and there are numerous functionalists who are also attempting to discover dynamic laws that are not based on complete knowledge-process knowledge. For both functionalist and non-functionalist, these laws have the same form of genetic explanations. In the following pages, I will distinguish two types of genetic explanation, historical and developmental laws.

In historical explanations, the laws are of the form 'If B now and A earlier then C later.' The logical connectives here is

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[80]Bergmann, p. 102.

the 'and', indicating that the law must refer to a past state of the system. Examples of this type of law abound in political science; one use, for example, is found in a proposed explanation as to why African nations that are in the same state, B, now as Latin American nations will achieve greater unity in the future than will the latter nations. The law is 'If a nation is now in a state B, and it was under recent colonial rule, event A, there is a greater likelihood that at a future time C, there will be greater national unity.' Clearly laws of learning are of this type, as are many other laws (hypotheses) that the functionalist uses in his explanations, as I will show in later chapters.

The second type of genetic explanation is a developmental law. While similar in form, the distinction between the two is indicated by the logical connectives 'and' and 'if-then'. A developmental law is of the term, 'If B now then A before and C later.' We know that if we have a developmental law, A has preceded B and C will come later, providing that the system remains closed. Laws of the "stage of growth" of a society are developmental laws, as are Marxist laws. Both of these law types are often rejected by functionalists as being of little interest.[81] One reason for rejecting explanations using developmental laws is that the political science functionalist wants to provide an explanation in terms of existing institutions, thus moving toward

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[81]See Eckstein's article "A Perspective on Comparative Politics, Past and Present," in Comparative Politics, p. 28.

the construction of a process theory from which a state of the system at a given time can be derived.

In fact, one of the reasons functional analysis has become so important in comparative politics is that it is seen as a way to avoid using developmental or Marxist laws to explain change.[82] This does not mean, however, that some political scientists are not consciously still trying to discover developmental or historical laws; they are. But there are some who reject this form of explanation and others who seem to reject genetic explanations while still adhering to the form of genetic explanation. At any rate, the three types of laws mentioned above are evident in explanations provided by political science functionalists; in the following chapters, I will examine attempts to use each of the three kinds of laws in their explanations. This will provide us with a means of explicating various patterns of functional explanations. Before turning to a discussion of the basic structure of functional explanations, however, one more point concerning process, historical, and developmental laws needs to be mentioned. A developmental law is an anticipation of a process law. While a process theory requires us to know the necessary and sufficient conditions, a developmental law provides us with the merely necessary or merely sufficient conditions for the next

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[82]See Eckstein, Perspective, ad hoc. Runciman in his work Social Science and Political Theory (Cambridge, 1963), p.122, takes the view that functional analysis is the only alternative to Marxist theory.

state.[83] While a developmental law is an anticipation of process knowledge, a historical law is not, although a historical law may become a developmental one. These distinctions among the three types of laws mentioned above will be significant in later discussions of political science functional analyses. For the present, it is necessary to turn to the basic structure of functional explanations in general.

Professors Hempel and Nagel have written extensively on functional analyses. The former writes:

> The object of the analysis is some item i, which is a relatively persistent trait or disposition occuring in a system s and the analysis aims to show that s is in a state, or internal condition C_i: and in an environment presenting certain external conditions C_e, such that under conditions ci and ce jointly the trait i has effects which satisfy some need or functional requirement of s i.e. a condition n which is necessary for the system's remaining in proper working order.[84]

And Nagel presents the following as the typical pattern:

> The function of chlorophyll in plants is to enable plants to perform photosynthesis. This statement accounts for the presence of chlorophyll 'A' in plants (in every member S of a class of systems C of which has a certain organization C of component parts and processes). It does so by declaring that, when a plant is provided with water, carbon dioxide, and sunlight (When S is placed in an internal and external condition E) it manufactures starch (a certain process P takes place yielding a definite product or outcome) only if the plant contains chlorophyll. The statement usually

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[83]Bergmann, Philosophy, p. 117.

[84]Carl Hempel, "The Logic of Functional Analysis," in Symposium On Sociological Theory, Llewellyn Gross, 271-307. A revised version of this paper appears in Hempel's work Aspect of Scientific Explanation (Free Press, 1966), 291-330. The above quotations and future ones, are from the revised article.

> carries with it an additional tacit assumption that without starch the plant cannot continue its characteristic activities ... (it cannot maintain itself in G--a state or condition).[85]

We note first of all that the logical structures of both characterizations are completely alike and can be represented as follows:

> At time t, system S operates adequately in condition c (E).
> The system works adequately if n(P) is present.
> If i (A) is present in S, then as an effect, n(P) is fulfilled.

> ... at t, i(A) is present in S

Both Hempel and Nagel point out that the above is a valid argument only if A(i) are necessary conditions for the adequate operation of S; otherwise both of the above arguments commit the logical fallacy of affirming the consequent. Although it is clearly an empirical question as to whether or not a particular item is necessary for the proper working of the system, Nagel does assert that in his example chlorophyll is indeed necessary and the argument is valid.[86] Hempel points out that since functionalists have accepted functional equivalents for most items that they study, the argument would not be valid for most functional explanations in the social sciences.

But if we add a general hypothesis of self-regulation to Hempel's first schema, then we can correct the logical problems

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[85]Ernest Nagel, Structure, p. 403.

[86]Nagel, Structure, p. 404.

raised by the acceptance of functional equivalents. The general hypothesis of self-regulation will state the items which will, or can, contribute to a given n. If we find, for example, that democratic norms have the function of maintaining the legislative system, but when these norms are not observed a recall or referendum will serve to maintain the legislative system, then the latter are functional equivalents for the former. The general hypothesis must specify the item which has a function as well as the items which are functional equivalents. In most cases this will mean that we must specify the class of items i which are sufficient conditions to maintain a system s. Let us label this class of i's an I.[87] It now becomes obvious that the general hypothesis will state that if a given item i does not obtain another i, within I, will. If we have such a hypothesis, it becomes possible to explain and predict why a given i rather than another is present in s at t. Without the general hypothesis, we are left with the logical problem mentioned previously.

It must also be pointed out that the i's within class I could be necessary conditions, but most political scientists seem to consider them sufficient conditions for system maintenance. It seems that where the items are considered as being necessary conditions, the functionalist conducts a different type of analysis than when the i's are considered as sufficient conditions. In this

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[87] We assume, also, that if s is operating adequately, I is not empty. See Hempel, Aspects, p. 313.

latter case, the laws are usually of the developmental or historical type. We shall have occasion to examine these types of laws in later chapters and to compare the use of the general hypothesis of self-regulation containing necessary conditions with the ones containing sufficient conditions.

Before further comments on this form of functional explanation are offered, a short summary of the above will be beneficial. In asking the role an item plays in the maintenance of a system, we ask first if the item is a necessary condition for system maintenance or if functional equivalents will also maintain the system in the same state. If equivalents are suggested, then items which will serve the same functions must be accounted for by the general hypothesis of self-regulation. This hypothesis may take the form of a disjunctive law to the effect that 'if A or B, or C are present, then η(G). At any rate, the hypothesis or law establishes the limits within which an item or its equivalents will maintain a system property ϰ (G in Nagel's formulation). I will note, but reserve comment until later, that the general hypothesis of self-regulation is an equilibrium law, that is, where either i or i' maintains a system property in exactly the same position.

When considering the function an item plays in the maintenance of a system property, the conditions Ci and Ce must be listed and they will be a part of the initial conditions used in the explanation. The explanation is of the item which maintains the system property or state.

But even if the external and internal conditions are accounted for, a general hypothesis of self-regulation included, and the system clearly defined, before an item's role is explained, the limits within which the system will be operating adequately require a hypothesis of self-regulation with respect to R, a property or state. It is, in fact, this hypothesis which defines the n states of a 'self-regulating system.' Unless this hypothesis with respect to R is present, then we cannot explain the contribution an item makes to system maintenance by showing that the' item is necessary or sufficient for a requisite n to be fulfilled within the given range R.[88]

Since there has been a great deal of confusion on the part of political scientists as to what Hempel's hypothesis of self-regulation with respect to R refers to, it is important to note that this hypothesis refers to the range within which a given requisite (n) will continue to be maintained. The general hypothesis of self-regulation, on the other hand, refers to the items which maintain the traits or states of the system.

As I noted in chapter one, and is evident from Hempel and Nagel's schema presented earlier, the properties that are maintained by an item occur later in time than the item which contributes to the maintenance of those properties. Both Hempel and Nagel noted that these properties are usually considered as necessary conditions for adequate working order of the system. Robert Brown says that for

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[88]Hempel, Aspects, p. 320.

a fully adequate functional explanation, the properties that are maintained, as well as the items contributing to a property, must be necessary conditions.[89] I will not join this debate here but note only that most political science functionalists consider the functional requisites or prerequisites as being necessary conditions for system maintenance. In later chapters, I will add further remarks on these prerequisites, requisites, or "needs" of a system.

In a fully expanded functional explanation, the object of the analysis is to show that if there is a change in the value of one of the variables, the values of the other state variables will change accordingly to compensate for the change. Thus, both hypotheses of self-regulation must be present to establish the limits within which a change in the value of one state variable will be compensated for by a change in the other values, and the limits within which the system traits can fall and the system operate adequately. It is in this fully expanded form where the state variables are often lower order, sub-system variables, of a larger system. A committee, for example, may be considered as a sub-system of a legislative system, and the latter may enter into a theory about a larger system as a state variable for the larger system. This is the interaction feature between systems, and once again involves completeness of a theory. After one last remark on a fully expanded explanation, I will set the stage for adding further

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[89]Robert Brown, op. cit., p. 115.

remarks on completeness in the following chapter.

I noted previously that a general hypothesis of self-regulation was an equilibrium law of the system. In the fully expanded form of a functional explanation, knowledge of the interaction between the state variables provides us with the dynamical laws of the system.[90] If, for example, we have two state variables with each composed of several functional equivalents, say a_1, a_2, a_3, represented by I_a and b_1, $b_2 \ldots b_n$ represented by I_b, and both contribute to the maintenance of a given n, if the value of I_a changes then I_b will also change to compensate for I_a if s is a self-regulating system. The change in I_a must, of course, fall within certain limits established by $a_1 \ldots a_3$ or I_b will not compensate for the change in I_a.

With these remarks behind us we can now offer clarifying remarks concerning "adequate functioning" of a system. If this expression is to be used correctly, the functionalist must specify the range of the trait which is either necessary or sufficient for the system to continue to operate. Unless the limits are specified, it becomes impossible to determine when a system is functioning adequately and when it is not. To state the same thing differently, if the limits are not specified, statements containing the term 'adequate functioning' can neither be falsified nor verified. If the necessary or sufficient conditions and their limits can be

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[90] Nagel, Logic Without, p. 255.

established, it becomes possible to verify statements about adequate functioning, and also possible to discover the items which maintain the traits.

Before turning to a more thorough examination of these traits and items, however, it is necessary to consider a criticism of Hempel's schema by the political scientists Flanigan and Fogelman. These authors write, "In our view, the structural functional argument is not, as Hempel maintains, illogical but rather tautological, and some of its limitations for political analysis are related to its tautological charater."[91] Following this up in a later passage, they say that:

> the analyst can define his "requisite functions" as he pleases, and he can be equally imaginative in locating which structures perform what functions. There is nothing illogical about his quest; the difficulty is rather that his findings may consist of many discrete observations which do no more than illustrate again and again that structures perform functions.[92]

It is erroneous to attribute any such remark about the "illogical nature" of functional analysis to Hempel. He states that unless an item which performs a function is the only item which can do so, then one commits a logical fallacy in presenting his argument as formulated above. Hempel then states that since most functionalists accept functional equivalents, this commits them to a search for sufficient conditions, and his criticism concerning these sufficient

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[91]William Flanigan and Edwin Fogelman, "Functionalism in Political Science," in Functionalism in the Social Sciences, ed. Don Martindale, p. 119.

[92]Flanigan and Fogelman, p. 121.

conditions is based on empirical, not logical, considerations.[93]

In the second quote from Flanigan and Fogelman, their criticism of Hempel becomes even more puzzling. Of course there is nothing "illogical" about the quest to discover structures which perform functions; neither is there anything logical, nor can there be since there is no "logic of discovery." Hempel, it seems, would be the last person to claim that there is, or that someone is proceeding "illogically" in attempting to discover items that perform functions.

We also note that there is a great deal of confusion present in the statement that the limitations of functional analysis are related to its tautological character. Not all functional statements are tautological in character by any means; simply because some functionalists have formulated statements that are obviously tautological, this does not mean that there is anything inherently tautological about functional analysis. I do not intend to dwell on Flanigan and Fogelman's comments on Hempel's schema, but it is often helpful to point out some of the errors committed by political scientists writing on functional analysis in order to clarify our own thoughts concerning the nature of functional analysis.

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[93]Hempel, Aspects, 313. See also page 91 in Robert Holt's article in Functionalism, where Holt also points out that some of Hempel's criticisms are based on empirical, not logical grounds.

In an attempt to further clarify remarks offered by political scientists, let us turn to Professor Harry Eckstein's writings on the nature of functional explanation. In his work, Eckstein includes most of the issues raised in discussions of functional analysis. By focusing attention on Eckstein's work we can bring out several central questions that seem to invariably arise in functionalists writings.

One question that is posed in all functional works is whether or not functional explanation is a distinct form of explanation? Since this question is so central in functional analysis, the way a given functionalist answers it will determine his answer to several other questions, both methodological and theoretical. Let us begin by turning to Eckstein's comments on how a functional analysis differs from other attempted explanations. In discussing a central assumption in the functionalist frame of reference, Eckstein writes:

> A distinctive preconception of societies does underlie ... structual functional analysis that gives to such questions (concerning the requisites of societies) an import, certain overtones, that they do not process when raised in the language of causality or other theoretical language. This preconception is that societies are mutually interconnected wholes, every aspect of which impinges upon every other and contributes something to the viability (or lack of viability) of the whole.... They (societies) are systems in the technical sense of the term: hence the concern with their functional interrelations.[94]

It is clear that Eckstein is asserting that there is a distinct preconception of societies underlying functional analysis that

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[94]Eckstein, "Perspective," 27.

makes functional explanation different from other explanations raised in the language of causality or other theoretical language. This preconception Eckstein tells us is that societies are mutually interconnected wholes with each part impinging on every other part. Quite clearly this assertation commits Eckstein to universal functionalism, i.e., every part of a system is functional. But universal functionalism has been refuted by numerous functionalists and philosophers, and has few if any adherents today. In fact, in a footnote to the assertation quoted above, Eckstein himself says that this view of societies is dubious and is at best a research stratagem.[95] But what are we to make of Eckstein first saying that there is a distinct preconception of societies underlying functional analysis, and then in the same breath, denying there is such a preconception? It would seem that he considers functional analysis to be distinct in ways other than just the view of societies held by functionalists. In fact, it is quite likely that Eckstein, like other functionalists, is claiming that functional statements differ from causal statements, and thus functional analysis is a distinct form of explanation.

To say that functional analysis is different from causal explanation does not, of course, always mean that the functionalist is claiming that functional explanations do not employ laws in the explanation; it may be that the functionalist is simply saying statistical, not universal, laws are used. Whether this is

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[95]Eckstein, "Perspective," note 8.

Eckstein's dontention or not is difficult to determine since he seems to assert at times that statistical generalizations are all the functionalist can expect to find but at other times he makes statements that see to require universal lawfulness, as we shall see in later pages. At any rate, we are left with the question of whether or not Eckstein does think that functional analysis is, or must be, a unique form of explanation.

It seems to me that Eckstein is indeed making a claim that functional analysis requires a mode of analysis and formulation that is unique when he says there is a distinct preconception of societies underlying structural-functional analysis. What confuses the issue is that Eckstein commits himself to universal functionalism; probably what he meant was that the conception functionalists have of societies, or any other system, is that they are an integrated whole. This does not commit the functionalist to the view that <u>every</u> item is functional, only that the functional items are internally related. This view of systems is often found in political scientists works, just as it is found in biological functionalism. Ernest Nagel points out, for example, that the biologists claim to distinctiveness was usually based on an argument like the following:

> The parts of an organism must be viewed as internally related members of an integrated whole. They mutually influence one another, and their behavior regulates and is regulated by the activities of the organism as a whole. Some biologists have argued that the coordinated, adaptive behavior of living organisms can be explained only by assuming a special vitalistic agent; others believe that an explanation is possible in terms of the hierarchical

> organization of internally related parts of the organism. But in either case, so it is frequently claimed, biology cannot dispense with the notion of organic unity; and in consequence it must use modes of analysis and formulation that are unmistakably sui generis.[96]

We see the striking similarity between this argument and Eckstein's statement; the difference is only that the latter's statement contains the added assumption of universal functionalism. Remove this additional assumption and Eckstein's claim is almost exactly like Nagel's formulation of the biologists claim to uniqueness, and like statements made by political scientists writing on functionalism. The usual assertation is that because of the interrelation of parts of the system, causal relationships are not sufficient for functional explanations. Although it is asserted over and over again that this is the case, there is very little attempt to show why functional explanations entail more than a causal explanation. The latest claim that functional and causal explanation are different types is by Fred Frohock. Frohock's argument is that there are two reasons why a functional analysis differs from a "causal analysis, as he calls it. The first difference, Frohock says, is that:

> To explain an event causally entails an establishment of precedence. Variable A cannot cause B unless A is antecedent to B. In functional analysis, however, both event and system exist at the same time.[97]

This "difference" is no difference at all. Think, for example,

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[96]Nagel, Structure, p. 401.

[97]Fred M. Frohock, The Nature of Political Inquiry (Illinois, 1967), p. 77.

of a physical system, say the solar system, and the way we explain the operation of the system. Certainly we attribute causal relationships to this system, and it is quite clear that the "event" and the system exist at the same time. But one event occurs prior to another event, just as an item which is functional for a system occurs prior to the event it is functional for. If the events that we have attributed a causal or a functional relationship to in the past suddenly occur at the same time we simply do what any scientist would do; we look for the common cause of the two events. If two events occur together in a functional system, it is unlikely that anyone is going to attempt to say that one is functional for the other. Certainly a cursory glance at the writings of political science functionalists will show that they make no such claims.

The second difference, Frohock continues, is that:

> Second, causality suggests forcing, or A bringing into being or changing B. The vector analogies of classical physics come to mind: the occurrence of A, or a change in A, results directly (after some time lapse, no matter how small) in the occurrence of B, or a change in B. No similar motif conditions functionalism, for functional states may vary concurrently with no apparent direction of force.[98]

Frohock's assertation here is based entirely on empirical, not logical grounds, and while it might be the case that no direction can be predicted, there is no logical reason why this is so. But it is the case that practically every functionalist does

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[98] Ibid., p. 78.

predict direction, and for the reader to satisfy himself on this point, he need look only at the statement of any functionalist quoted in this work.

But Frohock anticipates questions like the above, and says that, in general, the objection to his analysis might be that all that a functional explanation does is causally link certain events to system states. He answers this objection by saying:

> The real question is what loss of meaning and efficiency results from [breaking down a functional explanation into causal sequences]; and, even more importantly, whether or not we have a distinctive mode of inquiry even though this mode of inquiry can be broken down into constituent parts which, on the basis of the inquiry's purpose, constitute a different approach altogether.[99]

The first part of the answer Frohock provides is fairly simple to deal with; he seemingly is indicating that by considering a system as a whole, as the functionalist does, we lose something if we attempt to explain the constituent parts of the system. The question here seems to be one of reduction,[100] and again is an empirical question. There certainly are no logical reasons why an explanation cannot be broken down into constituent parts.

The second part of Frohock's reply to his critics is more difficult to deal with. This is not because of the complexity of his argument, but because of the difficulty in determining what he is getting at by his reference to different approaches to the same subject matter. For example, a social scientist

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[99] Ibid., p. 79.

[100] I will discuss reduction and functional analysis in chapter six.

may study personality in an attempt to explain why some people are more likely to write letters to newspapers, while others may be interested in personality as it affects national character, and another may be interested in personality for both reasons. Undoubtedly all three would approach the subject matter differently, but the distinction is in the types of laws used in explanation. In the first case, the laws will be about individual behavior, in the second about group behavior, and in the third, both group and individual behavior. But all the laws are causal and there is no logical difference in the explanation being provided. Thus, while the approaches are different, this not lead us to say that there are three distinct types of explanation. There is only one.

Following the above statement, Frohock adds that "at the very least functional explanations are distinctive in this respect: that while causal relations may be a part of functional analysis, functional relations are not features of all causal explanations."[101] Even if this were true, it would seem to add little to Frohock's assertation that functional analysis differs from causal analysis. What he is saying here, it seems, is that adequate explanations can be provided without invoking functional terms or laws. On the other hand, he is agreeing that functional analysis can use causal laws. But I fail to see, as Frohock asserts, that functional analysis entails more than causal analysis.

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[101] Ibid., p. 79.

In fact, it seems that the above would lend more support to the view that functional analysis can be converted to a causal analysis than the other way around. Indeed, Bergmann, Hempel, and Nagel have all asserted that this is the case and they have presented arguments based on logical, not empirical grounds. What they have said is that the state of any physical system is causally related to all other states of a system. The values of all the relevant variables in the theory provide us with the state of the system at t, and from the system laws, we can predict future states. I have found nothing in Frohock's statements that shows these views are mistaken. Neither have I found what is required for an adequate functional explanation that is not required for any other explanation.

It seems quite clear that Frohock's argument that functional explanations differ from explanations using causal laws does not adequately show that there is any difference. But if there is a difference between functional and causal explanations, it should be brought out by showing us that the laws used in functional explanations differ in some fundamental way from the type of laws used in other explanations. Let us return to Eckstein's work to see whether the types of laws he says a functional explanation employs differs from the type of laws used in other explanations.

Eckstein writes at one point that:

> Structual functional analysis is the pre-eminent approach to the study of social inter-connections. The emphasis on rigor has induced structural functional analysis because it at least offers the possibility of

> something more than crude, unsystematic description and induction, without committing the theorist to a premature, perhaps vain, search for social "laws" or for "grand theories" in the historical manner.[102]

We note first that Eckstein states that structural functional analysis is the pre-eminent approach to social interconnections, but then he writes that the theorist is not committed to a search for social "laws." Why would one be interested in establishing social interconnections if he were not "committed" to a search for social laws? Certainly one criterion of a social law is that it is a true empirical generalization (interconnection of facts) and the search for these interconnections does commit one to a search for lawful relationships, either of the universal or statistical type. To state a universal law is to say that whenever A occurs, B invariably occurs; to state a statistical law is to assert that when A occurs, B follows a certain percent of the time. It is obvious that functional analysis does not provide us with a potential for making connections that are logically impossible to establish by any other means. If we find that individuals who are cross-pressured vote less frequently, we do not have to perform a functional analysis to establish this connection. It should be clear that I am not asserting that functional explanations cannot be used in political science, but only that the explanations will have to employ statistical or universal generalizations. Whether the explanations themselves are adequate or not is an empirical question and beyond

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[102]Eckstein, "Perspective," p. 28.

the scope of this work. Whether Eckstein is denying that the political scientist is committed to universal or statistical laws, however, will bear further discussion. Following the paragraph quoted above Eckstein writes:

> Nor does it commit him to a quest for sufficient causes in a realm where multicausality operates to such an extent that necessary - or favorable - but insufficient conditions of phenomena are perhaps all we can ever hope to find. Structural functional analysis from this standpoint is the pre-eminent approach to what I have called middle range theories,--theories that go beyond mere description and common sense generalizations--that are based upon some theoretical frame of reference, that permit some rigor in formulating and testing hypotheses, and that yet do not present ironclad laws or total interpretations of the meaning of social life.[103]

We saw previously that Eckstein was claiming that functional analysis does not commit the theorist to a search for social laws, but in the last quote we see that he is committed at least to a search for "necessary-or favorable-but insufficient conditions of phenomena." Is it that Eckstein is simply saying that the functionalist is committed to a search for necessary condition laws? If this is indeed his intention, then, the functionalist is committed to the search for laws even if only of the necessary condition kind, contrary to Eckstein's earlier statement. But when he says necessary- or favorable-but not sufficient conditions he is possibly taking himself off the hook. Perhaps he means that functionalists are not committed to the search for anything more than statistical lawfulness, i.e. finding some of the factors that

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[103]Eckstein, "Perspective," p. 28.

contribute to the system but not all. It is not at all clear that this is indeed what Eckstein is contending, but perhaps it is. In his assertation that structural-functional analysis does not commit the theorist to ironclad laws, we do find further evidence that suggests Eckstein is saying that functional explanations will employ only statistical laws, at least at first.

But leaving aside his comments on favorable conditions and considering only his statement that the functionalist is committed to a search for necessary conditions, we must ask whether he is talking about the functional requisites or the items that fulfill the requisites? If he is talking about the former only, then this is compatible with what functionalists do in their analyses, but if he is talking about the latter, functionalists do often attempt to discover the sufficient conditions and his assertation is misleading. At any rate, he has not provided us with enough information for us to determine whether it is the requisites or items he is discussing. But since there has been a claim made that a fully adequate explanation will contain necessary conditions laws for the requisites as well as the items, a brief consideration of this claim should help us in clearing up some of the problems found in Eckstein's work.

In his discussion of functional explanation, Robert Brown writes:

> A sound function-explanation can be phrased in a variety of ways. All of them, however, require either the explicit statement or the implicit assumption of two such generalizations: one asserting that some condition is necessary

> for the maintenance of a system, and another asserting that some trait is necessary for the fulfillment of this condition.[104]

Brown's formulation here is exactly like Hempel's and Nagel's noted earlier. There is a necessary condition n, and an item i, a necessary condition for n to occur. But Brown's formulation raises the exact same problem that Hempel deals with, i.e., the problem of functional equivalents which can fulfill n. If an i is the only item which can fulfill n, then we can explain and predict the occurrence of i by showing that it is necessary for n, but if there are functional equivalents, we can neither explain nor predict that a given i will occur. And if we cannot predict an i, we can not predict that n will be fulfilled. Moreover, if we cannot predict that n will be fulfilled, we cannot predict that a system will be operating adequately at a future time. This shows quite clearly that once we agree that functional equivalents are required for an adequate functional explanation in the social sciences, we must have a general hypothesis of self-regulation which tells us which i will occur to maintain the system. And we must also have a hypothesis of self-regulation telling us the range within which a given requisite n can fall and the system still be self-regulating. We have called this a hypothesis of self-regulation with respect to R, the range. Using these two hypotheses of self-regulation, we can now re-formulate Hempel's schema as follows:

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[104]Robert Brown, Explanation, p. 115.

At t, s operates adequately under conditions c.
S operates adequately if a necessary condition n is present, and the value of n is within R.
If any i within I is present within a given limit imposed by I, then as an effect, n within R will be fulfilled.

At t, an i within I is present in S.

We see from this schema that an adequate functional explanation requires much more stringent conditions than either Eckstein or Brown supposes. But it is quite clear that the above requirements must be met if functional explanations as they are presently formulated by political scientists are to avoid the fallacy of affirming the consequent. This is not to say, like Brown, that the requisites must be necessary conditions, but only that functionalists consider them so at the present. But it must be stressed that to explain and predict we must have general laws of either the universal or statistical type that permit us to infer, either deductively or inductively, the occurrence of the item from the law and initial conditions. But how can the functionalist proceed if he does not have either universal or statistical laws. To see how this question has been dealt with in writings on functional explanations, let us turn to comments by Robert Brown and Eugene Meehan. The former writes:

> as we have already said, we can only predict and explain in terms of functions when the explanations contain law-like generalizations from which the required deductions-predictions and explanations--can be made.[105]

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[105]Robert Brown, Explanation, pp. 129-130.

And he later adds the comments that Holt was apparently relying upon, stating:

> When an investigator has reason to believe that some sort of self-persisting system is present, he can employ a crude type of function-explanation as a stop-gap.... His hope, of course, is that later he will be able to replace this primitive explanation by one in which the set of laws that describe the workings of the system are made explicit, that is, by a function-explanation in its developed form.[106]

In order to provide an explanation sketch as Brown suggests above, we must first indicate the properties that are maintained within a given range, and then indicate the items that contribute to the maintenance, even though both the properties and the items may be only crudely indicated at first. As Brown also points out, the sketch must indicate directions for future research, but he neglects to add that the sketch must be subject to empirical testing at any point of time and some indication will have to be given as to the evidence that would be relevant to the test. Unless all of these requirements are met, we will not even consider a proposed explanation a sketch. But we do want to grasp firmly Brown's contention that functional explanations must contain law-like generalizations, and does not differ in this respect from any other form of explanation.

A second position which states that functional analysis provides a "new dimension" is presented by a political scientist, Meehan. Professor Meehan writes that "Considering the lack of

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[106]Brown, p. 132.

causal laws in political science, teleological explanations and functional explanations can fill a serious gap in our explanatory structure, adding another dimension to the pattern of explanation available to the discipline."[107] The confusion here results from Professor Meehan's use of a "new dimension" of explanations. If he is suggesting that we can provide a functional explanation without the use of laws, then he is taking a position contrary to an earlier comment where he agrees that a functional explanation is as acceptable as any other if we have generalizations linking the consequences and an item that maintains a system.[108]

Perhaps he is only indicating that if we think we have a self-regulating system, we can attempt to provide an explanation sketch that will need to be filled out in future research, as Brown indicated in his comments given above.

But he does seem, in the paragraph following the above quote, to contend that there can be explanations which do not employ law-like statements--either universal or statistical. In distinguishing between teleological and functional explanations, Meehan writes: "Teleological explanations seem peculiarly well suited to the explanation of human behavior, for they allow the expression of unique sets of conditions leading to particular actions by individual persons. Assertions about human intentions are subjectively

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[107]Eugene Meehan, The Theory and Method of Political Analysis, (Illinois, 1965), p. 122.

[108]Meehan, p. 121.

desirable and accord with common sense observations about the foundations of our own behavior."[109] In a footnote, Meehan adds that the logic of functional and teleological explanation remain the same, however, and the fact that he mentions teleological explanations alone does not diminish the problems encountered in the above statement.[110]

Let us note first that Meehan seems to be claiming that we cannot connect goals or ends with the behavior manifested to achieve these ends. If we can establish generalizations between goals sought and the means taken to achieve these goals, regardless of whether the generalizations are of the universal or statistical form, then what sense can we make of Meehan's comment that this type of explanation "allow[s] the expression of unique sets of conditions leading to particular actions by individual persons." If we have the generalizations, then the set(s) of conditions leading to a particular action are not unique, and if we do not have the generalizations connecting ends and means, then we could not explain why an individual behaved as he did since we have no reason to suppose that an individual who attempts to gain Y will do X. He might do Z, or A, etc. Thus we must have law-like generalizations to explain purposive behavior, just as we must have them to explain non-purposive behavior. Just because the

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[109]Meehan, pp. 122-123.

[110]Meehan, p. 122, note 7.

actions seem common-sensical to us does not mean that we do not use generalizations to explain the behavior; the generalizations might be implicit but they are employed.

But, as I stated previously, explanations where motives or goals are included are not teleological explanations. The decision to act in a given way is prior to the action taken to achieve the goal and is causally related to the goal. Professor Bergmann states this very succinctly, writing:

> That present mental states in general and present human purposes in particular are among the causes of some future facts I take to be a truism. . . . a present state of mind which is a purposing intends a future fact which may or may not come to pass.[111]

And Professor Scheffler also points out that for non-purposive behavior we can offer an explanation using learning theory, and that neither this type of explanation nor those referring to purposes require a distinct form of explanation.[112]

Before leaving Meehan's comments noted above, it is necessary to point out once again that functional and purposive explanations are not synonomous, although purposive explanations can be contained in functional explanations. We can offer numerous purposive explanations where we most assuredly would not say that having that purpose contributes to the maintenance of a system in a given state. We could not, however, say that an item has a function if it does

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[111]Bergmann, "Purpose and Function," 230.

[112]Israel Scheffler, The Anatomy of Inquiry (New York, 1963), pp. 115, 123.

not contribute to the maintenance of a state or trait of a system. In this sense, function and purposes statements are logically independent, not similar as Meehan asserts.[113]

There is another claim of uniqueness often made of functional analysis by political scientists--i.e., that functional analysis is the only theory which can provide us with knowledge of the dynamic laws of the system. As is well known one of the criticisms, leveled at sociological functionalism is that it is "static" rather than dynamic. Although the above criticism has arisen in writing about political science functionalism occasionally, in most of the latter functionalism is regarded as "dynamic" rather than "static." It is, in fact, often asserted that in order to have "dynamical laws" political scientists must adopt functional analysis. Christian Bay, for one, writes:

> If you once accept the possibility of explaining the dynamics of social and cultural behavior systematically over time...then it would seem that you cannot get around the position of functional analysis or some equivalent. You cannot without inconsistency deny the utility of this approach, even if it may not exclude other, supplementary approaches. You can dispense with it only if your task is a purely descriptive one. The "whys" of society and culture are functionally interrelated, if they are related at all.[114]

It is nonsense, of course, to hold that functional analysis is able to absorb all scientific endeavor rather than the other way around. No one is going to hold that the physical sciences must provide a

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[113]For similar observation see Robert Brown, Explanation, p. 109.

[114]Christian Bay, The Structure of Freedom (New York: Atheneum, 1965), p. 246.

functional explanation if they are able to explain change over time, and to say that social scientists can not use the same types of laws, that is, process, developmental laws, etc., is to say again that we must develop a new form of explanation that employs functional laws if we are going to provide an explanation of change. In discussing process laws or other laws, however, we do not refer to the subject content of the areas in which they are employed, but to the logical form of the laws, and it is certainly logically possible that social scientists can discover these laws; but by doing so it will not mean that the political scientist has become a functionalist any more than the discovery of these laws will make him a physicist.

And while we cannot deny that functional analysis may have "utility" neither can we say it does have, if by utility we mean that we are able to explain an item's function, in the sense of explain that has been employed throughout this chapter. Whether or not functional analysis does have utility in this sense can be decided only by empirical inquiry. Bay's last sentence, however, makes it quite clear that all he is asserting is that the relations of dependence, laws, must be used if a functional explanation is to be achieved. The way Bay states it, however, points up the confusion present in writings about functional analysis by political scientists. I pointed out in chapter one that if the above is all that is meant by a functional explanation, it would

be quite trivial.[115]

Eckstein, while not going as far as Bay and Almond in thinking that functional analysis is the only means of explaining change, believes that while Marxist and evolutionary theories are inherently more dynamic, functional analyses can provide us with knowledge of cataclysmic change from one equilibrated state to another, while the former theories can only depict change as being a steady flow from one stage to the next, thus their inherent dynamism. He writes that:

> Marxist and evolutionary theory are perhaps more inherently dynamic than structural-functional analysis in one sense: one cannot imagine, in terms of them, any fixed states, any equilibria other than dynamic equilibria at all. For the structural-functional analyst, on the other hand, a fixed state is entirely possible and even necessary, although it does not rule out the analysis of changes of state. . . . 'Functional analysis' . . . leads to a conception of social change as a process from static states to other static states and offers the possibility of explaining very broad and rapid changes. . . .[116]

Our previous discussion of process knowledge will now pay dividends. Eckstein is claiming that functional analysis can provide us with the process laws from which the laws of equilibrium can be derived. This is not an uncommon claim by functionalists, but as I have noted in this chapter and the previous one, they have not fully realized what this claim entails. After commenting on one more aspect of Eckstein's claim noted above, we can turn to

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[115]For other examples of this use of the term 'function' see chapter one.

[116]Eckstein, "Perspective," p. 28.

the works of political science functionalists who seem to be claiming that they have discovered, or are about to discover, process knowledge.

While a process theory provides us with perfect knowledge, and developmental laws of the Marxist type do not, we cannot say that the latter type of laws are "more inherently dynamic" than process knowledge. The difference is, as I noted previously, that developmental laws provide us with the merely necessary or merely sufficient conditions while process knowledge provides us with the necessary and sufficient conditions. Whether process knowledge can be achieved by social scientists is doubtful, but it is strange that Eckstein asserts at one point that the functionalist is committed only to seeking necessary or favorable conditions and then makes a statement like the one in the last quotation noted above; a statement which definitely requires us to have process knowledge.

In this chapter, we began by pointing out that the central assumption in the functionalists' frame of reference is that social life is interdependent, and that this often leads to the assertion that functional explanation requires a unique form of explanation. On looking at the functionalists' claims used to establish this position, we found that there were a number of flaws in their arguments. In the first place, we could find nothing in this form of explanation that is incompatible with more traditional forms of explanation. Where the functionalist did try to establish differences between functional and traditional forms of explanation,

we found that he was either mistaken in his ideas as to the nature of scientific explanation (Bay's dynamic claims) or else that what he was attempting to achieve was not a new form of explanation. In short then, if there is a distinct preconception, or "added dimension" present in functional explanations that is not present in traditional forms of explanation, Bay, Eckstein, Smith, and Meehan failed to show us how this distinct conception or dimension is employed in functional explanations.

But let us now turn to an examination of specific works by functionalists and discuss the various patterns of explanation used by political science functionalists. We can look first at those who attempt to achieve completeness of theories of a social system.

CHAPTER 3

THE PATTERN OF FUNCTIONAL EXPLANATIONS OF LARGE POLITICAL SYSTEMS

In this chapter and the ones to follow, I shall turn my attention to patterns of functional explanation found in political science. But before turning to specific explanations, we will be well advised to summarize our previous comments about the nature of functional explanations. It is always advisable, in methodological discussions, to stop and take stock ever so often; in a methodological examination of functional analysis, it is even more important to do so. By taking stock at this point, we can also see how chapters one and two fit together, and lay the ground work as well for the discussion of functional explanations to be considered in future chapters.

In chapter two I pointed out that two hypotheses of self-regulation are crucial if a functional explanation is to be adequate. The first hypothesis, referred to as a general hypothesis of self-regulation, contains terms (variables) describing items which contribute to the maintenance of a system. All items which can contribute to a given trait, either the necessary or sufficient conditions for adequate operation of the system, must be contained in this general hypothesis. Thus the general hypothesis of self-regulation will be a conjunctive or disjunctive hypothesis and will tell us that if a given i within I does not occur, some other i, also contained in I, will. In a moment, I will provide an example that will point up how these functional equivalents must be stated

in generalizations if they are to be subject to empirical test.

In the second hypothesis, a hypothesis of self-regulation, the hypothesis will contain the range within which a given n can vary and the system still be self-regulating. We have called this the hypothesis of self-regulation with respect to range R of n. Since we expect that the range of an n will vary from system to system, it seems necessary that this hypothesis be included in all functional explanations.[117] For example, we might find that both the United States and Great Britain have different ranges within which n can vary and the system operate adequately. This might be the case even though the items which have functions are exactly the same in both systems. Let us consider this possibility by considering one n, imports. In Great Britain it might be that the limits within this n can vary is broader because of their past history, the requirements for keeping the populace fed, or numerous other reasons. Since Great Britain has this history, need, etc., there might be more willingness to allow all types of import goods, for example, that the U. S. would not allow. Thus, even though the activities which fulfill the n are the same, or nearly the same, the range would be different.

And since this range can vary for systems, it is this hypothesis which defines each self-regulating system. It might be, of course, that both the range within which n can vary and the types of activities

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[117]It is likely, also, that there will be several n states for a given system, all of which will be adequate to contribute to the maintenance of s. We will refer to these as the n states of a system.

which fulfill n are different in both systems. The activities which contribute to the fulfillment of an n in Britain may be carried out by the state, while in the U. S. free enterprise has the same function. This possibility may or may not affect the range of n; the answer to this question must, however, be left to empirical research in all cases. It is, of course, always possible that different activities will have the same consequences that requires us to add the general hypothesis of self-regulation. And it is because the range within which the n's can be fulfilled can vary that seems to require a hypothesis of self-regulation with respect to R. I pointed out previously that there is disagreement over whether the latter hypothesis is required in a functional explanation or not,[118] and I said that in my opinion, it is. It might be possible to exclude this hypothesis if functionalists re-formulated their arguments, but as long as they continue to formulate them as they now do, it hardly seems possible to dispense with it.

We need to emphasize that this hypothesis of self-regulation must be supported by evidence other than that which it is being used to explain. It is the case, however, that many functionalists often use the needs which appear in this hypothesis as the defining characteristics of self-regulating systems. To define a self-regulating system as containing a set of n's and then say these n's are necessary conditions for survival is, as I said previously, to

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[118]See footnote 74 in chapter two.

assert a tautology. This stratagem would, of course, relieve the functionalist from concerning himself with variation of the n's among systems, but it hardly seems beneficial if the functionalist is attempting to explain political behavior. It is a different matter if his concern is purely heuristic, but if this is the case, the claims functionalists now make for functional analysis would have to be greatly modified. In chapter four, I will briefly consider the heuristic value of functionalism, and will not tarry here. Suffice it to say that most functionalists seem to treat the n's as though they have been established empirically, although they are not always clear on this point.

In most functional explanations found in political science, the functional requisites are adopted from Talcott Parsons. And since political scientists do adopt Parson's functional requisites, they also accept his statement that the political system has the function of attaining societal goals. But political scientists also consider, in varying degrees, the contribution the activities of the political system makes to other functional requisites.

In adopting Parsons, or in some case formulating their own requisites, most functional explanations include the generalization 'If system S operates adequately, then a necessary or sufficient condition n is present' among the premises in their argument. Functionalists then attempt to delineate the variables which affect n. It is the delineation of these variables which often leads functionalists to make statements about the purposes of a behavior

pattern or institution. Since they assert that a given 'n' must be present if S is to operate adequately, functionalists then attempt to show that a given behavioral pattern or institution was incultated or created intentionally to contribute to n. And while in some cases it might be appropriate to consider the purpose an item was designed to serve, the terms 'purpose' and function' are not interchangeable. This ground does not need to be replowed, but since there is so much confusion present in functional analysis concerning the use of the above terms, a recapitulation of major points is beneficial.

Returning to the immediate problems, however, we need to briefly examine a few comments from political scientists to indicate the general pattern of functional explanation; the comments will also provide us with a jumping-off place for a discussion of a fully expanded functional analysis. In offering the following comments as being typical of functional explanations in political science, it will expedite matters if I list all the quotations first and comment on them afterward. In his study of empires, Eisenstadt writes:

> In order to utilize these potential allies to mobilize necessary resources and to implement their policies, the rulers had to forge some reliable instruments of political and administrative action that they could use to provide various services to the strata from which they got their political allies or supporters.[119]

And consider Apter's statement about developing societies when he

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[119]Eisenstadt, Political Systems of Empires, p. 15.

says that:

> Government in modernizing societies tries to optimize satisfactions for a plurality of its members in order to generate the power to modernize, which is limited in turn by the need to maintain loyalty and to legitimize actions.[120]

There are also similar statements by Holt and Mitchell about goal attainment and resources. The former states that:

> In order to maintain desired relationships with the environment, it is necessary to have resources and thus the most significant process related to goal attainment is the process of mobilizing societal resources for a societal effort.[121]

While Mitchell adds:

> During such times / wars, crisis, and depressions / attention to goal attainment / a system requisite / increases rapidly, demands multiply, and the system responds with overwhelming effort and energy. Witness the sudden and feverish bureaucration during W.W.II and the Great Depression.[122]

In each of the above comments we find a reference (implicitly in Mitchell's comment) to a "need" or necessary condition for adequate operation of a system, as well as a reference to an item or behavioral pattern which contributed to the fulfillment of a need or requisite. We also find that in some cases the items which contribute to an n are present, as in Holt's statement, while in others the items which contribute to an n have to develop, as in Mitchell's statement. But in both cases, the items that are presently contributing to an n, goal attainment for example, or <u>can</u> contribute to n in the

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[120]Apter, <u>Modernization</u>, p. 224.

[121]Holt, "Toward a Formulation," p. 94.

[122]Mitchell, <u>Polity</u>, p. 247. See also Crowe and Mayo's discussion of functional analysis for similar statements, especially pp. 16 and 27.

future, must be stated. Again it is these items which are described by the variables i or i^1, etc., appearing in the general hypothesis of self-regulation. The goals (needs, or requisites) appear as variables in the hypothesis of self-regulation relative to R. I will return shortly to a discussion of goals in functional analysis and later on I will again take up the general hypothesis of self-regulation. But for now, I will present an example of both a simple and fully expanded functional analysis.

If we were to explain the function of the white primary, we would have to include several things. First, we would have to state, assuming of course that the term 'function' is used as in 1.8, that the white primary contributed to the maintenance of a state or trait of a system, segregation say. Furthermore, we would have to say that the trait was a necessary or sufficient condition for adequate operation of the system. The inclusion of the above statement would require us to state the range within which the variable 'segregation' can vary and still have it said that the system is operating adequately. This would, of course, be the hypothesis of self-regulation relative to R. Once this hypothesis is included, we must ask if there are functional equivalents for the white primary; it is the equivalents which are included in class I. It is worth repeating also that we must anticipate all of the i's in I which are sufficient to maintain a trait. The I would have to include, also, all the items that could develop to maintain a trait. For example, the stringent literacy tests substituted for

the white primary in the South could be considered as a functional equivalent; but we must also ask what other devices might be used as a functional equivalent for the white primary.

It now becomes extremely important that we think clearly about functional equivalents for we must make a distinction that is as crucial to an adequate functional explanation as any other point considered before: which items are to be included in an I rather than another I, say I_2? Let me hasten to add that I am not going to answer the question; it is left to functionalists to supply the answer. All I intend to do is point out that this is a problem most functionalists have yet to grapple with, and indicate why it is important that they do so.

A general hypothesis of self-regulation tells us that if one item doesn't obtain, another one will and the system will remain in equilibrium. In this case, we do not know what will happen if the item doesn't obtain. If, on the other hand, we know the generalizations connecting the various I's, we know what will happen to the value of the other I's when there is a change in the value of any one I. Thus the generalizations connecting the I's are the dynamic laws of the system.[123] The items in any I can be either political devices, that is, a white primary or grandfather clause, or social, economic, etc., variables, as when de facto segregation is maintained by housing patterns.

It is the fact that a political device and a social pattern

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[123]Nagel, Logic Without Metaphysics, p. 255.

are often considered to be functional equivalents for each other that presents a problem in determining whether or not the functionalist is including an item in an I as a functional equivalent for another item or whether he is noting the connections that hold between two or more I's. To make the distinction as clear as possible, let us again take our example of segregation and the items contributing to maintaining segregation. Let us include in I, those items like the grandfather clause, the white primary, and literacy tests. Any other device which can serve as a functional equivalent for any of these will also be included in I, provided that they are political acts. In I_2, let us include social sanctions which can be used to maintain segregation, and in I_3 let us include economic sanctions, such as firing Negroes from jobs, etc. It must be clear that functional equivalents within each I must be the same kind, that is, in I_1 political acts, I_2 social acts, and I_3 economic acts.

Now when the value of I_1 changes, as when white primaries or literacy tests are outlawed, the values of I_2 and I_3 must change to compensate for the change in I_1. It is worth noting here that I_2 is not a functional equivalent for I_1 but is itself a variable (state co-ordinate) which is a part of the state description of a system. It is worth noting because Holt, for one, considers a given I to be a functional equivalent for another I.[124] But a formulation like

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[124]This will be quite evident in the quote from Holt's work noted later on in this chapter.

Holt's adds to confusion, not clarity.

We need to stress also the necessity for placing limits on a given I, since it is unlikely that all acts within a given I will be permissible. For example, if social or economic sanctions are too severe, the federal government may take action to bring about further desegregation.

Even a cursory reading of functional analysis by political scientists will make it clear that they make no attempt to delineate the i's and I's as carefully as I have done above, but there are varying degrees of proficiency in how far individual functionalists go in doing so. We will have an opportunity to see how carefully they distinguish the i's and I's shortly. For now, however, I want to note several other points.

First, let me point out that when we attempt to show how one I changes to compensate for a change in another I, we are engaged in a fully expanded functional analysis. For future reference, let us label the system trait being maintained a n, and the class of sufficient conditions I as variables A, B, C and so on. Thus in the example I used above, segregation is the n trait, while I_1, I_2, and I_3 would be variables A, B, and C respectively, and the connections between A, B and C are <u>the dynamic laws of the system</u>.

The reason for changing our symbols is that we need to be quite clear that on a fully expanded functional explanation, our A above could include variables A_1 . . . A_n, as could B and C. The A variables would all be political acts, while the B variables

would be social acts, and the C variables economic acts. The dynamical laws connect variables A_1, with A_2, as well as A_1 with B_1 and C_1 and would require us to state that when A_1 decreases in value B, and C, will increase. It is clear from this that the dynamical laws are self-regulating hypotheses also, but for the system itself rather than just one part of the system. If governmental activities increase when social norms decrease, then we have a dynamical law connecting A_1 with B_1, and this allows us to predict the operation of the system over time and to explain in given instances. It is because we must have knowledge of the variables in other systems which affect the political system that requires us to have a super social science. It is not enough to know that if one item does not fulfill a requisite another item will if we are to achieve a fully expanded explanation. We must know all the items which can fulfill all the system requisites. But since the logical structure of both a fully expanded functional explanation is like that of a functional explanation characterized by Hempel, we can continue to use Hempel's schema. There is no reason to consider the more complex case when we can make the same points in a less complex way. In all of the explanations considered in this chapter, the functionalist attempts to delineate these items which fulfill the functional requisites of goal attainment, integration etc., requisites adopted from Parsons. It is the use of generalizations containing the functional requisites which serve as premises in the functionalists' argument, and from which

they deduce the conclusion that a given item is present in system S at time t.

By assuming there are "needs" which must be fulfilled if the system is to survive, some functionalists act as though they have achieved completeness of the theory about a system, that is, functionalists attempt to explain the occurrence of a behavior pattern or the development of an institution etc. by asserting that it is necessary or sufficient to maintain the system. In this chapter, we will examine functionalists who seem to act as though they have achieved completeness of the theory about a system.

It must be pointed out again, however, that we have not provided an adequate explanation to say that there are needs which must be fulfilled if the system is to survive, and then say that since the system is surviving, the needs have been fulfilled. This formulation does not provide an adequate explanation because the logical fallacy of affirming the consequence is committed. David Easton is especially negligent for failing to consider this problem. He writes, for example, that:

> to the extent that some kind of system has managed to survive historically, it will in itself be evidence that the members of the system must have been able to devise some means for handling potential dangers from [stress][125]

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[125]David Easton, A Systems Analysis of Political Life (New York, 1965), p. 37. M. Brewster Smith also makes a similar statement when he says "Wherever one has to do with an entity that behaves as a self-maintaining system, a going concern, it is safe enough to assume that functions are being taken care of that keep the system going," B. Smith, op. cit., p. 8.

To avoid committing the above fallacy we must include the two hypotheses of self-regulation discussed previously.

With these summarizing remarks out of the way, we can now turn to a consideration of functional requisites, completeness, and the hypothesis of self-regulation in political science functional formulations.

As I pointed out previously, most characterizations of functional analysis by political scientists are adaptations and modifications of sociological functional analyses, most notably from Parsons and Levy. Although a few political scientists do follow Merton,[126] very few have taken seriously his criticisms of previous functional analyses, and most continue to commit many of the errors he warns against.

One important point brought out by Merton, the possibility that an item can be dysfunctional as well as functional, is usually ignored. Of if dysfunctions are recognized, they are not handled properly. Mitchell on one occasion states that symbols that serve integrative functions often do so by dividing the polity at one "level of action" but unite the system at another level.[127] This is clearly an example of an activity having dysfunctions for some system while being functional for another. The effects for each system would have to be explored, but neither Mitchell nor any other political scientist ever tries to be more specific concerning

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[126]Fiellin for example.

[127]Mitchell, p. 124.

dysfunctions than some assertion like the paraphrase above.

Neither do political scientists avoid the misleading phrase 'survival of the society, or system' which is absent in Merton's work. It is, of course, the case that Merton is primarily concerned with systems that are much smaller than nations or societies, and it is probably the case that political scientists follow Parsons primarily because he is interested in systems as large as a society. At any rate, it is to Parsons that political scientists turn for guidance, especially in stating the needs or functional requisites of societies.

Parsons' four requisites are, of course, well known, and are pattern maintenance, integration, adaptation, and goal attainment; these refer respectively to the fundamental norms that must be maintained in a system, the co-ordination of system roles, mechanisms to cope with environmental conditions, and the "societal goals" that must be achieved. Most political scientists are concerned with the functions the political system, which includes activities of the formal branches of government as well as "informal" activities, have for the society. And while most of them state that the primary function of the political system is to attain goals, they also indicate how the political system contributes to the other functional requisites of the system. The political system, then, constitutes a sub-system as do economic and social activities respectively.

In terms of the formulation presented earlier, each of these four requisites can be thought of as a trait n and the range within

which each n will maintain the system is the range R; it will be recalled also that it is absolutely essential that the range within which n can vary and still perform its function for the society or larger social system be indicated as precisely as possible. If there is almost no limit on the possible range within which n can vary, as is presently the case in political scientists' functional analyses, it becomes impossible to distinguish the n states where s operates adequately from all possible states of the system, and political scientists end up making comments like the following by Mitchell:

> The American [governmental] system, one of the most complicated known to man, requires unique conditions for it to function well; these conditions related, in most part, to the physical environment have been favorable. Demands, especially those resulting from the hostilities of other countries, have been small while the resources have been large. As a result, a cumbersome structure has been able to handle these demands in sufficient time and with sufficient effectiveness to be honored, and therefore support has been maintained at high level.[128]

The n, or functional requisite, that Mitchell is concerned with here is goal attainment, and demands and resources are activities contributing to this requisite. The reference to functioning well would have to be specific enough to distinguish the times when the political system does function well or with sufficient effectiveness from those when it would not be by indicating the range within which the n trait can vary. The limits must be much more specific than a reference to a "high level of support" if we are to determine

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[128]Mitchell, p. 32. Underlining mine.

when support is contributing adequately to the system's functioning well, and with sufficient effectiveness so that the system is maintained in a given state. Mitchell, to be sure, does impose some limits that are somewhat more precise than the above, but not greatly so, and the comment is quite typical of statements by political science functionalists.[129]

The activities which have functions for one of the n's cover a wide spectrum in political scientists' functional analysis, ranging from a single object, a national monument, for example, to a complex pattern of activities carried on by a political party or even a government. Included also are behavior patterns of informal groups, social norms, activities of legal branches and sub-branches of governments, symbolic activities, etc. The inclusion of so many varied types of patterns of activities or behavior raises a major problem in representing many of these behavioral patterns as state co-ordinates. There are also other complicating elements which make it even more difficult than is usually supposed by most political scientists in their attempt to include the diversity of behavior they are interested in as state co-ordinates. With these cursory remarks out of the way, it is now time to turn to a discussion of some specific formulations of the functional requisites.

Mitchell's and Beer's treatment of goals will suffice to indicate the general pattern found in the work of scientists who

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[129]For these limits, see the quote from Mitchell on the page following the next in this chapter.

view the political system as being primarily concerned with attaining societal goals. Mitchell discusses three inputs and three outputs of the political system that are related to goal attainment; these are the inputs of (1) demands and expectations, (2) resources, and (3) support, while the outputs are (1) system goals, (2) the allocation of values and costs, and (3) controls. These variables are the state co-ordinates of the political system and they maintain the system by contributing to the fulfillment of the goal-attainment requisite. The state co-ordinates, then, are activities or a set of activities which have the function of maintaining an n trait. Since the n, goal attainment, can be maintained in a variety of ways, and there can be more than one n state of a system, the "societal goals" which fall within the class K_n must be stipulated. Since it is unlikely that, in most cases, the range of K_n is strictly measurable, the societal goals must be specified by listing the goals which must be achieved. The limits or range of K_n are then the list of the goals. Most functionalists, at best, are vague as to what the societal goals are; Mitchell's most precise statement of the goals which must be attained is found in the following:

> The goals that are selected for attainment are rather likely to be those falling within the traditionally accepted framework of legitimate goals. This means that the usual ones of law, order, defense, some welfare and certain facilities for transportation and communication will be the major areas of goal-attainment. Totally new goals such as those of socialism and fascism are unacceptable.[130]

Mitchell states elsewhere that the societal goals must be

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[130]Mitchell, Polity, p. 255.

attained or else the system will not survive, but as in the above, the specification of these goals is quite vague. How much law, order, etc. must be attained before the system can survive? What kind of facilities for transportation etc. must be provided, and how could anyone possibly say that transportation is a goal that must be attained if the society or the political system in the United States is to survive? It would seem that what Mitchell is trying to convey is that in a highly industrialized society, a necessary condition for survival, adequate operation, is that government must provide funds for highways, etc. But even if it is true that a given level of transportation facilities is necessary, we must be able to specify the resources that can contribute to these facilities with some precision if we are going to provide a functional explanation of resource allocation. The reason for this is that the functionalist asserts that at time t, the system is operating adequately, and he then says that since this is so, some necessary condition, transportation facilities, must obtain. But if transportation facilities are going to be adequate to maintain the system, a given level of resources must be present. Unless we can specify this level of resources, it seems that <u>any</u> amount of resources will be adequate to provide transportation facilities. This may well be true, but it is certainly uninteresting.

A pertinent question to ask of any functional analysis is who decides the "societal goals"? For Mitchell, the goals are set by the legal branches of government in deciding which demands to implement,

passing the demands into law, and then, in some cases, legitimizing the goal. The officials who do this are the President, Congress, and the Supreme Court, respectively, and once goals have been set, the bureaucracy is the goal-seeking body. Thus, on the surface, Mitchell's inquiry is nothing more than the way that political scientists have always studied politics; the crucial test then would seem to be whether Mitchell is trying to formulate general hypotheses to explain some of the lower level generalizations established by other political scientists or whether he is simply studying politics in the way it has been studied for years, but adding the functional requisites as window dressing.

To answer this question, let us look at Mitchell's comments on system goals. Mitchell writes at one point that

> it is doubtful whether a society could escape having system goals and continue to survive. In the first instance, many of these are related to the desire to survive as a society.[131]

Mitchell denies holding that there are "societal goals" that are supra-individual; he says instead that in shaping their own goals, individuals also shape system goals, which raises the question of how it would be possible for a society to avoid having system goals? Since individuals set societal goals, what is the import of his statement that "it is doubtful if societies could escape having system goals and still survive"?[132] But the confusion present

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[131]Mitchell, Polity, p. 8.

[132]Mitchell does not say that there must be a mechanism for translating individual goals. What he seems to be saying is that if there are individual goals, then, ipso facto there are societal goals.

in Mitchell's discussion of goals extends beyond the above remarks.

On another occasion, he writes that in the United States "the largest percentage of people [are] entirely unaware of the [societal] goals or of the means they might use to prevent their attainment,"[133] but in another comment on goals, he states "whereas Americans are highly conscious in their choice of goals and means, most other societies have been largely ignorant or less conscious of what they have aspired to achieve as a group."[134]

While it is doubtful that there can be any reconciliation of Mitchell's two statements that would clarify his discussion of societal goals, it does seem that all he is trying to convey is that there are demands made on the government; a routinized process for selecting some of the demands and enacting them into law; and a routinized process occurring within the bureaucracy for implementing the decisions.

But in this case, there is no criterion of relevance to select the goals that must be fulfilled; Mitchell points out that the bills introduced in Congress are put forth as societal goals and over one-half of these are rejected. Even of those passed, very few political scientists would say that they must be passed if the United States or the political sub-system is to continue to operate successfully.

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[133]Mitchell, p. 235. His statement is that, for the most part, the citizen "simply gives passive support with the largest percentage of people entirely unaware of the goals or of the means they might use to prevent their attainment."

[134]Mitchell, p. 243.

But leaving aside all of the problems connected with the specification of goals, we can look at some of Mitchell's attempts to provide the state co-ordinates of the system. In specifying the relevant variables that contribute to goal attainment, Mitchell divides them into inputs and outputs; together the inputs and outputs are clearly an attempt to achieve completeness. The inputs are demands and expectations, resources, and support, while the outputs are system goals, values and costs, and controls. It will suffice to examine two of these concepts, 'demands and 'resources'. Mitchell's operational definition of 'demand' is as follows: "The number of bills introduced into the legislature., The proliferation of interest groups., The number of group resolutions., The demands expressed in newspapers and other media of communication., The size of governmental budgets., The numerical size of the government or number of employees., Work-loads of the officials."[135] The concept is ambiguous, that is, it is determinate but imprecise; the number of expressions asking for a civil rights bill, for instance, and those asking for a designation of national boy scout week cannot be distinguished; and while the first may be "vital" in making a contribution to goal attainment, the second is not.

The second concept, 'resources', is much less determinate; natural resources, labor, time, prestige, safety, freedom, and well-being are listed as contributing to goal-attainment,[136] but

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[135]Mitchell, p. 14.

[136]Mitchell, p. 15.

no indication of the limits within which each of these will maintain the system are given. Mitchell does place some limitations on the types of demands that can be made on the political system if it is to continue to operate effectively; the limitations are introduced by the socialization process, while resources are limited by natural resources as well as the socialization process,[137] which specifies the legitimate claims the political system can make on the individual's time, money, etc.

If demands for goal attainment do not tax the resources available, then no disturbance will take place; but a demand that cannot be compensated for by available resources will remove the system from equilibrium, unless the values of other state co-ordinates compensate for the change. If, for example, there is a demand by the people of an underdeveloped nation for nuclear weapons, but the resources are lacking, the politicians either have to ask a foreign nation for resources, or risk, if we could take Mitchell seriously, failure of the system to survive. But the acceptance of aid from a foreign nation would perhaps violate the nationalism of the nation's citizens and thus threaten the system, a type of dysfunctional possibility Mitchell never considers.

From the discussion of goals, demands, and resources, it becomes quite clear that it is impossible to ever test Mitchell's assertion that one of the inputs or outputs is necessary for the survival of the system. His concept of 'resources', for instance,

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[137]Mitchell, p. 232.

is so broad that it would be virtually impossible for some resources not to be forthcoming in any system, and before we could ever ascertain whether Mitchell is correct or mistaken in the statement 'If the system operates effectively resources must be available', the limits within which resources can be mobilized, the resources themselves, and the goals that are necessary for system maintenance must be specified much more rigorously than he has specified them. The most that Mitchell has accomplished in his functional analysis is 'In 1963 the polity is operating adequately; If it is doing so then system goals must be attained; and if goals are attained resources must be mobilized; thus, in 1963 the resources, sufficient conditions within the class I, are available.' And, from this, we can neither explain why an item (or items) is present, nor predict that it will be in the future.

In the introductory chapter of a functional analysis of four European nations, Professor Samuel Beer puts forth a view of the function of the political system that is somewhat similar to Mitchell's. He too adopts Parsons' view that the political system serves the necessary function of goal-attainment for the society, writing that a political system is somewhat like a personality system, as

> In the language of sociology both are active systems, In both, means are used to pursue goals, and results of some sort are achieved.[138]

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[138]Beer, "The Analysis of Political Systems," Beer and Ulam (ed.) Patterns of Government.

The four variables within the political system that contribute to goal attainment are:

> the pattern of power--that array of means by which decisions may be influenced--the pattern of interests--the set of goals that various individuals or groups are pursuing. The consequences of the interplay of power and interests are the decisions--the pattern of policy. [And a fourth variable] the pattern of culture.[139]

The 'patterns of interest' term in Beer is similar to Mitchell's 'demands'. It is this pattern in any society which sets the goals that must be achieved. The interests of individuals or groups are put forth either as a special interest or as a common interest, but even in the former instance, Beer says, the interest must "be motivated by a view of the common purpose--a theory of justification for its demand."[140]

We note again how cavalierly functionalists treat the "goals" that must be attained, and also the vagueness of stating that societal goals are formed by individuals and groups in achieving their goals; but no societal goals are mentioned by Beer. But since he is not concerned with any specific system, and his formulation is so similar to Mitchell's in most respects, we can forego an extended discussion of it and turn to Holt's discussion of functional analysis. I will add, however, that Beer's comments on state co-ordinates are far clearer than most functionalists' formulations.

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[139]Beer, pp. 28-29.

[140]Beer, p. 58.

In Holt's discussion of functional analysis, there is a more explicit attempt to deal with some of the methodological problems involved in functional explanations. Although Holt also employs Parsons' functional requisites, there is a difference in his and the above works in that he attempts to specify in greater detail the contribution that government makes to each of the requisites.[141] And unlike the others, Holt distinguishes only two systems, a cultural system and a social system at the societal level. The former specifies the goals for the latter and places restrictions on the responses of the social system, but it is the latter that Holt is concerned with. A social system is the system of inter-dependent roles and corporate structures of the society; the roles are 'real' rather than 'ideal'; a structure is a pattern of inter-related roles; and a corporate structure is one that can be identified in terms of its membership and which has a central decision-making apparatus that enables it to act purposively as a collective.[142]

The social system is composed of numerous corporate structures which are engaged in fulfilling the functional requisites of the social system. Unlike the other functionalists examined thus far, however, Holt does not consider a sub-system (structure) as

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[141]Holt, "Formulation," p. 101. I mentioned previously that Holt considers a structure, government, to be a functional equivalent for another social structure. In our formulation however each structure would be an I or group of I's and state co-ordinates of the system.

[142]Ibid., p. 88.

primarily performing one function for the society; but he does say that some of the activities involved in fulfilling a particular function are closely related to one of the structure. An activity is an effect of a structure that is not relevant to system maintenance, while a function is the effect of a corporate structure that is relevant, which leads Holt to say that an activity is not distinguishable from a function on the basis of the concrete behavior involved, but only in relationship to a conceptual framework and the chain of referents which that framework provides.[143] Other than these few modifications, Holt's formulation does not differ greatly from the other functionalists. He denies this, however, and asserts that this formulation avoids many of the problems pointed out by Hempel, primarily by making corporate structures functional equivalents only for other corporate structures. But as I will indicate shortly, this does not solve the problem of functional equivalents but only adds to it. Holt also considers the structure as an independent variable, the functions as dependent variable, and social processes and mechanisms as intervening variables.

Holt is also co-author of a functional analysis of the political basis of economic development in which the same formulation used in his earlier work under consideration is employed, and the same problems are present in both works.[144] There is one modification

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[143] Ibid., p. 89.

[144] Holt and Turner, The Political Base of Economic Development, (Princeton, 1966).

in the latter work which should be noted: the corporate structures do not include, by definition, a decision-making body which can act purposively; but for reasons pointed out previously, this is of little consequence in Holt's work.

Turning to Holt's functional statements we can note one of the two hypotheses he uses to illustrate his formulation. He writes that,

> The contributions of government to the pattern maintenance functional requisite will increase as dissensus--lack of agreement on values in the cultural system increases.[145]

This hypothesis is supplemented by Holt's statement that:

> In other words, certain mechanisms become ineffective as the environment assumes a certain characteristic, and another mechanism of the same general type but requiring a different social structure must be activated.[146]

The mechanisms which are involved in maintaining pattern maintenance are legal sanctions, retaliation compensation, withdrawal of reciprocity, and supernatural sanctions. The last three mechanisms require a high degree of consensus, and when consensus lessens, legal sanctions must increase if the system is to remain in equilibrium. It is not clear, however, whether the last three items are functional equivalents for each other or whether they are three separate state co-ordinates. If they are different state co-ordinates then all four can be represented as the state co-ordinates for pattern maintenance and the activity or activities connected with each state co-ordinate is the i or class of i's, I.

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[145]Holt, "Formulation," p. 97.

[146]Ibid., p. 104.

The disturbances in either the environment or the system which affects the value of a state co-ordinate could then be represented by a hypothesis as Holt's above. Holt does provide an example, taken from anthropology, to support his hypothesis and a discussion of the example should greatly clarify the problems which are neglected by Holt. The example is from Guttman's discussion of a primitive tribe, where he observed that:

> It had been customary in Chagga society for young girls to marry shortly after their initiation. Occasionally a young girl would try to postpone her marriage in order to retain the greater freedom of a maiden for a longer time. At one time, however, Gutmann noticed the members of a whole age set . . . who refused to join their betrothed. And theirs was not a quiet refusal; they roamed through village streets singing songs, making fun of marital life, and openly defying the authority of the elders. This was not simply an adolescent prank; single girls in the past who had unreasonably delayed marriage had been sold into slavery. However, the revolt of a whole age-set was something new, and probably represented a developing lack of consensus. . . . The chiefs went to the British Administration and secured approval for a law which provided that under <u>certain circumstances</u> young girls would be compelled by law to marry. This kind of regulation of marriage was a new activity of government. A norm previously supported in small groups came to be supported by government.[147]

The example does provide some support for Holt's hypothesis, but not for his functional theory. It does establish a possible change in values among Chagga girls, but for Holt's hypothesis to fit his <u>functional analysis</u>, we must first have a law (hypothesis), that 'if the system is to operate adequately, then pattern maintenance must be maintained within a given range.' Using this

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[147]Quoted in Holt, p. 102.

hypothesis as a premise, we have the following:

> At t, S, Chagga society operates adequately under internal conditions c_i, which include the marriage of females at a given age, the government serving only a few functions, a high degree of authority by elders, and in environmental conditions c_e, which include the norms of the cultural system in Holt's work.
>
> If s, an instance of S, operates adequately, then a necessary condition, pattern maintenance, is present within a given range.
>
> At t, if either social or legal sanctions are present then as an effect, pattern maintenance is fulfilled.

At ti, either legal or social sanctions are present.

Putting Holt's argument into our schema makes it clear he is suggesting that legal sanctions are functional equivalents for social sanctions. In this argument, legal sanctions would be one i, while social sanctions would be another i in the class I. If this argument is to be a valid deductive one, then, we must say that 'if and only if legal or social sanctions are present, pattern maintenance, the n, will obtain'. If economic sanctions, for example, can also maintain the n under the same circumstances, then the argument would not be valid since either social or legal sanctions could be absent and n still occur within a given range.

We can use Holt's statement to bring out several more points that have been touched on or discussed previously. It will be recalled that I said earlier that we need to distinguish the I's of a system by classifying the various types of roles into separate I's. In Holt's statement, all the legal activities would fall within one I, while social sanctions would fall into another class I. We would not, it seems to me, want to say that one I is

a functional equivalent for another I, but would want to treat each I as a state co-ordinate of a system or sub-system. We could then formulate hypothesis stating that if the value of one I changed, one or more of the other I's would change to compensate for the change in the first variable. Of course, we could, and probably do, think of this statement as a hypothesis of self-regulation also. But by considering one I as equivalent for another I, rather than i as an equivalent for some other i, it seems that we are more likely to ignore the dynamic hypotheses in functionalism, because it is the laws connecting the I's that provide us with dynamic knowledge about a system. The connection between the i's, on the other hand, seem to be more like equilibrium hypotheses. As I have stated previously, for our purposes we need not make a too rigid distinction between considering an i or I as functional equivalents as the logical structure of the arguments are the same.

A second point has to do with the terms 'social' and 'legal' sanctions'. It seems that we would want to talk about specific social or legal sanctions being present or absent in a system rather than lumping all of these together as Holt suggests. The primary reason for this is that in all societies, one of the two are present and in all but the most 'primitive' societies, both are present to some degree. Thus, it might be impossible to ever demonstrate that pattern maintenance would not be fulfilled. Of course the reader might retort that Holt obviously does not

consider legal or social sanctions alone as being sufficient to fulfill pattern maintenance, and the hypothesis of self-regulation is a statistical, not a universal generalization. Perhaps so, but if this is the case there are at least two things we must consider. First, functionalists do not seem to consider them to be statistical hypotheses, and second, if we consider the connections holding between i, or I, and n as being probablistic, we do not rule out functional equivalents, and if we do not do this, the premises taken jointly would not allow us to infer that it is highly probable that i will occur. I do not mean to impose any rigid standards on functional analysis that would be impossible to meet, but it does seem that the functionalists need to consider softening their claims somewhat, or at least take a more careful look at their statements and the evidence they offer to support them. At any rate, it is the functionalist who is imposing rigid standards by formulating his argument as he does.

Holt does recognize that his hypothesis is inadequate without further refinement. He adds the statement that:

> In its most refined form, the hypothesis must include a statement of the range of variation of dissensus within which given types of systems are self-regulating--and would respond to changes within this range by attempting to return the environment to its original state--and a statement of the range of variation of dissensus within which given types of systems can accommodate developmentally. For changes between the maximum range of self-regulation and the maximum range of developmental accommodations, increasing dissensus would be met by an increasing pattern maintenance function of government.[148]

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[148] Ibid., p. 104.

This comment by Holt is a recognition that there are several n states or ranges within which pattern maintenance can vary and the system still operate adequately, and that there is a range within which the values of the state co-ordinates must fall if the n state is to be maintained. The hypothesis of self-regulation is a reference to the width of the n states of the system; while his mention of development accommodation is the range within which the state co-ordinates can fall and ann state occur. There is some confusion concerning developmental accommodation in Holt's work and this aspect is worth pursuing further.

In the first part of his work, Holt claims that Hempel's formulation does not provide for the developmental accommodation or the evolving of a system, that is, where new structures must develop or change to compensate for an environmental disturbance. A brief glance at Hempel's discussion will, however, show that Holt is mistaken, and Hempel does provide for developmental accommodation. In his discussion of the general hypothesis of self-regulation Hempel writes:

> Each of the two functionalist arguments under consideration clearly seems to presuppose a general principle to the effect that, within certain limits of tolerance and adaptability, a system of the kind under analysis will--either invariably or with high probability--satisfy, by developing appropriate traits, the various functional requirements (necessary conditions for its continued adequate operation) that may arise from changes in its internal state or in its environment. Any assertation of this kind, no matter whether of strictly universal or of statistical form will be called a (general) hypothesis of self-regulation.[149]

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[149]Hempel, Aspects, p. 317.

In a later comment Hempel also mentions that an i must be construed as relative to some R where the latter are traits whose preservation serves as the standard defining survival or adjustment,[150] and a hypothesis which includes the ranges within which the system n's will operate adequately is called a hypothesis of self-regulation with respect to R.

It seems, then, that Hempel's general hypothesis relates changes among the values of the state co-ordinates which compensate for disturbances, while the hypothesis of self-regulation with respect to R is the range within which the requisites of the system can vary. At any rate, Hempel does include a provision for the development of items which must occur if a system is to continue to be self-maintaining, and in a comment following the first quote he notes,

> If a precise hypothesis of self-regulation for systems of a specified kind is set forth, then it becomes possible to explain, and to predict categorically, the satisfaction of certain functional requirements simply on the basis of information concerning antecedent needs; and the hypothesis can then be objectively tested by an empirical check of its predictions.[151]

This merely asserts that before we can explain and predict, completeness must be achieved, but it adequately refutes Holt's contention that Hempel makes no provision for developmental accommodation.

In discussing his hypothesis of developmental accommodation,

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[150] Ibid., p. 323.

[151] Ibid., p. 17.

Holt indicates that the hypothesis is indeed the setting of limits within which the state co-ordinates will maintain a system, since "Limits would be placed on the range of environmental changes to which a system could accommodate itself by the degree to which (1) existing structures primarily responsible for satisfying the requisites related to the aspect of the environment that was changing inhibited increased differentiation and specialization [of roles]."[152] In one instance Holt mentions a specific example of a structure, government, that must develop if a system is to maintain itself. This example along with the previous one concerning the hypothesis of self-regulation are enough to indicate that the structures of government, social sanction structures, and kinship structures are too broad to be of much value in functional analysis. Mitchell's operational definition of his state co-ordinates noted previously should serve as a warning to functionalists who attempt to include structures like this in a functional analysis. Once other functionalists begin to point out the ways of measuring the terms they use, they should begin to recognize some of the shortcomings of functional analysis.

In the remainder of this chapter we can turn our attention to examples of functional explanations where the functionalist is attempting to move toward the attainment of process knowledge. Process knowledge requires us to achieve completeness of the

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[152]Holt, "Formulation," p. 100.

theory about a system, that is, we know how to account for the variables that describe the items entering and leaving the system which affect it. This, of course, requires us to know the boundary conditions if we are to determine the relevant variables for the system, and it also requires us to know how the variables interact with each other. It is this interaction that provides us with the process laws. These laws are, of course, the dynamic laws of the system and from these laws we explain a given state of the system, predict future states, and retrodict past ones. It is because we can, in principle at least, explain, predict, and retrodict various states of the system from knowledge of the state at a given time that we call process knowledge perfect. To have process knowledge about any social system would require us to know how the activities of all other systems affecting the system. If we were to achieve process knowledge about the political system, for example, we know that we would need to have knowledge about social, economic, cultural, and psychological variables which describe the items affecting the political system, and we would have to know how these variables interact if we are to know the process laws of the system. It is because we know that no political system is isolated from the affects of social, economic, and psychological behavior that requires us to have a super social science before we can expect to discover process laws for a system.

Since the requirements for process knowledge are so stringent,

we might ask whether any political or social scientist now claims this kind of knowledge exists? The answer is that they do not do so overtly, to do so would indeed be absurd, but in some statements there does seem to be assumptions that would seem to require process knowledge. For example, Holt and Turner write:

> It should be emphasized again that we do not view these stages in an inevitable developmental sequence. The conceptual scheme keeps open the possibility of a "reverse movement." For example, an economy in a modern stage might be greatly disrupted by war and much of the physical plant destroyed.[153]

It might be, of course, that Holt and Turner are simply talking about predicting various stages of a system from historical or developmental laws, types of laws that do not require us to have perfect knowledge. Since we do not know all the relevant variables when we apply these laws to a system, we say they provide us with imperfect knowledge. Although it might be the case that Holt and Turner are talking about using imperfect laws of this type, it seems they are doing more than just formulating historical and developmental laws. If all they hoped to accomplish by adopting functional analysis are laws of the historical and/or developmental type, we are likely to wonder what all the shouting is about by advocates of functional analysis since social scientists have been formulating these types of laws for hundreds of years.

But whether or not the political scientists considered in this chapter do or do not consider completeness as achieved, they are certainly acting as though they do in many cases, and we can attempt

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[153]Holt and Turner, The Political Base, p. 49.

to clarify their functional analyses by examining their explanations in light of the requirements for process knowledge.

In each of the explanations presented in this chapter, we will note the common pattern I referred to before. In each case, the functionalist mentions one or more functional requisites and then tries to show the items which contribute to this requisite. This requires that a hypothesis of self-regulation with respect to R be stated to indicate the range within which the system requisites will contribute to the system operating adequately, and a general hypothesis of self-regulation to indicate the items which fulfill the requisite, or items that will develop to fulfill the requisite. In each explanation there is an assertion that certain behavior patterns or institutions have developed which facilitate the adequate operation of the system. The crucial point is whether or not the development of an item which facilitates operation of the system is formulated in such a way that would permit us to predict the occurrence of the behavior pattern or institution.

It is crucial that functional statements about the items which develop be stated in such a way as to make prediction possible because we know already that the item occurred, and this lulls us into thinking that we have explained why it occurred.[154] But if we are able to explain an item's occurrence, we must also be able to predict that it will occur. For example, if we were to assert that

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[154]For an amplification of this point, see Hempel, Aspects, p. 313.

segregation was a requisite for adequate operation of a system, the South, and the white primary or the grandfather clause were sufficient i's to maintain segregation, then we must be able to predict the functional equivalents that will develop to surplant the white primary and maintain the system trait, segregation. In Holt and Turner's work especially, we shall see how these functional equivalents are dealt with, although it will be quite manifest that the other writers considered in this chapter also explain the development of an item by attempting to show that the item fulfills a system need.

In his explanation of the items that contribute to role co-ordination of the political system, Mitchell offers the following, which is quite typical of many political science functional explanations of role specialization and co-ordination.

> Collective action, swiftly arrived at, is not characteristic of the American polity. The system operates to minimize cooperation, retard actions, support the status quo, make leadership difficult and often to encourage apathy and cynicism among the citizenry. In addition to these general consequences, the extreme division of labor has, ironically, stimulated the development of all sorts of devices to overcome its consequences. Thus does Robert Merton explain the rise and function of such informal groups as the "big city machine," bosses, and corruption. And, one may also attribute the development of such devices as interstate compacts, grants-in-aid, associations of public officials, and indeed the party system as responses to the extreme fragmentation of power and authority. The division of labor then, has had a variety of consequences, not all of which the Founding Fathers could have anticipated, nor would approve.[155]

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[155]Mitchell, Polity, p. 62. Richard Fenno asserts the same thing when he writes "The necessity for integration in any social system arises from the differentiation among its various elements." Fenno, p. 311. Holt and Turner also make a similar statement in

It is evident that Mitchell's comments have the following logical structure:

> At time t, the political system in the United States operates adequately, under the following internal conditions: a legal separation of powers that makes co-ordination difficult, geographical diversity and federalism; and the external conditions which include political norms upholding separation of powers, distrust of leadership, etc.
>
> If S operates adequately, there must be role co-ordination which is a necessary condition n.
>
> The class of items I is empirically sufficient to fulfill n, and this class includes informal groups, interstate compacts, grants-in-aid, associations of public officials and the party system.
>
> ...At time t some one of the items in I is present.

First of all, we are not sure whether Mitchell is indicating that all of the items in I must be presented or only some of them at a given time if n is to be fulfilled. For there is very little indication as to whether these are functional equivalents for each other in that if one item doesn't contribute to the integrative requisite, others will; nor is it clear that these are the only items that can contribute to n. Unless Mitchell makes it clear as to what it is he is asserting, all such devices could be taken as items that could satisfy n.

It is essential that Mitchell make explicit the general hypothesis of self-regulation he assumes when he says that the division of labor stimulated all types of devices to overcome its consequences, since it is these devices which permit the system to remain in or return

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their book, writing, "role differentiation is necessary if there is to be successful dealing with the environment. If independent roles are differentiated, they must somehow be integrated, and there must be some concrete structures which contribute to integration." Political Basis, p. 113.

to equilibrium. If testable hypothesis of self-regulation can be developed, it would then be possible to specify some of the devices as state co-ordinates in state descriptions, and we could explain why one item rather than another is present at a given time and also predict future states of the system from the present. But without the general hypotheses of self-regulation, we can neither explain why one of the items of I fulfills n at t, nor predict that one of the i of I will be present in the future to keep the system operating adequately. And as I mentioned previously, without a complete enumeration of the items in I, responses of any kind could be regarded as an adjustment that allows S to operate adequately.

Mitchell also makes it clear in the above that it is the function of the various items he is interested in explaining, and not the purposes for which the devices were originated. Mitchell's attribution of function to these devices, in fact, makes it totally unnecessary to mention purposes at all, only the effects of the devices for maintenance of a n state of the system.

A problem, however, is raised in Mitchell's attempted explanation of the groups devoted to promoting citizenship training in the U.S. The functional requisite is again integration, but this time the explanation refers to society as a whole rather than the polity, and purposes are involved. Mitchell first observes that citizenship in the U.S. is considered as a duty, and

> Many citizenship programs for all age groups exist primarily for the purpose of inculcating good citizenship; recognizing and doing one's duty. The League of Women

> Voters, the citizenship clearing house, and the many citizenship programs of organizations dedicated to other goals--all promote the duties of the citizen.[156]

The question to be answered by Mitchell is, why are these groups present in the U.S.? He accounts for these groups as follows:

> Citizenship, . . . is something distinct from social life generally. The American's sense of belonging to his country cannot be thought of in the same sense, for example, as that of an Englishman. To the latter, being an Englishman is so natural a thing that he hardly finds it necessary to discuss. As a consequence, the English do not worry as much about the loyalties of their fellow men as do Americans; these are assumed. There are very good reasons for this state of affairs in both nations. The U.S. is a comparatively new country, made up of large numbers of immigrants who have had some loyalty to the "old country." England, on the other hand, is old and has not had to integrate millions of immigrants. Furthermore the emphasis upon the individual is such as to postulate a distinction between the individual and society so that loyalty is not automatic; it has to be secured by having society serve the individual.[157]

The logical structure of the explanation is quite clear. Integration is the functional requisite, a necessary condition; the length of time the nation has been sovereign, the number of immigrants, former loyalties of the immigrants, and the individualism of the belief system are the external and internal conditions of the society. The institutions or group of institutions contributing to integration constitute the items to be explained. But as Mitchell states throughout his work, there are numerous devices which promote citizenship training--political socialization; these institutions include schools, churches, the family, and peer groups in Mitchell's

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[156] Ibid., p. 113.

[157] Mitchell, Polity, p. 114.

work. In a functional explanation of the items that contribute to integration, all of these means, devices, or mechanisms would have to be included in the state co-ordinates whose function is to maintain integration. Let us put this explanation into our schema.

> At t, system s works adequately under the following conditions: there are a large number of immigrants entering the system; loyalty cannot be assumed; and there is emphasis on individual rights.
> S operates adequately if the integration function is performed within range R.
> If citizenship programs, $i \ldots i_n$, are present in s, then the integration function is achieved.

This argument permits us to deduce that citizenship programs are present in s if and only if these are the only activities contributing to the requisite integration. Mitchell, however, makes no such claim. He says, rather, that the whole socialization "process" contributes to integration; the activities which serve to socialize are many and varied, and include such diverse structures as the family, schools, social organizations, occupational groups, and other such institutions. Since so many organizations do contribute to socialization, we cannot construe the above as a deductive argument, but can we construe it as an inductive argument where we can predict the occurrence of citizenship programs or a functional equivalent (one or more of the other activities in the socialization process) with a high degree of probability? I think not. To show why this is true, let us construe the above as a fully expanded functional explanation. To do this, let us consider each type of activity as a class I. Thus, family activities contributing to integration will all be i's within a class I, and the other activities will fall within the other I's.

Let us, for the sake of simplicity, say we have three I's; IA, IB, and IC; we also assume that nothing outside the system affects it. When there is a crisis within the system, say a disruption of family activities by increasing divorce, an increase in the number of children to be socialized, and so on, we assume this would affect the ability of the family to socialize the children. In this case we would expect variables IA, say the number of groups providing purposive citizenship training or IB, the school socialization process, to change to compensate for IC. But to be able to explain and predict this change, we would need dynamic laws of the type, 'If IC falls below a given value, IB will take on a given value'. If we think of each I as being a statistical measure, we must be able to predict with some degree of probability the occurrence of IB or IC.

The dynamic law formulated above would be the general hypothesis of self-regulation for the entire system, say, and would have to tell us whether IA or IB would change and to what degree. But since this is a statistical prediction, it is entirely possible that some other activity, say economic or military activities, can contribute to integration; this means we have no reason to expect IA rather than IE (the class of economic activities) under given conditions. And if we cannot predict what will occur with some degree of probability we cannot explain why something occurred. It seems, then, that by construing functional explanations as industive rather than deductive, we are left with the same problem; that is, there might be functional equivalents for either an i or, as I

formulated the argument above, I. Of course, it is an empirical question as to whether or not there are functional equivalents, but the functionalist must be much more careful in formulating his statements than he has in the past if it is going to be possible to test them empirically. There is a dearth of testable predictions in functional works, but if functionalism is going to provide us with the knowledge some claim it is, we must be able to make predictions that can be checked. Whether these predictions employ universal or statistical hypotheses is of little importance from our point of view.

The formulation of Mitchell's explanation presented here can be used to point out that if completeness of the theory about a system is to be achieved, all the relevant variables for a given system must be known. If variables IA, IB, IC, and IE are the only relevant variables, for example, then, from the values of these variables at t, and a knowledge of how they interact, we could predict and explain the values of the variables at other times. This illustrates also that if many functionalists are going to provide us with the type of explanation they often claim can be achieved, they are going to have to be able to predict the values of the relevant variables with a great deal more accuracy than has been achieved thus far. Again, this is true whether the explanations use universal or statistical laws.

In their functional analysis of the political basis of economic development, Holt and Turner concern themselves with the functions of

government which are required for economic growth during the various stages of development; a function of government refers to "an activity (or set of activities) of government that contributes to the satisfaction of a given functional requisite of the social system at the societal level."[158]

Holt and Turner use secondary works to generate hypotheses. Their concern is with the contributions government makes to the fulfillment of the four functional requisites, and the hypotheses state that government must make certain contributions to some of the requisites and not to others in each stage of development. Since I have already dealt extensively with the problems of Holt's formulation of functionalism, it will be unnecessary to cover the same ground again since Holt and Turner use this formulation in their work. I will discuss some of their hypotheses, however, to show that the same problems are included in their work as in Holt's alone.

The following hypothesis will illustrate the type of functional analysis employed in the work mentioned above. The authors state that,

> A government (particularly a central government) that does not contribute significantly to the satisfaction of the adaptive functional requisite is a prerequisite for take-off.[159]

First of all, we must remember that adaptation is a functional

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[158]Holt and Turner, The Political Basis, p. 56.

[159]Ibid., p. 307.

requisite which must be fulfilled if a system is to operate adequately. Furthermore, this requisite, like all others, must have limits placed on it if we are to know when it is within a range that will contribute to the adequate operation of a system. In stating the hypothesis as they do, Holt and Turner do not mention these limits, but they do attempt to state the limits within which the variables contributing to the fulfillment of the requisite can fall, and the system still remain in an n state or develop in the direction of acquiring n. The activities which contribute to the fulfillment of the adaptation function are: production, resource allocation, and resource management.[160] The activities for extracting, allocating, and managing resources can be carried out either through governmental or private agencies, but if the system is to move to a 'take-off'state, three necessary conditions must be present: a minimal level of wealth which can be mobilized for investment, a minimal level of entrepreneurial talent, and an alignment of individual goals with the societal goal of economic growth.[161] Although Holt and Turner say that these conditions are necessary, they evidently mean that they are both necessary and sufficient for take-off to occur. At any rate, their concern is to show that if the conditions mentioned above obtain, then adaptation can occur and the system will continue to operate adequately; given the employment of functional analysis by Holt

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[160] Ibid., p. 52.

[161] Ibid., p. 307.

and Turner, we also assume that if the conditions do not obtain, not only will the state of take-off not be achieved, but the system will not operate adequately in its present state. We assume this because they say throughout their work that the adaptation requisite must be fulfilled if a system is to "survive."

The above points bring out the necessity of including the limits within which the system will be self-regulating for each state. This requires that we be provided with the range within which the n trait, adaptation in this case, can vary for each n state and the system still operate adequately. That is, from what Holt and Turner say, the adaptation function has a wider range when the system is in a traditional stage than when it moves to a take-off stage; and while the adaptation function can be fulfilled in a given way during one stage, the same activities can be dysfunctional at another time. Thus, we must have some way of determining that the system is still self-regulating at each stage, and the way this must be accomplished, given Holt and Turner's formulation, is to indicate the range within which the n trait can fall at t_1, the traditional stage, and at t_2, the take-off stage, and the system still be self-regulating during each stage.

For example, when a system is in the traditional stage, the value of the variable adaptation may be kept within a given range by the items contributing to this requisite variable, but when the system reaches the next stage, the range within which the value of the requisite can vary is reduced; in both cases n is keeping

S operating adequately but if n's value remains the same for both stages, it would not contribute to the system's adequate operation in one of the stages. It is because n can vary from system to system and stage to stage that requires us to state the range within which n can fall for each stage and still contribute to the adequate operation of the system. Unless this range is stated, and it is clearly indicated what is means for a system to be operating adequately, we can not explain an item's contribution to the system's operation.

One way to escape from this requirement is to abandon the claim that systems are self-regulating, but to do this would be to abandon the most important premises on which a functional explanation depends. By asserting that there are requisites which must be fulfilled if a system is to survive, a theoretical structure is provided which permits explanation of social behavior. If we say that certain requisites must be fulfilled, then it becomes possible, or so it seems to the functionalist, to interpret almost every act as being a response to contribute to system survival;[162] this is one reason the term 'function' and 'purpose' are used interchangeably. If limits are placed on the n traits, however, it is possible to avoid some of the logical errors which occur when there is no mention of limits on a given n.

In Holt and Turner's hypothesis stated previously, we note that

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[162]This is what Hempel seems to mean by his use of the term 'overt tautology'. If the items which can fulfill a given n or n's are not listed, functional explanations become almost truisms since some of the omitted items might be contributing to n.

they discuss both political and economic activities contributing to the fulfillment of the adaptation requisite. When a system moves toward the take-off stage, the activities of governmental agencies, an Ip say, must decrease and private economic activities, an Ie, must increase. As I noted previously, Ie is a functional equivalent for Ip in a fully expanded functional analysis. Both Ip and Ie are state co-ordinates containing the activities i which contribute to n. When Ie's value increase, then Ip's value must decrease, and thus the limits for both must be stated, a point which Holt and Turner do not attend to very precisely. To see how they support the above hypothesis, let us look at their argument as to why government cannot contribute greatly to adaptation if the take-off stage is to be reached. They write:

> (1) If there is a highly centralized government, then the office holders control a disproportionate amount of wealth, prestige, etc. as there are no effective structures for other elite checks.
>
> (2) The lack of structures to check elites, or to provide alternate means for allocating resources, serves to exclude minority group members from decision making roles, either in government or elsewhere.
>
> (3) Minority groups, in the early stages of development, provide an inordinate amount of entrepreneurial talent.
>
> (4) If minority group members with entrepreneurial talent are excluded from decision making roles, then the elites who hold governmental posts are likely to be inefficient and thus impede slow and steady growth which reduces the amount of mobilizable capital.
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> ∴ Thus, there must be a decentralized government.[163]

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[163] Ibid.

We see the numerous difficulties raised by such a formulation. Not only do the authors have to specify the limits within which adaptation can vary and the system operate adequately, but they must also specify the activities which government can engage in less or not at all without becoming dysfunctional for the system. This is indeed a forbidding task but one that must be accomplished if the type of hypotheses Holt and Turner provide us with are going to be testable. There are no techniques available, however, which permit us to measure the net consequences of governmental activity in even a rudimentary way.

Moving on to another of Holt and Turner's attempted explanations of the development of an institution or behavior pattern, we find the same type of explanation we encountered above. They write, for example, that:

> The course of economic development during the Tokugawa period demanded an exchange system that would operate with some degree of regularity and uniformity over wide areas of territory. Even before the advent of the Tokugawa, the rise of the castle towns had fostered the growth of trade, encouraging the use of money in commercial transactions. The Tokugawa control system further stimulated economic expansion and the growth of a monetary system, for the daimyo who were forced to make periodic journeys to the shogun's capital [sic] at Edo found it convenient to convert their rice into money in order to meet the expenses of travel and residence. Thus, during this stage of Japan's development, markets expanded beyond the confines of the daimyo estates, money came into more general circulation, and the merchants began to develop a system of credit to meet their commercial needs.[164]

We see again the pattern of functional explanations where there is a need, an exchange system, and the fulfillment of that need by the

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[164] Ibid., p. 144.

Tokugawa control system in its effects on the daimyo. We see also that the same problems are present here that we have encountered throughout the work. Rather than reiterate these, however, let us look at Holt and Turner's statement with regard to the general hypothesis of self-regulation. We remember that Holt said Hempel's schema did not provide for developmental accommodation, but it is quite clear from the above that Holt's statement is exactly the kind Hempel had in mind when he discussed the general hypothesis of self-regulation. We find that Holt says there is a need n, an exchange system, and an i, a behavior pattern by the daimyo. Casting this into Hempel's schema, we have:

> At t, s operates adequately under conditions c. S operates adequately, or will continue to do so only if there is an adequate exchange system, an n, present in S.
> If there is a control system which forces those with resources to expend them, then as an effect, n will be satisfied.
> ∴ At t, i is present in S.

As we have seen before, if a control system is not the only item which can bring about n, then the error of affirming the consequent is committed; but if this contingency is guarded against by listing the sufficient conditions for n, we have the hypothesis of self-regulation we need to make the above a valid argument. If we have this hypothesis, we can predict items that will develop under given conditions to maintain n that are not present now. All that matters is that we include the institution which can develop as an i in I. This clearly shows that Hempel's schema can, logically, account for developmental accommodation. An activity with an institution or a behavior pattern that will have the same effects for n, creating

an exchange system for Holt, can and must be accounted for in a law(s) used in explaining and predicting the operation of a system. Indeed, it is precisely because institutions can develop to fulfill a given trait in a similar way that makes adequate functional explanations much more difficult to provide.

If we cannot predict the institution which will develop, or serve, to fulfill n, then we cannot explain the occurrence of the item. We cannot do so because we need laws, either of the universal or statistical type, both in explanation or prediction, and if we can predict we can also explain and vice versa.

Although most functionalists in political science consider several variables as affecting a system, they do not often employ all of these variables in their explanations. But let us turn to a functional explanation where several variables are considered. By doing so, we can see even more clearly what a fully expanded functional explanation looks like, as well as how the partial explanations discussed fit into this fully expanded explanation.

In discussing the British political system, Harry Eckstein points out that welfare measures were present in Britain long before the Labour Party came into power, but he wants to explain why there was a rapid increase in welfare measures in the post war period. In the following, he offers a typical functional explanation based on "system needs" for survival, writing:

> What forces . . . induced the British to create a highly developed welfare state in this period? No doubt much of the explanation may be found, as usual, in attitudes--in

> subjectively conceived social values and objectives. The postwar British welfare state crowned with success half a century of political agitation by trade union Labourites and Fabian socialists. But it is mistaken to think of the British welfare state purely in these terms. To a considerable extent, its development was a matter of need no less than a matter of choice. Certain objective forces ("objective" in the sense that they were given in the environment of policy and not subject to anyone's choice) did as much to impel Britain in the socio-economic direction she has taken since the war as any political agitation, a fact reflected in the startingly close agreement among the parties on social and economic issues. To some extent this consensus on policy may be due to the ramarkable ability of the Tories to trim their program to any prevailing wind of doctrine, but the kindlier and more accurate construction to put on the matter is that choice among policies in postwar Britain has been severely limited by given conditions that party politics cannot wash away.
>
> The most serious and intractable of these conditions is the British international economic position. Everyone knows that international trade is a matter of life or death for Great Britain; that she is heavily dependent on import of foodstuffs and raw materials to support her population and keep her factories running; and that, as a corollary, she must have large and reliable export markets for her manufactured goods in areas that can supply her "needs" for primary materials. Unfortunately, the international economic outlook for Britain has been bleak and growing steadily bleaker for a very long time, and World War II came very close to delivering the economic coupe de grace after a long history of deterioration.[165]

Eckstein continues by adding that the economic conditions after the war were such that even more exports were necessary, but the unrequited demand for consumer products meant that much of the needed export goods were in danger of being consumed by the British. He continues,

> The danger therefore was that Britain would consume herself into destruction rather than export her way to recovery,

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[165]Eckstein, "British Political System," p. 202, in Beer and Ulam, Patterns of Government. Underlining mine.

> particularly since manufacturers could make fortunes almost without effort [in the home and soft currency nation markets] . . . instead of going into the highly competitive and sales-resistent hard-currency markets, especially the North American markets. Under these conditions no postwar Government could have taken a chance on an undirected economy. The Labourite socialists therefore had a high degree of public planning and control thrust upon them, however much they might have been predisposed to central economic controls in the first place.[166]

The pattern to be explained in Eckstein's analysis is the economic sanctions that were introduced after World War II, and the explanation proceeds by referring to the needs that had to be fulfilled if Britain was to survive. The needs were a given level of exports which would produce raw materials and foodstuffs and the internal conditions were the consensus on policies by the two parties, the demands for consumer products, and the ability and dispositions of businessmen to supply and profit from the products. The external conditions were the demands by the soft currency nations, competition in the hard currency markets, and the amount of raw materials and foodstuffs each market area could supply to Britain.

First of all, Eckstein does not explicitly point out the limits within which the level of exports could fall and the system still be self-regulating. That is, he does not specify the hypothesis of self-regulation with respect to R by indicating the values within which exports can vary, and it becomes impossible to determine when S is no longer in a fi state; neither does he specify the values

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[166] Ibid., pp. 203-204.

within which the state co-ordinates can vary and still contribute to the fulfillment of the n, the level of exports necessary to sustain the society. But there must be some limits indicated as it is unlikely, for instance, that businessmen would consent to staying out of the soft currency market if the enticements were lucrative enough, nor enter the highly competitive market area if profits were extremely low. We must therefore know the limits within which the values of these variables could fall and the other variables compensate to maintain or return the system to equilibrium. If, to continue these possible limits, the Government prohibited trade with soft currency nations completely, the sanctions imposed might fall outside the political norms acceptable to the British populace and riots or non-cooperation ensue and threaten the system.

It is also evident from Eckstein's comments that it might be possible to stipulate the needs of the system in a quantified form. That is, the foodstuffs that are required for adequate operation of the system could be computed from the requirements of the individuals composing the system as could the industry requirements for raw materials, and it would then become possible to make predictions based on the needs or requirements. We might then ask, for example, whether a new policy is adopted by the government when imports drop below a given level; or if farmers in Britain increase their crop production when imports drop; or if new sources of natural resources are sought within the country if raw material imports drop; and so on. Whether this type of quantification and prediction based on the needs

is useful or not will not concern me here but it would be far superior to Eckstein's present way of discussing needs and the patterns which fulfill the requirements. Some of the state co-ordinates are also measurable in much the same way as the needs, and if any progress is to be made in going beyond explanations of the type in Eckstein's work, it is incumbent upon the functionalist to attempt more precise measurements.

In concluding his discussion of the part economic planning and nationalization played in maintaining the system, he states that the purpose of these policies has been to increase efficiency. He does, to be sure, include the purposes of party decision-makers among the state co-ordinates, but he evidently is asserting more than that these purposes were present and that action was undertaken which led to increased efficiency. He does, in a word, assert that nationalization and economic planning have the function of increasing efficiency.

It is quite clear that Eckstein's remarks can be cast into our formulation. The needs, imports of raw materials and foodstuffs, can be represented as an n trait, and the range for each would be established as the minimum and maximum imports within which the system would still operate adequately. The items which contribute to the fulfillment of the imports, international trade, internal consumption, etc. can be represented as variables within a given I, (A) and it would then be necessary to show that when the value of one variable changes, the values of the other variables will change

so that the system will be maintained. If we have this knowledge, it becomes perfectly clear that we can predict future states of the system from the present state. But it is also evident that we are not going to achieve this kind of knowledge until functionalists begin to take the criticisms of their shortcomings seriously and begin to formulate their statements in a way that will permit them to be empirically tested.

To compare Eckstein's functional analysis with a functional explanation where the range within which the system can fall and still survive, the various n states, and the items which have functions can all be stated with precision, let us look at Nagel's formulation of a biological functional explanation.[167]

In the human body, the normal temperature varies between 97.3° F and 99.1° F and must remain within the limits of 75° F to 110° F unless permanent injury is to result. The external temperature of the body can, of course, fluctuate much more widely so without some mechanisms to compensate for environmental changes, the body's activities would be curtailed. Among the mechanisms that compensate for the external fluctuation is the thyroid gland, which is one control over the body's basal metabolic rate; the heat conducted into or given off through the skin is dependent on the quantity of blood flowing through peripheral vessels, and the quantity of blood is regulated by dilation or contraction of these vessels; sweating

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[167]Nagel, "Mechanistic Explanation and Organismic Biology," in Structure of Science, pp. 412-416.

and the respiration rate, adrenaline in the blood, and automatic muscular contractions also provide for the preservation of internal temperature.

The limits within which the values of each of these state co-ordinates can fall can be specified; the peripheral blood vessels dilation cannot exceed some maximum value since the diameter of the blood vessels cannot expand beyond a given point; the thyroid glands cannot be hyperactive nor can the adrenaline in the blood exceed a given quantity without permanent damage, nor moisture in the body decrease beyond limits.

Not only can the limits within which the trait or property n, the internal temperature, be stated with precision, but the limits within which the state co-ordinates will maintain a n state can be precisely stated; thus all the possible states of S can be specified, as can all the n states of the system. This comparison with attempted social science functional explanations will be used to point out clearly the problems that functionalists in political science face if their explanations to approach the way biologists explain self-regulating systems.

Nagel provides the limits within which each state co-ordinate can vary and maintain the internal temperature, but it is not necessary to include these limits here.

We can learn several things from Nagel's formulation that are beneficial in helping us see many of the problems present in social science functional analysis. First, we see that the range within which

the system is surviving can be stated with precision. Second, the range within which the needs n can vary are also stated explicitly, and we can determine the items which maintain a given value of n, or else an item which returns the value of n to a given range after a disturbance. Third, we see that the range with which these items can fall and maintain n in an n state can also be identified and specified with precision. It should be made clear, however, that it is not just in precision alone that differentiates biological from social science functional explanations. The characteristics which more or less define survival are fairly easy to establish as are the n states, and the items that are causally related to the n states can then be established through observation. It is true, of course, that social scientists might be able to establish the requisites, limits, and items needed in functional explanation, but thus far very little effort has been expended on formulating these limits etc. so that empirical tests of functional statements are possible.

It seems that it is not enough to say, as Holt and others do, that if consensus on values lessens, then governmental activities increase unless we have some way of measuring the variables 'consensus on values' and 'governmental activities'. There is also one other important aspect of functional explanations in biology, feedback, that is often discussed by social scientists providing functional explanations. It is, in fact, often asserted that it is because of feedback that functional explanations differ from causal ones.[168]

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[168]See Frohock, The Nature, p. 77 for one such assertation.

We will examine functional explanations and feedback in the next chapter, and also examine a functional explanation where there is more of an attempt than usual to provide empirical support for functional statements.

CHAPTER 4

THE PATTERN OF FUNCTION EXPLANATION OF SMALL POLITICAL SYSTEMS

In this chapter, I will turn my attention to functional explanations of the operation of small systems. This will permit us to see more clearly some of the problems extant in all functional explanations because these problems are more easily brought out in discussions of small systems than in discussions of large complex systems. The primary points we will direct our attention to are: system goals, feedback, survival of the system, and completeness of the theory about the system.

Thus far, I have ignored one of the primary claims of functionalists: that we must adopt functional analysis because it provides us with a way to assess the effect system outputs have on the inputs--feedback. Since a discussion of feedback must include goal directed behavior, we must again turn our attention to the concept of 'goal'.

Although Professor Karl Deutsch neither deals with small systems nor considers himself a functionalist, it will be beneficial to begin with a short discussion of Deutsch's concepts of 'feedback,' 'goal', and 'purpose'. Although Deutsch claims not to be a functionalist, he does find a great deal of value in Parsons' formulation of functional analysis. In The Nerves of Government, Deutsch writes:

> It is important to note . . . that the structure--function analysis has been developing in the . . . direction [of proving helpful in promoting the "search of quantities, boundries, and measurement"] by accepting and incorporating some of the results of somewhat more specific approaches to the study of goal-seeking, communication, and control.[169]

In a later work, Deutsch takes an even more favorable view of the potential usefulness of functional analysis. In discussing Parsons' functional requisites, Deutsch says that

> The question is whether Parson's system is not only comprehensive and consistent, but also whether it tends to highlight interesting dimensions, variables, and relevant correlations, and whether it suggests fruitful questions and possible discoveries. It seems to me that it does all these things.[170]

And while Deutsch is concerned here with functional analysis in the context of discovery, he also considers functional analysis as having explanatory value, as noted in the first quote. That is, from functional generalizations, we can deduce more specific hypotheses about the working of a social system.

The point of the above discussion is merely to indicate that Deutsch is aware that the way he suggests we study political systems is closely related to the way the functionalist studies political systems. In chapter seven, I will argue that there is no difference in the logical structure of explanations provided by functionalists, systems theorists, and those who draw upon cybernetics. But for now, we must turn our attention to a much narrower point--

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[169]Karl W. Deutsch, The Nerves of Government (New York, 1963), p. 50.

[170]Karl W. Deutsch, "Integration and the Social System: Implications of Functional Analysis," in Jacob and Toscano ed. The Integration of Political Communities, (Philadelphia, 1964), p. 180.

feedback.

In writing of feedback, Deutsch says

> Steering a ship implies guiding the future behavior of the ship on the basis of information concerning the past performance and present position of this ship itself in relation to some external course, goal, or target. In such cases, the next step in the behavior of the system must be guided in part by information concerning its own performance in the past . . .
>
> The similarity of these processes of steering, goal seeking, and autonomous control to certain processes in politics seems striking.[171]

It is the political system as the goal attaining system which leads Deutsch to discuss purpose, goals, and feedback in relation to government.[172] That is, it is governmental institutions which serve as mechanisms for steering the system. The question that first arises is whether or not Deutsch is concerned with purposive behavior only or is using the term 'purpose' when he really should be using 'function'. It is quite clear that he is using the term 'purpose' broadly, since he also attributes purposes to automatic torpedoes and guided missiles.[173] Perhaps it does not disturb us to talk about "purposes" and "goals" of missiles, torpedoes, or thermostats because we realize that the terms are merely metaphorical and do not enter into explanations about how a system works. If a guided missile fails to operate properly, for instance, we do not ask whether the missile changed its goal and thereby the means to achieve the goal. We seek an explanation based on the laws of

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[171]Deutsch, Nerves, pp. 182, 184.

[172]Most other functionalists view the political system as goal-attaining also.

[173]Deutsch, Nerves, p. 187.

physics. To do otherwise would be senseless. There are, of course, times when we would ask about purposes, but these would be the purposes of humans, not missiles. And it is often the case that we can provide an explanation involving purposes of why a missile failed to operate properly, e.g. knock down an airplane, but this explanation is based on the laws of human behavior and has little to do with the laws of physics. I say little to do because in explanations about human purposes and missile operation, we would have to base our explanation on some laws of physics, but it is not essential that we make those laws explicit. The use of laws from several disciplines is by no means unique in explanations in the social sciences. A historical explanation, for example, often makes use of several laws that do not pertain to historical events, such as the laws of supply and demand, geography, biology, etc. In most cases these laws are not made explicit, but there is no doubt they are, and must be, invoked.

A brief example will suffice to make quite clear the distinction between an explanation where purposes are invoked in the explanation and when they are not necessary. In the middle of the 1950's Nike missiles began to be used as replacement for other types of artillery then used for coastal defense. In the training program, each battalion had to conclude its training process by firing two missiles, one of which had to hit a target, a remote controlled plane.[174] If the first missile missed the target, no one attributed the miss to a change in goals by the missile, but to such factors as time of

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[174]The author was a member of one of these Nike battalions.

firing the missile in relation to the plane's position, velocity, fuel mixture, etc. A successful firing of the first missile meant that the battalion had successfully completed its training, but they were still required to fire a second missile but were not required to hit the target; a miss in this second case was usually explained by references to the purposes of the men firing the missile. We see quite clearly why purposes could be used in the second case but would add nothing to the explanation in the first example. And while it seems quite trite to have to make such elementary points, as long as the term 'purpose' is used as indiscriminately as it presently is, it will be necessary to continue pointing out the distinction between the use of 'purpose' in contexts where it is appropriate and where it is not. The use of 'purpose' in explanations of human behavior is often misleading to say the least, and patently false in many cases.

Leaving aside the problem of the use of 'purpose', we can turn our attention to the term 'goal'. In explaining the operation of servomechanisms, 'goal', like 'purpose', presents no particular problem. We know that when we set a thermostat at 75°, say, our furnace does not "seek to reach 75°." Again we explain the working of the system by the use of physical theories, not by references to goals. And since we know what it means to say that a physical system is self-regulating, it makes sense to use the term 'feedback' to describe and explain the system's operation. But it does so only because we have a clear idea of a self-regulating system and we know all or many of the relevant variables affecting the system.

If we know neither of these, we must ask whether it makes sense to talk about self-regulating systems or feedback. I will answer this question shortly when I consider specific functional explanations. For now, we must look at Deutsch's definition of the term 'goal'. In the Nerves of Government, Deutsch writes that "a goal may be defined as 'a final condition in which the behaving object reaches a definite correlation in time or space with respect to another object or event'."[175] This definition is, of course, taken from the work of Rosenblueth-Weiner-Bigelow first published in 1943,[176] and it has been criticized by several philosophers. Perhaps the most pertinent criticisms have been voiced by Israel Scheffler. The latter points out that the goal may not be achieved at all even though behavior is directed toward the goal and supposedly modified by signals from the goal. Scheffler then adds that since this is the case:

> The goal, as described by the authors, cannot, therefore, be identified with the final condition of correlation they speak of, and it must rather be construed as that entity with which correlation is supposed to occur if the behavior is successful, i.e. what may be called 'the goal object'.[177]

We see quite clearly also that Deutsch's definition of the term 'goal' is subject to the same sort of criticisms we have leveled at functionalists employing the term, i.e. we cannot assume that there is an entity which guides behavior toward a final condition

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[175]Deutsch, Nerves, p. 91.

[176]A Rosenbleuth, N. Weiner, and J. Bigelow, "Behavior, Purpose and Teleology," Philosophy of Science, X (Jan., 1943), 18-24.

[177]Scheffler, Anatomy of Inquiry, p. 113.

of correlation, and even if there is a goal, that it will be achieved. This leaves us in the same position we found ourselves previously, we must talk about what can or must occur if there is to be "successful" operation of a system. And to define "successful operation" we need a hypothesis of self-regulation with respect to R. But in Deutsch's work, as with the functionalist, we find almost no attempt to provide this hypothesis. We do find that Deutsch considers government to be the mechanism which "steers" the system, but what does it steer it toward? Until this question is answered we are hard pressed to accept the statement pertaining to a society that a goal object emits signals, which then permit mechanisms to adjust the system so that some "final correlation" can be achieved.

To talk about adjustment, feedback, and so forth without providing the criteria for adequate operation seems, at first blush, to be superior to explaining the development of an institution by vague references to the forces of history or the gravitation of a nation's institutions toward its predestined fate. Let us consider, for instance, the way historians once attempted to explain why Catholicism was overthrown in England. In his thorough and lucid biography of Sir Thomas More, Chambers presents us with what had once been the typical explanation for Catholicism's demise in England. He writes that some historians explained the rise of the Protestant religion thus:

> Englishmen were of pure Teutonic race, and therefore predestined to become Protestants, because the Reformation

> was the work of men of the 'grave and earnest Teutonic race,' . . . Englishmen were destined to revert to their innate Protestantism as soon as the trumpet sounded from Wittenburg.[178]

All of us would consider this explanation to be of little interest and not worth refuting. But have functionalists and others using the same form of explanation really moved a great deal beyond this type of explanation? I think not. Granted there is less mysticism in functionalism, the same problem arises in functional analysis as in the explanation Chambers presents, i.e. how are the statements and theories of functionalists to be tested empirically? Unfortunately, functionalists in political science have spent very little effort in testing their statements. Sidney Ulmer's functional analysis of the Supreme Court is probably the most thorough attempt to provide empirical confirmation for functional statements, and an extended discussion of his paper on homeostasis in the Supreme Court should prove useful. But before turning to Ulmer's work, let us look at a modified functional explanation of small group behavior. This will provide us with an explanation to contrast with Ulmer's analysis and perhaps provide greater insight into functional explanations in general.

In his article, "The Functions of Informal Groups in Legislative Institutions," Alan Fiellin writes:

> Functional analysis is one way of viewing, understanding, or explaining behavior within a system. The observer asks

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[178] R. W. Chambers, Sir Thomas More (Ann Arbor, 1958), p. 389.

> what consequences a given behavior pattern has for the systems of which it is a part.[179]

Two points stand out in the above statement: functional analysis is used to explain behavior, and the effect or consequences of behavior patterns are important in the analysis. But in the following paragraph, Fiellin adopts a modified definition of the term function, saying that:

> As adapted to the present study, consequences make for the adaptation or adjustment of a given system when they (1) constitute positive and necessary contributions to the existence of the system, or (2) merely contribute to the achievement of participants' goals. Criterion 1 raises the issue and problems of the functional prerequisites of the systems considered. By supplementing this with the less demanding criterion 2, the problems involved in determining whether or not a particular function is vitally necessary are avoided.[180]

We are struck, first of all, by Fiellin's use of functional analysis once he has changed the definition of 'function' from consequences which fulfill a requisite to consequences which merely contribute to the achievement of participants' goals. We must be alert to what Fiellin accomplishes, if anything, by the addition of this second criterion. Is it simply that he is interested in the goals of Congressmen? This would seem to be the case as he says that if consequences merely contribute to participants' goals, the behavior pattern from which the consequences stem are functions. But Fiellin does not want to limit himself to just an examination

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[179]Fiellin, "The Functions . . . ," 73.

[180]Fiellin, 73.

of purposive behavior directed toward a goal or goal object; he also uses Merton's term 'latent function' to indicate that behavior in informal groups in Congress has consequences which are not recognized. In providing an example of a latent function, he writes that, "Leaders especially are aware of the positive consequences of bloc behavior, whereas some of the rank and file seem to be totally unaware of any purpose served by the group's cohesive voting."[181] But we are again puzzled by the reference to the term 'purpose' in talking about the positive consequences of behavior within informal groups; consequences which are not intended. If the goals of individuals are consciously furthered by participating in informal groups within Congress, then it makes sense to talk about purposes; but does it do so when the Congressmen are not acting purposively to achieve the consequences, or some of the consequences, that result from the action? Again, we would have to say that it simply adds to confusion, and leaves us quite unsure as to what exactly Fiellin is getting at. I must qualify the latter statement by adding that it is perhaps due to my own shortcomings that I am somewhat puzzled by Fiellin's and other functionalists' analyses. But if others share my puzzlement, perhaps they too wonder what has been accomplished by using functional terminology. Surely no one will deny that political scientists have long considered purposive behavior as being important in the study of

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[181]Fiellin, 84-85. Underlining mine.

politics, and if we want to talk about consequences which result from participation in informal groups, we can do so without having to engage in an analysis of purposive behavior; an analysis which introduces confusion into the study by introducing another term for 'purpose' and then using the two interchangeably. We should be especially concerned by Fiellin's use of 'purpose' and 'function' interchangeably since he is following Merton, and the latter makes it quite clear that the reason for using the term 'function' is to avoid attributing purposes to individuals when it is quite clear no purposes were present.[182]

In considering Fiellin's article, I have disgressed a bit from what I set out to do in this chapter. Fiellin's functional analysis is clearly quite different from the other works I have considered thus far, and will consider in future chapters. But the digression will pay dividends in that we can compare Ulmer's functional explanation to Fiellin's, and by doing so point up the shortcomings of other political scientists' works who are as careless as the latter in conducting what they refer to as a functional analysis of political life.

In considering Ulmer's work, we return to our main concern in this chapter: the examination of government as a mechanism for steering a system by adjusting to compensate for changes emanating from within the system or the environment. In serving as the

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[182]Merton, Social Theory and Social Structure, pp. 50-51.

steering mechanism for the system, it is necessary, we are told, that information about goals be fed back into the system.[183] Ulmer's article is admirably suited to serve as our example of the methodological problems one encounters when attempting to deal with adjustment and feedback.

The first passage we want to note in Ulmer's work is that:

> The [Suprene] Court is an open rather than a closed system. An open system features a continual materials exchange with the environment. Such interchange is necessary to maintain the energy level necessary for system survival.[184]

The pertinent point here is Ulmer's assertation that there is a given "energy level" that must be maintained if a system is to survive. If Ulmer provided us with enough information about this energy level, he would undoubtedly tell us what he means by system survival in the same way that the biologist does when he says the temperature in the human body must remain within the range 75°F to 110°F or permanent injury will result. But Ulmer makes no attempt to specify this energy level, and we find no further statement about the energy level within which the system can vary and still survive.

Ulmer does turn, however, to a discussion of Parsons' functional requisites, and says that one of these, goal-attainment, is the requisite which the court helps maintain. He writes:

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[183]See Deutsch, Nerves, ad hoc. as well as Beryl I. Crowe and Charles G. Mayo, "The Structural-Functional Concept of a Political Party," p. 16, in Mayo and Crowe, ed., American Political Parties (New York, 1967), for this type of assertation.

[184]Sidney Ulmer, "Homeostatic Tendencies in the U.S. Supreme Court," p. 168, in Ulmer, ed., Introductory Readings in Political Behavior (Chicago, 1961).

> Systems theory postulates that the action of a system is functionally oriented in terms of societal goals. Talcott Parsons has defined the over all goal of American society as the facilitation of effective adaptive development associated with it. This interpretation of the aim of American society focuses, primarily on the range and quality of adaptation. It defines not so much a committed society as a society interested in facilitating adjustments and accommodations of the diverse elements of which it is composed. As a subsystem, the function of the Supreme Court is to contribute to the attainment of these goals. The output of the Court is designed to do this by (1) allocations whether made by itself or other governmental institutions. The appropriate input category for this output would include all those communications processes which inform the court as to the institutionalized value system of the society and changes in that system. . . . The survival of a system depends upon its effectiveness in performing its social function. Patterns of interaction among system components represent a response to this challenge and attempts of the system to make the proper adjustments for the effective production of the necessary output.[185]

Let me apologize to the reader for again employing a long quotation, but it is readily evident that the above contains a concise statement of what Ulmer is attempting to achieve, and it is important to keep the comments intact.

The reader will also recognize the similarity between Ulmer's formulation and Deutsch's on the one hand, and other political science functionalists on the other.

Let us now examine several points contained in the above comment. First, we note that if the system is to operate adequately, the court must allocate and legitimize goals that are in keeping with American values, and the Court must be aware of the change in the values so

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[185]Ulmer, "Homeostatic. . .," p. 168.

the output can remain consistent with expectations. Second, the values which can be allocated or legitimized are not listed at all, but Ulmer does state specifically that the survival of the Court depends upon its effectiveness in pronouncing judgments commensurate with societal values. The allocation and legitimation of societal values clearly constitute an n in our schema, but the range within which the court decisions can vary and effectiveness be achieved is omitted; thus the hypothesis of self-regulation with respect to R cannot be stated with any precision. Third, one extremely important variable in the theory is "all those communications processes which inform the court as to the institutionalized value system . . ." Seemingly, these communications processes have a function in our eighth use of the term in that the communications received by the Court have effects which maintain the Court. But we must ask which communications are relevant and which are not? Also, can some of these communications processes serve as functional equivalents for others? That is, if the Court does not get the message from the President that it is out of kilter with societal values, can we be assured that the message will be sent by the Congress, newspapers, private conversations, etc.? If so, then we would have a disjunctive hypothesis of the form 'if a or b or c then x' and this would constitute a general hypothesis of self-regulation. But Ulmer makes no attempt to delineate these communications processes.

It is also clear from other remarks by Ulmer that it is these

communications that alter the power relationships with the Court. He writes:

> If the Court as a system is pursuing the function suggested and is doing so within the limitations set by the systems external to it, the interaction which occurs will promote on the index those justices whose attitudes and values seem most consonant with those of the institutionalized value system.[186]

Since Ulmer never mentioned these external limitations, we have no way of judging whether or not this is true; to show clearly that we do not, and also to demonstrate the logical structure of the argument, let us cast it into Hempel's schema if possible.

Since the Court has been able to survive, the statement that 'At t, system s functions adequately' is certainly implied by Ulmer. The conditions, c_i and c_e, would be other variables which are relevant to the system. Ulmer lists these as being the number of bills introduced in Congress designed to restrict the Court, a c_e; while the internal conditions are the role of the Chief Justice, the number of years a Court sat, age of the justices, and the geographical origins of the Chief Justice. These variables occupy little space in Ulmer's work, but in a fully expanded functional analysis, they would have to be included also.

The necessary condition as stated previously is that the Court allocate societal values, and the statement clearly would have the same form as Hempel's second premise, denoting an n. And since communication has effects on the system which alter power

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[186]Ulmer, "Homeostatic . . .," p. 187.

relationships and alter output, communications is clearly an i.

We have then the argument:

> At time t, the Suprene Court, an s, functions effectively in a setting c.
> S functions adequately if societal values are legitimized and allocated.
> If communications processes are present in s, then as an effect, societal values are allocated and legitimized.
> At time t, communication processes are present to inform the Court.

To make this a valid deductive argument, we must be able to state that only if societal values are legitimized and allocated will s operate adequately, and also that only communication processes can inform the Court of the values that need to be allocated. Thus both the second and third premises must be necessary condition statements. It is clear that Ulmer claims "communication processes" are a necessary condition, and also that societal values must be allocated. But while Ulmer's argument is logically correct, we must note two important points: how are we to know when societal values are being allocated within the range necessary to maintain the system, and how could communications processes not be present in a system? I have said previously that if we are to test statement about goal-directed systems, we must know what the goal-objects are. Otherwise, how are we to know that a change in behavior occurs to compensate for a change in goals or goal direction? It should be quite clear that without some specification of these goal objects, any behavior can be construed as changing to compensate for a change in the goal-object. Without a specification of these goals, it seems that the term 'feedback' is devoid of

empirical import, but its use tends to lull functionalists into thinking that more has been explained than actually has.

The second point concerns the term 'communication processes'. If all communication processes enter into this concept, then the term becomes logically empty and we explain nothing by employing it. If we specify the mechanisms for transmitting communications, however, it becomes clear that Ulmer's argument is not valid because there are obviously numerous mechanisms for transmitting communications to the Supreme Court. This requires that we list the mechanisms as sufficient conditions, and requires a general hypothesis of self-regulation. If we specify the mechanisms for transmitting communications, it then becomes possible to test statements about a change in the type of outputs from the Courts in response to changes in societal values. But without a specification of the societal values and the mechanisms for transmitting these values, any input or output can be construed as an adjustment or adaptation by the Court. This type of explanation is clearly a pseudo one for there is no clear way to test the statements about survival, adjustment, and feedback.

Ulmer does attempt to present data to support his statements. We remember that he says a Justice's position will depend on how closely he is attuned to existing societal values. If a Justice's decisions are not in line with societal values, then, he will move downward on the power scale. When there is a change in societal values, the Justices must also change their opinions if the system

is to survive. To indicate that the Justices do act in this manner, Ulmer points to Justice Roberts' change in 1937. But what Ulmer does not show is that Roberts' power position changed in 1937. But if he is to show that power positions do indeed change to compensate for changes in societal values, he must provide us with the power rankings before and after the shift in the Justice's decisions. Ulmer does say that there was an extremely high degree of instability in the 1937 court, but he does not show the changes in the power relations of the individual justices for those years. He does show power positions of individual justices for the period 1941 to 1944. On this index, Roberts' power position was fourth in 1942 but in 1943 the power index shows that he dropped to ninth in the power ranking.[187] Ulmer does not indicate why this occurred; was it an external event which was instrumental in changing Roberts position? And if so, what was the event? Surely if there are changes in the Justices' attitudes to compensate for changes in the environment, we can identify more than the one instance, the court packing event of 1937. An exception certainly does not "prove the rule," despite the old adage that it does.

It seems that the above comments adequately demonstrate the shortcomings of Ulmer's functional analysis. But I am not being critical of Ulmer merely to show that another functionalist fails to provide us with support for his functional hypotheses. The

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[187]Ulmer, "Homeostatic . . .," p. 171 Table I.

problems we find in Ulmer are common to all functional analysis, and as I said previously, Ulmer is much more explicit than most functionalists and does attempt to provide empirical confirmation for his hypotheses, which is more than most functionalists attempt to do. Let me add also that to point out the failings of functionalists is not to question their ability, but rather to question whether or not the social sciences are ready for the type of explanations functionalists attempt to provide. In his article on Parsons' work, Max Black[188] thinks that we do not yet have the necessary knowledge to provide such explanations, and I concur wholeheartedly. But to show this more clearly, let us summarize what has been said thus far and add several more pertinent comments on Ulmer's functional analysis.

Ulmer asserts that there are goal objects toward which the Justices' behavior is directed; and once a decision is rendered their behavior is modified by the communication from the environment which tells them whether or not their decisions are in keeping with the institutionalized value system. Now this is undoubtedly an attempt to place limits on the range within which decisions can fall, but since the goal objects themselves serve to modify behavior, how can we explain behavior directed toward goals without mentioning the goals? It seems we cannot if we continue to insist that it is

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[188]Max Black, "Some Questions about Parsons' Theories," p. 288, in Max Black, ed., The Social Theories of Talcott Parsons (New Jersey, 1961).

signals emanating from these goal objects which modify behavior. Even leaving aside this problem, for the sake of argument, however, does not vastly improve our ability to explain the operation of a system. To do so requires that we know all or many of the relevant variables so that we know how each is affected by the internal and external disturbances of the system, and how a change in one value affects changes in others. Now to say that we do not have this knowledge may possibly seem exceedingly trivial to the reader; it is likely he will say that all social scientists are perfectly aware of this lack of knowledge of all the relevant variables needed to explain the workings of a system. All I am saying, however, is that functionalists seem to show less awareness of our lack than other social scientists. To demonstrate this last statement, let us consider one of the canons of scientific method. When we find a connection, or think we have found one, between two variables, the first thing we think of is whether the relationship can be "explained" by a third variable, indicating that our first connection is perhaps spurious. But do functionalists engage in this fundamental process? It seems not. Otherwise the first question Ulmer would ask is whether a third variable, say party affiliation of the Justices, accounts for the relationship, rather than feedback communications resulting from Court decisions. The reason functionalists do not look for a third variable is in the nature of functional explanation. Once functionalists assert there are necessary conditions which must obtain if the system is

to survive, they suggest a variable which fulfills the requisite and thereby end their inquiry. I have already pointed out on several occasions why the above cannot be done if an adequate explanation is to be provided, and there is no point in reiterating these reasons. We should note, parenthically, that if, as I suggested, functional analysis does tend to close the door to inquiry, the claims for its use in the context or discovery are as unfounded as the claims made for its explanatory worth.

Before turning to a final remark on "survival" encountered in Ulmer's work, let me make it quite clear that he does mention several other variables which must be considered in providing an explanation of the Court's operation. Furthermore, Ulmer is not even attempting to provide us with more than a partial explanation of the Court's operation, and this again raises the question of whether or not the term 'feedback', of the idea couched in other languages, is applicable when we do not know all or most of the relevant variables affecting a system. After all, it is quite possible that a change in a system is due to the affect of a third variable rather than to the affects system outputs have for future inputs. This is, of course, an empirical question, but there is no reason to assume, a priori, that feedback is present simply because the potential for human beings to change is always present. I will continue with the discussion of the term 'feedback' in taking up one last aspect of Ulmer's functional analysis.

We saw previously Ulmer's insistence on talking about system

survival with regard to the Supreme Court; now let us ask what he could possibly mean by these remarks. Let us pose the question in terms of the 1937 court packing plan. If Justice Roberts had not changed his decisions in 1937 and thereafter, we might assume that the composition of the Court would have changed. But would this constitute a failure of the system to survive--or are we to assume also that the Court could have been altered by other ways which could be considered as a failure of the Court to survive as a system? Evidently, Ulmer means that the Court would have failed to survive in a given state. But if this is true, how are we to explain the shift in the Court's decisions from, say, 'conservatism' to 'liberalism', indicating that the Court did fail to survive in a given state, although there was change? Seemingly Ulmer's brief discussion of dynamic equilibrium is an attempt to allow for change in some of the system variables while other variables remain the same. Ulmer writes, for example, that "Equilibrium is stable and dynamic if subsequent to any disturbance the system components tend to resume their original relationships."[189] This use of the term dynamic equilibrium is perfectly compatible with the way we have been talking about the general hypothesis of self-regulation. For example, we said that a recall could serve as a functional equivalent for legislative norms because a recall permitted the system to return to an equilibrium state after a disturbance.

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[189]Ulmer, "Homeostatic," p. 169.

But some of the system properties must remain in an equilibrium position if a system is to be categorized as a self-regulating one. Robert Brown writes, for example, that:

> A self-persisting system is commonly taken to be a system which maintains at least one of its properties in an equilibrium position despite variations in the other properties, either inside or outside the system, to which the presence of the first property is causally related.[190]

It seems that the property maintained in an equilibrium position in Ulmer's system is the allocation and legitimazation of societal values. If this is true, it is even more important that Ulmer provide us with a way to recognize when this property is maintained in an equilibrium position and when it is not. This requires a hypothesis of self-regulation with respect to range R.

In the next sentence following the quotation I just listed, Brown adds:

> This ability to maintain a property in a steady state while its causal factors vary within certain limits depends upon the system containing certain devices. There must be self-regulators in the sense that they must register any significant variations in the state of the property which is being maintained and must compensate for these variations in such a way as to preserve the property within a range of permissible values.[191]

These self-regulators are the mechanisms which return the system property to equilibrium after a disturbance. If Ulmer is to show that these mechanisms are present, register a change in societal values, then change to maintain the system property in equilibrium

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[190]Brown, Explanation, pp. 110-111.

[191]Ibid., p. 111.

he must, as I stated previously, be much more specific than he has been. This would be true for Deutsch and others also. It is not enough to simply assert that the mechanisms are present. It is these mechanisms, of course, which also permit us to talk about feedback in a useful way. If we know there are mechanisms which do register outputs of the system and adjust to compensate for the affects these outputs have on the system, it makes sense to talk about self-regulating systems. Before we have discovered these mechanisms, however, the terms 'self-persisting', 'feedback', and 'survival' may be more detrimental than beneficial. Ernest Nagel, among others, notes that:

> Functional statements are regarded as appropriate in connection with systems possessing self-maintaining mechanisms for certain of their traits, but seem pointless and even misleading when used with reference to systems lacking such self-regulatory devices.[192]

Unless we are to construe Ulmer's reference to survival as indicating only that the Court continued to have nine men, he must attempt to point out some of the indicators we could use to determine if the system has changed; a reference to dynamic and stable equilibrium is misleading otherwise.

Taking up once again the question of survival, we need to pose the question as to whether or not it makes sense to talk about the survival, in the ordinary sense of this word, of institutions established by Constitutions, laws, or rules. To answer the question

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[192]Nagel, Logic, pp. 251-252.

properly, we need to gain a bit more perspective on how other political science functionalists feel about this. To do so, we can consider Richard Fenno's article on a House Committeé, and return to the question just posed in the latter part of this chapter.

Fenno begins like most functionalists by stating a need for system survival or adequate operation. His requisite or need is integration of the system. He writes that "No political system (or subsystem) is perfectly integrated; yet no political system can survive without some minimum degree of integration among its differentiated parts."[193] We will have to examine Fenno's term 'integration' later. For now, we can comment on the similarity between Fenno's work and that of other functionalists. After stating his functional requisite, he asks, as we fully expect, what items contribute to integration? The variables, Fenno says, which contribute to integration are: consensus on goals or tasks; the subject matter of the committee; the legislative orientation of its members; attractiveness of the committee for its members; and the stability of Committee membership.[194] Fenno indicates that these variables used in his study are wholly descriptive of the internal operation of the system, and he is ignoring variables

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[193]Richard Fenno, Jr., "The House Appropriations Committee as a Political System," APSR, LVI (June, 1962), 310.

[194]Fenno, "The House . . .," 311.

which describe disturbances originating in the environment.[195]

It is not especially fruitful to discuss each of these variables. Two examples will suffice to make the points necessary to show that Fenno's functional analysis presents us with most of the problems found in other functional works. In writing about socialization, which is necessary to reduce friction which is non-integrative, Fenno says, "The important function of apprenticeship is that it provides the necessary time during which socialization can go forward."[196] The assertion that apprenticeship is necessary brings up the first question we must ask: is there a functional equivalent for apprenticeship? If a functional equivalent, say number of years in the House or being from a conservative state, could serve as well in contributing to socialization and thereby integration, apprenticeship would only be an i in a class I, which is one variable explaining the working of a system. If this is the case, then, we have failed to explain why there is a long apprenticeship for new committee members even if there is no problem with the functional requisite. In Fenno's case, there is also a problem with the functional requisite, but since I promised to provide two examples of functional statements found in his work, I will consider one other before turning to the functional requisite of integration.

In discussing norms which contribute, directly or indirectly, to integration, Fenno writes:

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[195]Fenno, "The House . . .," 310.

[196]Fenno, "The House . . .," 321.

> One of the most functional Committee practices supporting the norm of unity is the tradition against minority reports in the sub-committee and in the full Committee. It is symptomatic of Committee integration that custom should prescribe the use of the most formal and irrevocable symbol of Congressional Committee disunity - the minority report.[197]

In the above, we have a norm which contributes to integration. But Fenno mentions three other norms also which contribute to sub-committee unity, and does not tell us whether or not each is necessary for unity. It is patently clear from later remarks by Fenno, however, that there are violations of the tradition against minority reports, but the system still operates adequately.[198] Thus, strict adherence to at least one of these norms is not necessary for adequate operation of a sub-committee or committee. There are several ways that a functionalist might deal with this problem, but Fenno fails to suggest what could be done to test his functional statement about norms. One way to cast the hypothesis into testable form would be to state, in some form, how the values of the other norms would increase if the filing of minority reports increased. Another is to suggest what alternative measures might be taken if minority reports increase.[199] If neither of these possibilities is considered, it seems likely that a functional explanation is completely unwarranted; perhaps the specified norms do contribute to

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[197]Fenno, 317.

[198]Fenno, 323.

[199]To deal with the first problem would require a fully expanded functional explanation, while a solution to the second problem would require a listing of functional equivalents.

the maintenance of committee integration, but perhaps they do not, that is, a committee may operate just as adequately without these norms as it does if they are present. The only way we can be sure that it does not do so is to cast the functional statements into a form that will permit empirical testing.[200]

Thus far, I have attempted to show that Fenno has not provided us with functional hypotheses which could be tested, even if we leave aside the problems connected with the functional requisite--integration. Once we add his discussion of the requisite, the problem becomes compounded immensely. For instance, Fenno says that his term 'integration' has not been defined precisely:

> On the basis of our analysis (and without, for the time being, having devised any precise measure of integration), we are led to the summary observation that the House Appropriations Committee appears to be a well integrated, if not extremely well integrated, committee.[201]

Now it is not unusual to find that a political scientist has not defined his term precisely, but can Fenno be so cavalier about his definition when he also says that "no political system can survive without some minimum degree of integration. . ."? Again, what is needed is a hypothesis of self-regulation with respect to R, and if there are functional equivalents for the absence of minority

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[200]Fenno does include some statements which seem to include functional equivalents for a given item. He writes, for example, that where "Committee selection does not and cannot initially produce individuals with a predisposition toward protecting the Treasury, the same result is achieved by socialization." Fenno, "House . . .," 321.

[201]Fenno, 323.

reports, a general hypothesis of self regulation is needed.

We could continue to cite other examples much like the ones from Fiellin, Ulmer, and Fenno,[202] but it hardly seems necessary to do so. We see clearly the pattern of explanation that is present in a functional analysis of a small system; a pattern that is like functional explanations of systems as large as a society--except that works dealing with the former do not pretend to include all the variables which affect a system. But functionalists dealing with both types of systems assert that there are needs which must be met and then attribute the function of meeting the need to some item.

It is the generalization attributing a need to a system, if the system is to operate adequately, that provides us with the most important part of a theory about a system. Let me first make it quite clear that my use of the term 'theory' refers to a set of empirical generalizations which permit us to organize and explain facts and other generalizations by deducing them from some of the generalizations in the theory.[203] The generalizations in which the functional requisites appear provide us with the premises used in deducing the conclusion that a fact (exemplification of a concept) is present at a given time in a system. The pertinent question

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[202]See for example John F. Manley, "The House Committee on Ways and Means," APSR LVIII (December, 1964) 927-939, and William Mitchell, "The Polity and Society: A Structural-Functional Analysis," Midwest Journal of Political Science, 2 (November, 1958).

[203]We must, of course, include statements of individual fact as well in the explanation.

which arises is: how are the generalizations established which serve as premises in functional explanations?

Let us recall first that there is no logic of discovery which must be employed in formulating hypotheses. Since this is the case, it seems that we are free to get our hypotheses from anywhere, that is, we can formulate them through analogous reasoning, have a dream during which we have an insight, or simply think them up while walking down the street. If hypotheses can be arrived at in these diverse ways, it is apparent that criteria must be available which provide us with ways of distinguishing between hypotheses which can serve in an acceptable explanation and those which cannot. Otherwise we can explain the occurrence of any fact simply by thinking up an appropriate hypothesis from which to deduce a fact. One criterion, and perhaps the best, is that if a generalization used to explain the occurrence of a fact can be deduced from a verified theory, then the generalization is true and a conclusion derived from a true generalization must itself be true. In Bergmann's work on "Purpose and Function" we saw how the generalization 'water, if heated, will boil' could be used to explain why water boiled. We saw also that this generalization can be deduced from a process theory.[204] But can we deduce the functional statement 'if s is to operate adequately, a condition n must be present', from a theory? No functionalist has ever claimed to have done so

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[204]Bergmann, "Purpose and Function," 228.

but there is no reason why we cannot do so. But can the generalization be established in another way? To this question we can answer yes. It can be established by empirical investigation, but it must be established independently of the evidence adduced for its support, as I mentioned previously. That is, we cannot say 'if s is surviving then functions are being performed' and thereby establish that certain functions must be present for s's survival or adequate operation. But functionalists do attempt to establish their generalizations in this way, as I have amply demonstrated previously. Until functional statements have been established by deducing them from a theory or by empirical inquiry, functional explanations will remain suspect, if not fallacious.

There seem to be at least two arguments an adherent of functional analysis could raise in objecting to my remarks. The first is that while functional generalizations cannot themselves be explained, they can be used to explain facts and other generalizations. After all, they might argue, there is a point beyond which no scientific theory can go, at least for the present, in explaining the "highest level" generalizations for a given subject matter, and we have reached that point when we formulate functional generalizations. Although I do not know of a functionalist putting forth such an argument it certainly is plausible, given what we know about theory in the natural sciences. But if the argument were raised, and I think it quite likely will be eventually, my reply would be that while it might be the case that the "high level" generalizations

cannot be explained presently, they must be capable of being explained, now or in the future, and functional generalizations do not, for numerous reasons presented previously, meet this requirement.

A second argument that is sometimes cited and often put forth in conversation is that functional analysis is not used to explain, but serve only as an "analytical" or "conceptual" scheme which permits one to begin inquiry. Fortunately, two recent books by political scientists make it quite clear that a number of political scientists consider functional analysis as an attempt to explain political behavior, and comments from these two works, plus the examples cited heretofore makes it unnecessary to spend much time in refuting this second argument. A brief glance at remarks from these recent books will serve as adequate evidence that functional analysis is used in the context of explanation, not just discovery. In their introduction to a reader on American politics, Brown and Wahlke write that systems analysis "permits us to organize miscellaneous facts and to seek out missing facts to organize around meaningful questions, so that we begin to know how the American political system works and why."[205] And in an introductory chapter to a book of readings on American political parties, Charles G. Mayo and Beryl I. Crowe write, "We believe the theory expounded in this essay is the most parsimonious developed to date for organizing and interrelating

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[205]Bernard E. Brown and John C. Wahlke, The American Political System (Illinois, 1967), p. 10.

a mass of important, validated, low-range and middle-range political theory."[206] In light of the above remarks, it is patently false to assert that functional analysis is used only in the context of discovery; it is evident that some political scientists consider functionalism as being able to explain facts as well as generalizations.

It is quite possible, of course, that functional explanations provided in the future will be acceptable as far as the logical structure of the explanation goes. But this possibility brings us back to a question posed earlier: does it ever make sense to provide a functional explanation of a system like the Supreme Court or a House Committee if the functionalist talks about "survival" of the system?

It does not seem that it does. Since the Constitution provides for a Supreme Court, is it likely the Court will be abolished under any circumstances? It hardly seems so, although it is quite possible that members will be deleted or added, or that some other institution will be established to serve as a check on the Court; but would this constitute a failure of the system to survive? The answer, I presume, would depend on the definition of the term 'survival'. But since functionalists use the term as we do in ordinary discourse, we must say to the functionalist that until he offers another definition, his statements about survival are either fallacious, or untestable. If the functionalist does mean survival

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[206] Mayo and Crowe, American Political Parties, p. 35.

in a given state, he must make it much clearer than he has thus far by providing us with the limits within which the system will survive, in state alpha, beta, etc. The same problems encountered in a functional analysis of the Supreme Court are also present in a functional analysis of a committee. Congress does not abolish committees often, and it seems misleading to talk about a threat to the "survival" of Congressional committees. Under these circumstances, it would seem to be more feasible to provide explanations which do not include the term 'survival'. The abandonment of this term would not necessarily require that functional explanation itself be abandoned but only reformulated.

At any rate, we have seen quite clearly in this chapter many of the problems confronting all functionalists, and by examining small systems, we see how the problems confronting functionalists dealing with large systems are compounded a thousandfold. We have also seen that it is extremely difficult to provide an adequate (i.e. subject to empirical test) explanation for even a small system, and we were also made aware that until more precision is incorporated into functional analysis, this form of explanation seems unsuitable to explain and predict the operation of small systems. Now let us turn again to attempts of functionalists to provide an explanation of large systems, but in a way that differs somewhat from the type of functional explanation we have encountered in the past two chapters.

CHAPTER 5

FUNCTIONAL EXPLANATIONS EMPLOYING DEVELOPMENTAL HYPOTHESES

In the two previous patterns of functional explanations we have examined, political scientists have either been attempting to delineate the relevant variables for a large system or, as in the second pattern, the variables "inside" the political system which are relevant to the operation of the system. In this chapter, we can turn to an examination of functional generalizations where an item must be present if a system is to develop from one stage to the next. In this type of explanation, the scientist makes it quite clear that he is ignoring many of the relevant variables affecting a system and concentrates on isolating necessary or sufficient conditions for system development.[207] As I stated previously, we will refer to these generalizations as developmental laws, and the logical form of the law is if B now then A earlier and C later. As Bergmann states, a developmental law is an anticipation of a process law,[208] and in functional writings, we will see quite clearly that those who now use developmental laws are attempting to move toward process knowledge. In considering the use of

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[207]It is true, of course, that the functionalists we have examined previously employ these types of hypotheses also.

[208]Bergmann, Philosophy of Science, p. 127.

developmental laws by functionalists in political science, I will direct my attention to the works of Gabriel Almond, since it is he who has been the most concerned with using this type of generalization in functional explanations.

But before turning to Almond, let me present one example of a developmental law from Mitchell's work. He writes that:

> The improvement of the Negro position . . . has come about in part because he now has effective leadership and organization capable of performing the functions of leaders. The same was true of the working class after the 1930's when skilled leaders and organizational resources appeared on the scene and collaborated with politicians. In a sharply differentiated polity, coordination of action is imperative and leaders are expected to do the job. Thus if citizens are to control their situations, leadership--although traditionally decried in democracies--is vital.[209]

Mitchell is saying, it seems, that if coordinated action is achieved, a stage B, it can be accomplished by the appearance of skilled leaders, which presupposes a stage A where leadership was not present, but developing, in the required degree. Thus, if we are at B now, then stage A was present earlier. Although Mitchell does not explicitly mention stage C, we assume that he means that if at A leadership was developing; at B leaders appeared and coordinated action; and at C the Negro will be able to achieve the gains similar to those of the labor unions after their leadership appeared. If this is indeed what Mitchell means, we must be aware that if stage C is to occur, the system must remain closed.

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[209]Mitchell, American Polity, p. 280.

Previously, I talked about closure only with respect to systems where we knew all the relevant variables, but we can also talk about closure when we are examining explanations using developmental laws because we are considering only one relevant variable at each stage.[210] If Mississippi "rednecks," for example, kill off the Negro leaders that appear, we would have a violation of closure since we assume that "normal" conditions will prevail for Negroes, just as for labor organizations. If closure is violated, then we cannot predict what will occur at stage C. Political scientists often make this same point about possible violations of closure (but somewhat more crudely) when they state that in using the term 'development' we should not assume "inevitability, uniform stages, and unvarying patterns . . . when it is applied to the political realm."[211]

On turning to Almond's work, we are confronted first of all with the question of whether or not Almond's functional analysis is different from other functional works I have examined thus far. The question must be posed because many political scientists assert that Almond's functional explanations differ from those provided by people like Beer, Mitchell, Eckstein, and others.[212] We readily grant

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[210]Bergmann, Philosophy, p. 119. Bergmann notes also that closure is hardly ever mentioned in connection with developmental laws.

[211]J. Ronald Pennock, "Political Development, Political Systems, and Political Goods," World Politics, 17 (April, 1966), 416 note two.

[212]See, for example, Eckstein, "A Perspective," p. 27; Flanigan and Folegman, "Functionalism in Political Science," pp. 115-116; and Crowe and Mayo, "The Structural-Functional Concept," pp. 35-36.

that the terminology used by Almond is different, but I shall attempt to show that his functional explanations have the same logical form as the others, except that Almond attempts to use developmental laws to a much greater extent, at least in some of his works. In general, however, Almond has been attempting to move from the use of cross-sectional (static) and developmental laws to process laws.[213] In making the transition, Almond introduces needs of systems at different states, and in doing so moves even closer to other functional analyses in political science than was previously the case.

Let us begin with Almond's chapter in the book The Politics of Developing Areas by noting his definition, or perhaps partial definition, of a political system. He says there is a

> system of interactions to be found in all independent societies which performs the functions of integration and adaptation (both internally and vis-a-vis other societies) by means of the employment, or threat of employment, of more or less legitimate physical compulsion. The political system is the legitimate, order-maintaining or transforming system in the society.[214]

The system has boundaries, that is, there is exchange between the system and its environment. Inputs and outputs serve to delineate the boundary of the system from its environment. The inputs, Almond says, are "all in some way related to claims for the

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[213]In Almond's last work, Comparative Politics: A Developmental Approach, for example, he writes, "Our earlier formulation was suitable maninly for the analysis of political systems in a given cross-section of time," p. 13.

[214]Gabriel Almond, "Introduction: A Functional Approach to Comparative Politics," in Gabriel Almond and James Coleman, The Politics of Developing Areas (Princeton, 1961), p. 7.

employment of legitimate compulsion whether these are demands for war or for recreational facilities."[215] The outputs, in turn, are related to legitimate physical compulsion however remote the relationship may be.

Four other characteristics that all political systems have are later added; these are (1) structural specialization, (2) the same functions are performed in all political systems, either by the same or different types of structures, (3) these structures are multifunctional, and (4) they are mixed systems, that is, partly traditional and partly modern, and so forth.[216]

Thus far, Almond's formulation does not differ greatly from the previous formulations. There is a system, a state of the system characterized by the values of the variables which indicate the system interactions, and the outputs which have effects for other systems. But whereas other functionalists usually direct their attention to the variables which maintain system properties, in Almond's case integration and adaptation, Almond indicates that there are seven functions which are fulfilled within the political system and it is these functions he is concerned with. These are: political socialization and recruitment, interest articulation, interest aggregation, political communication, rule making, application, and adjudication.[217] The first four functions are

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[215]Almond, "Introduction," p. 7.

[216]Almond, "Introduction," p. 11.

[217]Almond, "Introduction," p. 15.

connected to the inputs of the system and the last three to the outputs. It would seem, then, that the two system properties of integration and physical compulsion, or the threat of it, are the total effects the political system has for the system as a whole, while the last seven functions are performed within the political system. These seven functions would then be the n's of the political system, and the items contributing to these n's have the function of maintaining a given n or n's. Almond says, for example, that in asking a functional rather than a structural (institutions such as political parties and legislators) question we ask "how are interests articulated? What structures are involved? How do they articulate interests? These questions open our minds to the whole range of interest phenomena in a society. We are not structure bound."[218] This seems to clearly indicate that the structure is an item that is related to one or more of the seven traits of the political system; the question that arises, however, is whether these n traits are necessary, or sufficient, conditions for system maintenance, and it is perhaps this lack of clarity on Almond's part that has led other functionalists to question whether his functionalism is similar to theirs or is indeed different. There is no way to clearly resolve the problem since Almond never specifically says that he considers the system traits as being necessary or sufficient conditions for system maintenance. At one point he writes that "In a series of studies which were intended to describe the functions

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[218]Almond, "Introduction," p. 13.

performed by the Executive, the Congress, pressure groups, and the press in the making of foreign policy, some eight more or less distinctive activities or functions developed from the coding of interview responses."[219] The distinct activities are the seven functions mentioned previously, but the use of 'function' to indicate the activities, as he is clearly using the term above, does not correspond to the way he employs it when he states that, "In characterizing the governmental functions in a political system, we have to specify the structures performing the functions, the style of their performance, and the way in which the problem of cultural dualism is solved."[220] Here the use of the term would seem to indicate that 'function' is more than merely a listing of the activities being carried out within a system. But is the term 'function' employed in either the sixth or seventh sense of the term or in the eight sense? There is one more term that must be discussed which may provide a pattial solution to the problem--'system boundary'. A political system, Almond says, is boundary maintaining, and the traits maintain the boundary between the political system and its environment. But not all systems maintain their boundaries between the political system and the other systems in the environment; if boundaries are maintained, then there is 'good' maintenance and if they are not, then boundary maintenance is 'poor'. It is possible that 'good' is used

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[219]Almond, "Introduction," p. 12.

[220]Almond, "Introduction," p. 56.

to indicate the n states of a system, while 'poor' is a non-n state of a given S. Almond does indeed use the terms in this way when he discusses 'good' boundary maintenance, that is, adequate working; but this applies primarily, it would seem, to developed nations since it would be quite difficult to show that in some societies, at least, if more than one sub-system state co-ordinate performs the same function as a state co-ordinate within the political system, the system would not operate adequately. Nothing needs to be added to previous statements I have made about the difficulty of specifying i's or I, since it is this difficulty that has been the center of discussion in chapter two.

But to conclude the discussion on whether the traits are necessary or sufficient conditions for system maintenance, one further comment from Almond must be offered. He asks, "What do we mean by the function of political socialization? We mean that all political systems tend to perpetuate their cultures and structures through time, and that they do this mainly by means of the socializing influences of the primary and secondary structures through which the young of the society pass in the process of maturation."[221] It is likely, then, that Almond does consider the structures, institutions of socializing the young, as items which maintain a trait, an n, as necessary, or more likely, sufficient conditions, for the adequate operation of the system. Thus, his formulation seems to be much more similar to other

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[221]Almond, "Introduction," p. 26.

functional analyses then most political scientists have thought heretofore.

Almond does not formulate developmental laws (hypotheses) in the work discussed above. In his latest work, he says that his functional formulation in the introductory chapter to the Politics of Developing Areas book was static. His primary interest, it seems, was to suggest that there were institutions, or alternative roles, in primitive or underdeveloped nations which could perform the same function as activities within orhter institutions in developed countries. If this is the case, then, he was attempting to show the functional equivalents for performing functions in that, if parties were not present, the bureaucracy, or military or interest groups would have the same effect for the functions of interest articulation, aggregation, and so forth. I say seems above because it is not clear, as I have demonstrated, that the functions are either necessary or sufficient conditions for adequate operation of the system.

At any rate, he includes far too many equivalents for fulfilling a given function or functions. If every possible behavior pattern is included as functional or as functionally equivalent, then the class of items I becomes empty. In an attempt to clarify this point, let us look at some of the activities which perform functions, according to Almond.

In discussing parties, Almond notes that "Without a party system the aggregative function may be performed covertly, diffusely, and particularistically, as in a political system

such as Spain."[222] This is the recognition that there are functional equivalents for parties. But whereas other functionalists often fail to recognize that there might be functional equivalents for an item, Almond seems to want to include all activities which are remotely political as contributing to the maintenance of one of the traits. He writes, for example, that "when we speak of the political system we include all of the interactions--inputs as well as outputs--which have the function of contributing to interest aggregation or some other system trait."[223] But Almond lists so many activities that can contribute to one of the seven traits (functions) that it is doubtful that he is indeed attempting to specify the sufficient conditions for the maintenance of a trait; that is, the class I which includes all of the conditions sufficient to maintain an n. It is quite likely that Almond means that in systems of a given type, say traditional ones, some activities contribute to one of the traits, while in another type, modern say, another activity performs the same function. But granting this, Almond's formulation does not provide any precise indication of how the activities within any system which contribute to the maintenance of a given trait are to be chosen for that system. For the inputs and outputs of the system as a whole, we include, Almond says, "not just structures based on law, like parliaments, executives, bureaucracies, and courts, or just the associational or

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[222]Almond, "Introduction," p. 40.

[223]Almond, "Introduction," p. 40.

formally organized units, like parties, interest groups, and media of communication, but all the structures in their political aspects, including undifferentiated structures like kinship and linéage, status and caste groups, as well as anomic phenomena like riots, street demonstrations, and the like."[224]

When we look at only one of his structures, we see numerous difficulties in distinguishing the activities which contribute to a given trait, and this is the case whether the systems are classified as traditional, modern, and so forth. To make this clearer, I will point out the structures Almond says are present in all systems for articulating interests and choose one of these for further discussion.

Almond includes four types of structures which fulfill the articulation function: institutional interest groups, non-associational interest groups, anomic interest groups, and associational interest groups.[225] Under each of these categories there are numerous groups which provide the inputs for the above function; Almond devotes two pages to enumerating the groups falling

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[224]Almond, "Introduction," pp. 7-8. We will have to return to this statement throughout this chapter for in Almond's later works, he still makes this assertion but makes no attempt to indicate all the relevant variables affecting a system.

[225]Almond, "Introduction," 33. It is undoubtedly Almond's attempt in the work cited, to classify groups according to the way interests are articulated, aggregated, etc., that leads both Robert Dowse and E. Meehan to assert that, at best, Almond constructs a classification scheme for political analysis. For Dowse's and Meehan's statements, see Robert E. Dowse, "A Functionalist's Logic," World Politics, 18 (July, 1966) and E. Meehan, Contemporary Political Thought (Illinois, 1967), p. 175.

within all of the categories, but I will only provide several examples to illustrate each type. The institutional interest groups are found within legislatures, armies, bureaucracies, churches, and so on, while non-associational groups are informal groups as ethnic, regional, religious, class groupings; anomic groups indicate more or less spontaneous breakouts as riots and demonstrations, and associational groups are trade unions, business groups, civic groups, and so on. Almond does not say that all of these groups articulate interests at the same time, nor that if one type is present the others will not be. Neither does he say that one type of group is predominant over other types in all systems, although it is obvious that not all groups falling within each type will be found in all systems. What he seems to want to convey is that all societies have one or more items within each, or most types, and if one group, say a legislature, does not articulate interests, then other groups, e.g. armies, will. The other group may be within the same type or, if a society doesn't have an army, bureaucracy, or businessmen, then, some other structure, say anomic groups, will perform the function of articulating interests.

The only way that any order can be imposed on Almond's interest group categories would be to represent each category as a state co-ordinate, and the groups falling within each category would constitute the limits within which each state coordinate will contribute to maintaining an n, the interest articulation function. Since some societies would perhaps not have any groups falling within the class represented by one of the four state co-ordinates,

the class K would be empty and could not maintain n in the face of system changes unless a functional equivalent developed. It is extremely doubtful, however, if any complete enumeration of class K could be made or that any way could be found of handling functional equivalents within each state co-ordinate. If both the army and legislative body, for example, articulate interests at the same time and both fall within a given class K, we must know that if one group does not fulfill the function, the activities of the other one will increase sufficiently to maintain the system in equilibrium. But if there are numerous organizations which can fulfill a requisite, it may be that we can never find a system where one of the items is not present, even in systems that have failed to survive.

The problem would be overcome, of course, if each state co-ordinate could be represented as a measurable variable but without this, or without greater limits placed on the types of groups falling within each category, Almond ends up with what Hempel has called a covert tautology, that is, "Systematic use of / a / methodological strategy / which precludes the possibility of any reasonably clear cut test of confirmation / would, of course, turn / a / hypothesis into a covert tautology. This would insure its truth, but at the price of depriving it of empirical content; thus construed, the hypothesis can yield no explanation or prediction whatsoever."[226] Almond does, in the closing pages of his work, say that we might be able "to select a limited number of indicators of

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[226]Hempel, "Logic of Functional Analysis," in Hempel, Aspects, p. 319.

the performance of function by structure: . . . [and to] get quantitative evidence of these performances."[227] But he doesn't seem to take his own admonition seriously in his later works.

In January, 1965, Almond presented a reformulation of functional analysis which is somewhat similar to his previous work but shows a more definite sociological influence, primarily from Parsons.[228] Strangely enough, Almond states at the outset that the chief criticism of functional analyses in general has been that it is a "static theory" not suitable for the analysis and explanation of political change.[229] This provides Almond with a basis for reformulation which will provide for system development. This time he clearly indicates that systems are composed of interdependent parts which are self-regulating, writing:

> By the interdependence of the parts of a system, we mean that when the properties of one component in a system change, all the others, and the system as a whole are affected . . . In other words, when one variable in a system changes in magnitude or in quality, the others are subjected to strains and are transformed, and the system changes its pattern of performance; or the dysfunctional component is disciplined by regulatory mechanisms, and the equilibrium of the system is reestablished.[230]

It seems, from the above, that Almond is now moving toward becoming a full-fledged functionalist and the question is, does he

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[227]Almond, "Introduction," p. 62.

[228]Gabriel Almond, "A Developmental Approach to Political Systems," World Politics, 17 (Jan. 1965), 183-215.

[229]Almond, "A Developmental," 184.

[230]Almond, "A Developmental," 183.

avoid the problems found in other functional analyses? The answer must be an emphatic no. His inputs are now 'demands' and 'support' rather than just 'demands' as in his first formulation.[231] Have the indicators of both demands and support been further limited? Again, the answer must be no; demand inputs, Almond states, may be classified as follows: "(1) demands for goods and services, such as wage and hour laws, educational opportunities, recreational facilities, roads and transportation; (2) demands for the regulation of behavior, such as provision of public safety, . . . etc.; demands for participation in the political system . . . etc.; and (4) symbolic inputs, such as demands for the display of the majesty and power of the political system in periods of threat or on ceremonial occasions, . . . etc."[232] Support inputs are then classified under four headings, but it is not necessary to include all of these as they are all related to demands in the following way: demands are made for material resources and these resources must come into the system as supports such as the payment of taxes, military service, and so forth. In his listing of inputs, Almond's formulation is very similar to Mitchell's and to other functionalists' and, at most, his restatement brings him up to the level of other functionalists; but as is evident from the above, the problems of functional analysis

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[231]Almond still wants to include "all of the structures in their political aspects" just as he does in his earlier work, rather than attempt to provide a limited number of indicators for the activities or structures which perform functions, as he also suggested earlier.

[232]Almond, "A Developmental," 193.

pointed out throughout have not been resolved. Neither does Almond take his advice about limiting the items falling within each state co-ordinate. It is quite doubtful that very many acts performed by an individual, in whatever role, would be excluded from the state co-ordinates representing the support inputs. When a man pays his taxes, obeys laws, votes, serves in a labor union, flies his flag, stands up when the national anthem is played, teaches his children to respect property and governmental officials, he is providing support.[233] If demands and supports are taken not as constituting the only two state co-ordinates, but the activities within them are regarded as the state co-ordinates, then the same problem remains; are the state co-ordinates' values independent at some time, is completeness achieved, and can there be even other items which serve as functional equivalents? A continuous assertion and reiteration of interdependence, and broad types of inputs and outputs leads nowhere unless functionalists begin to attempt to answer these questions.

When we turn to a consideration of the traits maintained by demands and supports, we become somewhat confused. In his work included in The Politics of Developing Areas, it seems that Almond is asking what sorts of activities contribute to the fulfillment of articulation, aggregation, and the other functions, but in his reformulation, he suggests that these are not functional requisites; in the latter he lists the functional requisites as being:

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[233]Almond, "A Developmental," 193.

(1) extractive, (2) regulative, (3) distributive, (4) symbolic, and (5) responsive functions, writing that, "These five categories of capability may be viewed as functional requisites; that is any political system--simple or complex--must in some measure extract resources from, regulate behavior in, distribute values in, respond to demands from, and communicate with other systems in its environments."[234] It is quite obvious that Almond has simply re-phrased Parsons' functional requisites of goal-attainment, pattern maintenance, adaptation, and so forth. If this is indeed the case, we might assume also that he considers the structures which fulfill these requisites as either necessary or sufficient conditions, but we find no direct evidence for this view. We do see, however, that he does consider the inputs as structures which fulfill requisites in his statement that:

> At an earlier point we spoke of symbolic inputs, referring to demands for symbolic behavior on the part of political elites - displays of the majesty and power of the state in periods of threat or on ceremonial occasions, affirmation of norms, or communication of policy intent from political elites. We referred to symbolic supports, meaning such behavior as showing respect for, pride in, or enthusiasm for political elites, physical symbols of the state such as flags and monuments, and political ceremonials.[235]

If the activities through which demands are made upon the political system do not contribute to the fulfillment of the requisites, then Almond's functional analysis is indeed different from other functionalists considered in this work.

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[234]Almond, "A Developmental," 197.

[235]Almond, "A Developmental," 200.

Certainly there is nothing to get excited about in Almond's formulation or reformulation if these activities do not contribute to the requisites in the same way that Mitchell's demands contribute to his requisites. And if Almond's formulation is like Mitchell's and the others, it is quite clear that the same criticisms would apply. As I have tried to show, I prefer the latter interpretation, but if I am wrong it still remains to be seen what Almond has contributed to functionalism, or any other type of explanation for that matter.

We recall that Almond first says that in all systems--simple or complex--these requisites must obtain. But consider the following statement from this same work:

> An extractive capability implies some regulation and distribution, though these consequences may be unintended. A regulative capability implies an extractive capability, if only to gain the resources essential to regulation; and it is difficult to conceive of a regulative capability which would not in some way affect the distribution of values and opportunities. . . . Thus political systems which are primarily extractive in character would appear to be the simplest ones of all. They do not require the degree of role differentiation and specialized orientations that extractive-regulative systems or extroactive-regulative-distributive ones do. Regulative systems cannot develop without extroactive capabilities; thus the development of the one implies the development of the other. . . . Similarly, a distributive system implies an extractive capability and obviously can reach a higher distributive level if it is associated with a regulative capability as well.[236]

There are several points to note in this quote. Taking up the question which we posed above, we ask whether or not Almond does

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[236]Almond, "A Developmental," 199-200. Emphasis mine.

consider all political systems to have these five requisites he first mentions? Evidently he does not. Note that he first says that it is difficult to conceive of a regulative system not also having a means of distributing values and opportunities. But in the last sentence, he comments that a distributive system can reach a higher distributive level if it is associated with a regulative capability as well. But if all five requisites must be present in a system as Almond first states, what is the import of these last remarks? Is it that each requisite must be present to a given degree, and as the system becomes more complex the magnitude or value of the variable increases? Almond does not answer these questions, and in fact, never defines his terms extractive, regulative, and others at all, so if this is indeed what he means, we are at a loss as to how we distinguish one state of a system, say a 'pre-modern' from a 'modern' state, if we depend on the value of the requisites for making the distinction. Almond does, to be sure, suggest other ways to distinguish the "stages of development" but they are not related to the values of the requisites very specifically and provide little assistance in helping us distinguish one system stage from another.[237]

The most important point to note in Almond's quote, however, is that he is formulating developmental laws of the type if B now, then A earlier, and C later. It is because he does formulate this type of law that his failings noted above are so serious.

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[237]I will have more to say on this point in the following pages.

In the quotation presented above Almond states, "Regulative systems cannot develop without extractive capabilities . . ."; here Almond is clearly stating that if we are at stage B now, a regulative system, then at some previous time we had to be at stage A, where extractive capabilities developed. Almond then mentions an extractive-regulative-distributive system; the distributive system would correspond to stage C in our law if the distributive stage developed from the extractive-regulative stage, and this seems to be what Almond is trying to indicate; but when we return to the last sentence and see that it might be possible for a system to arrive at a distributive stage, C, without having gone through a regulative stage B, we are again puzzled.

Although I am not sure I can clarify my own, or the reader's, thoughts about Almond's formulation, it seems that Almond is attempting to formulate a developmental law to the effect that as extractive capabilities increase, the system moves to another state with increased regulative capabilities, and on through the other stages. Each state or stage would have to be characterized by the values or the magnitude of the variables. Since Almond provides no way to measure extraction, it seems that we have to rely on specialization of structures to indicate development. That is, when a tax office is established to extract revenue or a police department is established to regulate behavior, development occurs. Without a more precise formulation, however, we cannot assess the truth or falsity of Almond's generalizations, and we can neither explain a present state nor predict the occurrence of a future state

from a previous one.

In the comments on Almond's reformulation, we did not progress very far in showing how his functional analysis is like other functional explanations. But in many respects, e.g. his use of functional requisites, items or structures which fulfill these requisites, and functional equivalents, there is little difference. I suppose what we must conclude for now is that for functional analysis to be useful in Almond's formulation, he would have to show that items which contribute to an increase in the value of extractive capabilities are functional in that when the item(s) contributing to an n reach a given level, development from one stage to another occurs. Conversely, any item which reduces the value of one of the requisites is dysfunctional. If we could not agree that he uses functional analysis for this purpose, then we would have to say that while Almond seems to be moving toward a functional analysis, similar to the formulation employed by other political scientists, he does not do so in fact.

Thus far, we have seen that Almond, in the two works mentioned, has developed two formulations. In his latest work[238] he attempts to combine these formulations; it will be beneficial to examine this latest work to see whether he uses developmental laws like the one noted above and whether his functional analysis is presented in a more readily understandable way.

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[238]Gabriel Almond and Bingham Powell, Comparative Politics: A Developmental Approach, (Boston, 1966). Hereafter referred to as Almond, Comparative Politics.

In his latest work, Almond uses the same terms as well as some of the same definitions found in his other works. He keeps the same definition of 'system' used in the work just examined. Up to this point I have said very little about his definitions. I did this deliberately in order to show that my criticisms are not based solely, or even primarily, on the use of concepts. It is time, however, to look at his definition of the term 'system' and to point out several problems we encounter when Almond employs the term in this way, and then makes other assertions which hardly seem compatible with his definition. A system, Almond says,

> Implies the interdependence of parts, and a boundary of some kind between it and its environment. By 'interdependence' we mean that when the properties of one component in a system change, all the other components and the system as a whole are affected.[239]

This definition indicates that systems are self-regulating and unless the values of the variables which describe the items affecting the system change when there is a change in one variable, the system is not operating adequately. In fact, in his latest work, Almond begins to use a term we have not encountered in his other works--'survival'. He writes that "internal developments may increase the pressures of the political system, forcing it to develop if it is to survive."[240] But when we ask what items affect a system, we again find Almond including so many different

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[239]Almond, Comparative Politics, p. 19.

[240]Almond, Comparative Politics, p. 13.

items we are hard pressed to see how many of these could be included as variables which permit us to describe, explain, and predict the operation of the system. In listing the items which affect the workings of the system, Almond says again that:

> The political system includes not only governmental institutions such as legislatures, courts, and administrative agencies, but all structures in their political aspects. Among these are traditional structures such as kinship ties and caste groupings; and anomic phenomena such as assassinations, riots and demonstrations; as well as formal organizations like parties, interest groups, and media of communication.[241]

If all the activities or behavior patterns within these groups and institutions affect the working of the political system, then according to the way Almond defined 'system' we would have to be able to include all of these patterns as variables and show, somehow, that when one changed in value, all the rest would change to compensate for the initial change. Although it is an empirical question as to whether or not we can possibly accomplish this feat, I for one would not argue that we can even begin to claim we have the knowledge necessary to do so. I doubt also that many other political scientists would agree that we do have the necessary knowledge.

But if the belief that we do not have the knowledge necessary to accomplish what Almond is suggesting is so widespread, why does he make assertions like the above? Although there are undoubtedly many reasons, the central one seems to be that Almond, like other

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[241]Almond, Comparative Politics, p. 18.

functionalists, attributes needs to a system that must be performed if a system is to survive, and since most systems "survive" he concludes that the needs have been fulfilled.[242] I need not again point out how trivial this type of explanation is, but I do need to document my interpretation by looking at comments from Almond's book.

To do so, let us listen to the old refrain we hear so much from functionalists concerning survival; the theme is quite familiar and goes like this:

> The political system can respond to or adapt to the demands that are being made upon it from its own social environment or from the international environment, and at the same time it can cope with and manipulate its social and international environments. . . . Late developing political systems were unable to take a more leisurely route towards political development. They have confronted a world in which the only way to compete, and perhaps to survive, called for a kind of book strap political development operation, involving the swelling of the regulative and extractive capabilities and the suppression of the responsive and distributive ones.[243]

We see again the terms 'adapt', 'respond', and 'survive' used to describe the operation of a system, and to explain why a system developed from one state to another. But if there is adaptation within the system what did it adapt, or respond, to? And could the system have failed to survive under any circumstances? By this time our questions are a bit rhetorical, but much is still to be gained in seeing how Almond answers them. Take the first question

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[242]For explicit statements of this assertion, see the quotations from M. Brewster Smith, "Opinions," and David Easton, A Systems, in chapter two of this work.

[243]Almond, Comparative Politics, p. 313. Underlining mine.

of adaptation; this requires a statement of the necessary or sufficient conditions for adequate operation or development. For Almond, the conditions are necessary, as he says there are needs which must be fulfilled if a system is to become premobilized, or modern, or whatever. Are these system needs described by the terms regulative, extractive, and so on? We remember that in the work previously considered, he stated that these were the system requisites. If this is still true in his last work, then clearly the values of each of these variables would change when there is a change in the state of the system. He does seem to conclude this in the quote noted above by saying that the values of the extractive and regulative capacities increase during development, while the values of the other two decrease. If we turn to a closer look at these variables, we can see whether these variables describe system needs, and what kind of items can fulfill these needs. It seems that if we can show the presence of this pattern, we can also show that Almond, in many respects, does employ functional analysis in much the same way as Mitchell and Holt, to name only two functionalists. The answer to this question cannot, however, provide an answer as to whether or not Almond makes good his claim of formulating developmental laws, but an answer to the first leads us to a consideration of the second. With these two aims in mind, let us turn to examples from Almond's book.

In grappling with the first question, we must look at Almond's contention that for development to occur, specialized structures must emerge. The key to answering the question will

be whether or not Almond contends that we can predict the sufficient specialized structures which must emerge if needs are to be fulfilled, not just that there must be specialized structures. On turning to Almond, we find he says:

> Development results when the existing structure and culture of the political system is unable to cope with the problem or challenge which confronts it without further structural differentiation and cultural secularization.[244]

We next inquire as to what sort of structures Almond has in mind, and we find him saying that:

> In confronting [challenges to a political system we] may find that it needs more resources and more effective ways of organizing and deploying its resources - a standing army, for example, or an officialdom to collect taxes. It may have to adapt itself structurally, that is, develop new roles, if it is to survive.[245]

Before commenting on the above, let us add two more statements so the pattern can become quite pronounced. Later on, he writes:

> A system must have adequate capabilities of extraction and regulation before it can begin to distribute resources. At an even more basic level, we suggest that structural differentiation and secularization are prerequisites to the development of higher levels of extraction and regulation. The development of structures to perform the conversion functions - interest groups and parties to convey demands, and bureaucracies to implement them - links together the different levels of system performance.[246]

And:

> The deliberate efforts to increase mass media penetration, to build strength of a dominant political party with which to reinforce new attitudes and control their direction, and to launch massive educated efforts are largely based

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[244]Almond, Comparative Politics, p. 34.

[245]Almond, Comparative Politics, p. 34.

[246]Almond, Comparative Politics, p. 208.

on this need for the social mobilization which must precede development of political and economic development.[247]

The same pattern we have encountered throughout this work is present in all four of the quotations presented. There are needs which must be fulfilled if a system is to operate adequately or continue to do so, and if these needs are to be met, certain structures must emerge. What Almond does not tell us is the values within which the variables describing the needs can fall and the system either (1) survive or (2) develop. Nor does he tell us what kind of structures can fulfill the system needs for a given state of the system; if we were presented with these differentiated structures, we would have the limits within which the items in a given I or I's could fulfill the needs. But without the limits within which the needs can be fulfilled, how can we possibly predict what type of structure will occur? There seems to be no way to do so unless Almond becomes more specific. And until he does, his functional analysis leads us to the same conclusion we arrived at with regard to Ulmer's functional analysis; almost any type of response can easily be construed as the fulfillment of a need, and we are back where we started.

Since I started the examination of Almond's latest work by suggesting that the reason he thinks the knowledge necessary to accomplish the type of explanation he attempts is based on suggesting needs and ways of fulfilling them, let me return to this before answering a question I posed earlier in this chapter about

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[247]Almond, Comparative Politics, p. 177.

whether or not Almond's latest work is similar to that of other functionalists.

In writing of the Greek city-states, Almond says:

> Struggle over political goals, the development of explicit policy alternatives, and the emergence of an active and explicit lawmaking and law-enforcement function were characteristic of these city-states. As a consequence, the infrastructure of political struggle, of explicit interest articulation and interest aggregation, had to emerge in some form.[248]

It seems that Almond is doing exactly the same thing here that Hempel noted in sociological functional analysis; from the assertion that there are needs which must be fulfilled, the functionalist makes a categorical assertion that the need will be fulfilled.[249] This is simply another instance of affirming the consequent and can be avoided only if the functionalist provides us with information about which structures can fulfill given needs. But as we have seen previously in Almond's other works, he makes the statement that all societal structures in their political aspects can be functional for a system. He makes the same statement in his latest work,[250] increasing the possibility of making his statements untestable.

Compounding the problems noted above is Almond's handling of functional equivalents. In discussing the political system response to meeting "demands" Almond takes up possible functional

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[248] Almond, Comparative Politics, p. 257. Underlining mine.

[249] Hempel, "Logic of Functional," p. 317.

[250] Almond, Comparative Politics, p. 18.

equivalents, writing:

> Substitutive responses may take the form, for example, of diverting groups from their demands for increased participation or welfare by gratifying their needs and demands for national identity through an aggressive foreign policy.[251]

We must be alert to the possibilities of functional equivalents, but functionalists must not use them to protect their hypotheses from disconfirmation, which is quite likely if functional activities and equivalents are not explicitly stated. If the functionalist can delineate all the relevant variables, he will achieve completeness; but if he does not place limits on the variables which can contribute to a trait or state of a system, he is likely to continue to make statements that are covert tautologies. There is, however, no attempt to deal with all the relevant variables affecting a system in most of Almond's work.

We noted previously Almond's suggestion that political science functionalists might be able to "choose a limited number of indications of the performance of function by structure; . . . [and to] get quantitative evidence of these performances,"[252] but neither in his latest work nor in any others does he even come close to suggesting these limited number of indicators or how we might go about quantifying them. He does make some extremely vague references to the kind of activities we might choose, plus one specific indicator, to measure function by structure when he writes:

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[251]Almond, Comparative Politics, p. 246.

[252]Almond, "Introduction," p. 8.

> The most relevant measurements of distributive capacity must involve the quantity and importance of the objects distributed, the areas of human life they touch, the particular sections of the population receiving various benefits, and the relationship between individual needs and governmental distribution to meet these needs.
>
> Some aspects of distribution can be measured with considerable ease. Governmental expenditures constitute, for the most part, distributions of particular kinds.[254]

Nothing needs to be said about the first part of Almond's statement; the types of activities he suggests are too broad to even begin to consider seriously. The second part is more interesting, and allows us to penetrate to the very core of the problems surrounding functional analysis--needs of the system and expenditures to fulfill the needs. Can Almond show that there are indeed needs which must be met, and a given level of expenditures which must be made available for particular needs? And that if this level of expenditures is not available, the needs will not be fulfilled? To pose the question in this form is to ask for empirical evidence, but it is crucial because it commits the functionalist to asserting that a given level of expenditures is necessary or sufficient, and makes him confront, and deal with if he is to be successful, the logical problems such as equivalents, completeness of the theory about a system, and relevant variables, among others. It is of no benefit whatsoever to simply say that one believes empirical inquiry will confirm functional statements;[255] it is up to the functionalists to show how his statements are, indeed, confirmed. Until this essential

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[254]Almond, Comparative Politics, p. 198.

[255]Almond, Comparative Politics, passim.

task is undertaken, Almond and other functionalists are in danger of using functional statements as window dressing--which does not permit us to explain or predict present and future system states respectively.

But whatever the shortcomings of Almond's functional analysis, there can now be no doubt that his latest formulation, at least, is similar to that ofother functionalists. He suggests needs which must be fulfilled as well as items which must/or can be present, and which fulfill the needs. If Almond means that he has also identified all the relevant variables fulfilling the needs, then he is claiming completeness of his theory about the system. Almond makes no explicit statement which suggests he is claiming completeness, and he does talk, in places, about probablistic predictions, but the latter is not compatible with his assertions about system needs, and cannot be taken as an indication that he is not claiming completeness of his theory.

A few more comments on completeness will be offered after we look at Almond's developmental laws. In order to discuss these and to make quite explicit the point I raised before about developmental laws being an anticipation of process laws, let us look first at an example I used previously, where Almond says:

> Highly differentiated political infrastrustures are necessary, therefore, to enable the political elites either to respond to the demands and develop support for various activities or to manipulate and control them, thereby either directing the system toward new goals or preserving system stability.[256]

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[256]Almond, Comparative Politics, p. 258.

First, we note that if a system now has elites responding to demands or manipulating and controlling people, then at a previous time the system developed infrastructures, and at a later time, the system will be in a different state; thus we see again the form of a developmental law. Although we are not concerned with whether or not the generalization is true, we note that it is obviously too vague to be tested in its present form, since the term 'infrastructure' is not defined. But if we take the commonsensical meaning of infrastructure to include institutions like legislatures, parties, and the courts, we find that Almond does formulate some generalizations of the developmental type that are at least partially testable. He writes, for example, that:

> Development of something like a modern interest-group or party system seems to be a prerequisite to a high development of the responsive capability.[257]

As well as the statement:

> It is predicated that higher capabilities depend upon the emergence of "rational" bureaucratic organizations. Thus we predict that a system cannot develop a high level of internal regulation, distribution, or extraction withoug a "modern" governmental bureaucracy in one form or another.[258]

In both of these statements, Almond asserts that the development of a given structure is a prerequisite for the system to move from one stage to another. And while he does not mention all the other stages, we have seen that he has stated elsewhere that a high degree of distributive capability must develop before a system can

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[257]Almond, Comparative Politics, p. 324.

[258]Almond, Comparative Politics, p. 323.

move on to another stage. Thus, the two statements include developmental laws. Before commenting on the latter in relation to completeness of a theory about a system, we should note one point which has not been broached thus far: does Almond include differentiated infrastructures as a part of his definition of development? If so, then to say there infrastructures are necessary for the development of a political system is to utter an obvious tautological statement. On turning to Almond's definition of development, we find he says at one point the following:

> The concept of development has run consistently throughout this study. In our treatment of political structure we have emphasized role differentiation and subsystem autonomy as criteria of development . . . .[259]

And in a previous statement he writes:

> Once autonomous rule-adjudication structures have been established, the political system moves to a higher level of complexity.[260]

If seems that Almond does include differentiated infrastructures in his definition of development, and the generalizations he makes about the necessity of these infrastructures for development are logical, not empirical statements. This is especially evident in the first quotation above, but it is also true for the second one since the 'increasing complexity' is certainly included as a part

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[259]Almond, Comparative Politics, p. 299. My underlining. For a comment on the tautological nature of some of Almond's statements in the introductory chapters of The Politics of Developing Areas, see Robert E. Dowse, "A Functionalist's Logic," World Politics, 18 (July, 1966), 607-622.

[260]Almond, Comparative Politics, p. 162.

of Almond's definition of 'development'. It is quite likely, as I have said previously, that most political scientists employing functional analysis often make their statements true by definition. It also seems that the enthusiastic response by political scientists to functional analysis stems from the fact that many functional statements are logical in character, and thus permits them to explain the operation of the system without requiring empirical evidence. Of course, political scientists do not claim, nor evidently recognize, that many of their statements are logical; certainly they intend them to be empirical generalizations, but regardless of their claims, many are obviously logical in character.

But leaving aside this problem, which could be readily solved, we can again pick up the discussion of developmental laws as being an anticipation of a process law. In the developmental generalizations cited above, we noted Almond asserted that a specialized structure had to be present at a time prior to the development of the system from one stage to the next. We assume, of course, that many other conditions had to obtain also, but when we state a developmental law, we omit reference to these other conditions. We do so because we do not know what they are, or, at least, we do not know how to take these conditions into account. In the last comments from Almond, he certainly seems to indicate that we do not have the knowledge necessary to provide a fully expanded explanation; but by isolating an institution that must be present if a given stage is to obtain, we can provide incomplete explanations for system change. I have demonstrated previously, however, that Almond is

attempting to do more than isolate one institution which is necessary for the obtainment of another stage. He also attempts to point out the other institutions or structures which are sufficient for developmental to occur. To do this, he must identify the complete set of sufficient conditions for a system to move from one stage to the next. This is a formidable task for any political scientist, but Almond seems to have even more problems because of his insistence that practically all organizations have functions. The first step that must be taken is an attempt to choose indicators that reflect the ongoing activities within these organizations in order to reduce the number of variables that must be considered when talking about the function of an organization. But this in itself presents a major problem, and one we will consider in chapter eight. For now we need to look at the use of functional explanations where the generalizations are similar to developmental ones, but are not yet developmental generalizations.

CHAPTER 6

FUNCTIONAL EXPLANATIONS AND HISTORICAL GENERALIZATIONS: PROBLEMS AND PROSPECTS

In this chapter we will focus our attention on functional explanations where historical laws are employed. A historical law, we remember, is distinguished from a developmental law by the logical connective 'and'. To state a historical law is to state that if B now and A before, then C later. Although historical laws of this type abound in functional analyses by political scientists, we will confine our remarks primarily to the works of Chalmers Johnson. In Johnson's works, we want to see how he uses historical laws in his functional analysis of revolutions.

Turning to Johnson's use of the term 'function' we find him saying "a part is seen as functional insofar as it contributes to the maintenance of a whole. . . ."[261] And while Johnson adopts Parsons' functional requisites of goal-attainment, integration,[262] and so on, he does not attempt to show how an item contributes to one or more of these requisites; he does not do so because he is primarily concerned with dysfunctions. In discussing dysfunctions,

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[261]Johnson, Revolutionary, p. 16. See pp. 46 and 47 also for elaboration of this definition.

[262]Johnson, Revolutionary, p. 51.

Johnson says, "a process or set of conditions either 'contributes' to the maintenance (or development) of the system or it is 'dysfunctional' in that it detracts from the integration and effectiveness of the system."[263]

Although Johnson does not recognize the possibility of non-functional items, we see that his functional analysis is not greatly different from others presented throughout this work. Going further, we find Johnson also talks about structures fulfilling "needs". He writes, for example, "Once we have stated what a system's structure is, we are still left with the complex question of how this structure functions to meet the needs of the system (determined by value and environmental interaction) and to maintain an equilibrium."[264] It is clear, then, that if a structure fulfills one or more of the "needs" of the system, the structure has a function. Furthermore we see these needs are determined by the values within the system and the environment. The system is in equilibrium, "So long as a society's values and the realities with which it must deal in order to exist are in harmony with each other, the society is immune from revolution."[265] Our task now is to see how Johnson uses the term 'values' and 'equilibrium' in his functional analysis. Considering the former term first, we find he says that under given conditions values must change or the system will be in a

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[263] Ibid., p. 48.

[264] Ibid., p. 8.

[265] Ibid., p.60.

disequilibrium state. He writes that:

> In order to prevent these conflicts of material interest from leading to violence, the system will derive norms of bargaining and compromise from the overall value structure. . . . When conflicts do develop, the authorities must take action to relieve them. The only remedy for this kind of conflict relationship is social change of either the value structure, or the pattern of the division of labor, or both, in order to bring them back into synchronization.[266]

If the conflicts are resolved by the authorities through either the existing norms or laws, or by legislating new and more acceptable laws, then social change can be accomplished by peaceful means.[267] If, on the other hand, the authorities do not act, or do not act in such a way to "routinize" the acceptance of their decisions, revolutionary change may result. We can return to a consideration of the way Johnson handles this analysis of change after commenting further on equilibrium.

Johnson distinguishes between different types of equilibrium when he writes that:

> Homeostatic equilibrium differs from either static or dynamic equilibrium in that it depends solely upon the existence and stability of the various precesses for fulfilling the functional prerequisites of a social system and for solving short of violence, a series of problems that arise and are predictable within a particular cultural gessalt (i.e. with a value environmental symbiosis.)[268]

We have seen in chapter four that it makes sense to talk about homeostatic equilibrium <u>provided</u> there are mechanisms that can

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[266] <u>Ibid</u>., p. 37-38.

[267] <u>Ibid</u>., p. 37.

[268] <u>Ibid</u>., p. 55.

register changes inside or outside the system which affect the system. Without these mechanisms, however, both Nagel and Brown have stated that talk about self-regulating systems may be, at best, misleading. Any type of institution through which purposeful change can be undertaken seems to serve as a mechanism for re-establishing equilibrium in Johnson's works. He writes, for example, that

> Purposeful changes must be undertaken in order to recreate a homeostatic equilibrium, and if a new equilibrium is reached it will usually differ from the one that was destroyed.[269]

Before we could make much sense out of this assertion, we would have to know a lot more than Johnson tells us about the indicators of equilibrium. Lipsit, for example, says that for a system to remain viable (a state of the system), there must be approximately a 50-50 split in voting.[270] Accepting this for the sake of argument, we could ask, if we have a 64-36 split in a given election, is the only way to re-establish equilibrium purposive shifts by voters back to a 50-50 split? The key word is "purposive." If, in the above case, the shift was not for the express purpose of maintaining the 50-50 split, then non-purposive behavior can certainly be causally related to the re-establishment of equilibrium.[271] I use this example merely to point out that once the indicators of equilibrium

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[269] Ibid., p. 60. Underlining mine.

[270] Lipsit, Political Man (New York, 1959), p. 233.

[271] I am assuming, of course, that a 50-50 split indicates the system is in equilibrium.

are made explicit, we could perhaps test Johnson's statement about purposive behavior, limits on functional responses, and the re-establishment of equilibrium, but to do the latter without his stating the former is difficult, to say the least. It is especially important in Johnson's work that the indicators (values of the variables) of equilibrium be as precise as possible because it is a system in a state of disequilibrium that is susceptible to revolution, given other conditions. At any rate, we are now in a position to consider how he employs functional analysis in explaining revolutionary change.

In a previous work, Johnson says that a revolution is a form of social change which occurs in response to specific conditions occurring in the social system at a particular stage of the system's attempt to resolve functional difficulties.[272] When a system has structures which do not operate adequately "in order to maintain an equilibrium," there must be remedial action or the entire system will move out of equilibrium. When there is a "need" for remedial action, the structure is dysfunctional and social change is "action undertaken to alter the structure of the system for the purpose of relieving the conditions of dysfunction."[273] If the dysfunctional conditions transcend the adjustment capabilities of a system, revolution will occur, that is, when "the level of dysfunctions exceeds the capacities of traditional

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[272]Johnson, Revolution and the Social System, pp. 3-4.

[273]Johnson, Revolution and the, p. 5. In Revolutionary Change, as I have noted, Johnson says that only purposive behavior can restore equilibrium. See footnote 269 in this chapter and p. 72 in Revolutionary Change.

or accepted methods of problem solving; and when (b) the system's elite, in effect, opposes change."[274]

The sources of dysfunction are numerous, Johnson says, and include diffusion of industrial culture, cyclical pressures (hereditary kingship or single party rule without purge), technical and scientific discoveries, discovery of new territories, the elaboration of new beliefs, and so forth.[275] At times, multiple dysfunctions plus elite intransigence do occur but revolution does not. Johnson then adds that multiple dysfunctions, plus elite intransigence, plus X equals revolution. And X, he says, is an accelerator or dysfunction which is used "to help us understand the final causes of revolutions; in a truly sophisticated use of structural-functional theory, it ought not to be isolated. [Accelerators] do not of themselves cause revolution; but when they occur in a system already bearing the necessary level of dysfunctions (i.e., in more than one substructure), they will provide the sufficient cause of the immediately following revolution."[276] Accelerators are events like the rise of a prophet or a messiah, the activities of a revolutionary party, or the defeat in war, in an already dysfunctional society.[277]

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[274]Johnson, Revolution and the, p. 10.

[275]Ibid., p. 11.

[276]Ibid., p. 12. This statement clearly indicates that Johnson's generalizations will have the properties we attribute to historical laws.

[277]Ibid., pp. 12-13.

In his latest work, Johnson comments further on the conditions under which a revolution will occur, writing:

> We believe that there are two clusters of mutually-influencing necessary, or remote causes of any revolution. First there are the pressures created by a disequilibrated social system - a society which is changing and which is in need of further change if it is to continue to exist. Of all the characteristics of the disequilibrated system, the one that contributes the most directly to a revolution is power deflation - the fact that during a period of change the integration of a system depends increasingly upon the maintenance and deployment of force by the occupants of the formal authority statuses.
>
> The second cluster of necessary causes revolves around the quality of the purposeful change being undertaken while a system is disequilibrated. This quality depends upon the abilities of the legitimate leaders. If they are unable to develop policies which will maintain the confidence of non-deviant actors in the system and its capacity to move toward resynchronization, a loss of authority will ensue. Such a loss means that the use of force by the elite is no longer considered legitimate, although it does not necessarily mean that a revolution will occur at once. So long as the leaders can still use the army successfully to coerce social interaction, the system will continue to persist. However, the power deflation will approach maximum proportions, producing a "police state" (e.g. South Africa today).
>
> The final, or sufficient, cause of a revolution is some ingredient, usually contributed by fortune, which deprives the elite of its chief weapon for enforcing social behavior (e.g., an army mutiny), or which leads a group of revolutionaries to believe that they have the means to deprive the elite of its weapons of coercion, [serves as accelerators].[278]

Our first task is to try to represent Johnson's functional analysis in terms of one of our previous schemata. Let us first consider the above as a fully expanded functional explanation. One variable is power deflation and another is elite intransigence, variables A and B, respectively. If B increases then A must increase, extending both variables almost to the limits within which the system is a

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[278] Johnson, Revolutionary, p. 91. It seems quite clear that both of these necessary conditions must obtain if a revolution is going to occur.

self-regulating one. The third variable, an accelerator, C, must be construed as having an extremely small range within which the values can vary. If the value of this variable falls outside this range, then, neither A nor B can change to compensate for a change in C, and a revolution will occur. If, on the other hand, C is empty or the value of the variable is small, (e.g. a Batista rather than a Castro serves as the accelerator),[279] no revolution will occur. The problems in this formulation are legion: the number of soldiers under arms, variable A, could hardly serve as an indicator of the limits within which A could fall and the system still operate adequately, and we would also, for B, have to indicate the needs not met by the elite, a formidable task indeed given our present state of knowledge. Also, we would have to know the other variables affecting the system, and Johnson is the first to admit that completeness of his theory cannot be achieved at the present time.[280] But the casting of his functional analysis into the above formulation is not wasted by any means. Let us look again at the variables A and B in an attempt to clear up one assertion Johnson makes which is not in keeping with his acknowledgement that he does not achieve completeness of his theory about a system. At one point he says he is attempting to discover the necessary and

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[279] I remind the reader again that I talk of the value of variables even when the variables are not strictly measurable, and I do so for the sake of clarity, which I think is achieved.

[280] Johnson, Revolutionary, 149.

sufficient conditions for revolution.[281] But in looking at just two variables, we see that his assertion about necessary and sufficient conditions is misleading. We saw previously that if B increases then A (military force) must also increase, but A, obviously, can increase without B doing so. For example, if at time X a nation has one-half million men under arms, and at time Y, two million men under arms, we cannot predict that elite intransigence is greater at Y than at X, or even that elite intransigence obtained at all since a third variable, war or the threat of war, for instance, could account for the increase in the value of A.

But what happens when the third variable, an accelerator, is added? If at X, we know that if A and B are present, we cannot predict that at Y, A·B·C will be present. And even if we know at Y that A·B·C obtains, we cannot predict the value of C at X, which we could do if the three variables were necessary and sufficient conditions for the adequate operation of a system. Thus, the addition of the third variable does not require that I retract my previous comments. I will, however, have to return to Johnson's assertions about necessary and sufficient conditions shortly. For now, let us see how Johnson's functional analysis fares if treated as only an attempt to provide a <u>partial functional explanation</u>. Casting his analysis into Hempel's schema, we have the following:

> At t, system S operates adequately in setting c.
> S operates adequately if a condition n, integration, is fulfilled.

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[281] <u>Ibid</u>., p. 90.

If I, (either elites meeting needs or large military force), then, as an effect, integration is achieved.
At t, either elites meetings needs or a large military force is present in S.

If we formulated Johnson's argument in the above manner, clearly the two components of I would be sufficient conditions for integration, not necessary ones as he asserts. If, however, we considered the two variables as separate i's, then we could say they were necessary conditions for integration. But this would once again raise the question of whether or not there are functional equivalents to elites meeting needs or maintaining integration without military force. In either case, limits would have to beplaced on the values each i or I could take on before the items became dysfunctional rather than functional. But this formulation does not get us very far in explicating Johnson's explanation of revolutionary change because he does not make much use of the functional requisites in his analysis, and he certainly does not delineate the items that are functional from those that are dysfunctional in a way that would permit an adequate formulation of his argument, using Hempel's schema.

Again, however, it has not been a waste of effort to attempt to cast Johnson's formulation into Hempel's schema. We see quite clearly that while Johnson's formulation is similar to that of other functionalists in many respects, there is a fundamental difference in the type of generalizations he employs in an attempt to explain revolutionary change.

We saw previously that Johnson said power deflation and

elite intransigence are necessary but not sufficient conditions for revolution since a system can continue to operate adequately if an accelerator does not obtain. Conversely, in a system where power deflation and elite intransigence do not obtain, an accelerator is an event, "that functional societies can normally sustain. . . ."[282] The above clearly indicates that Johnson's generalizations are historical laws, since he says, 'if an accelerator now, and power deflation and elite intransigence earlier, a revolution will occur later.' Before examining some of Johnson's generalizations, we must take note of Johnson's assertion that an accelerator is a sufficient condition for revolution. While he makes this assertion throughout, in other statements he points up, quite vividly, that an accelerator is not sufficient for revolution; other conditions must also obtain. And if these conditions, plus an accelerator obtain, revolution will occur making an accelerator a necessary, not sufficient, condition for elite intransigence and power deflation to lead to revolution. Again, this merely confirms my earlier argument that Johnson's generalizations are of the historical type.

The accelerators are single events Johnson tells us; in discussing an accelerator of much importance in his analysis, military power, Johnson points out a type of event which leads to revolution, writing

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[282] Ibid., p. 105.

> When the necessary causes of revolution have been fulfilled--that is, when a society is biatoxic due to power deflation and a loss of authority--a break in the effectiveness of the armed forces will produce a revolution whether a revolutionary party exists or not.[283]

And while all accelerators have the same effect, Johnson says,[284] the effect varies according to the state of a system when an accelerator obtains. Johnson lists six types of revolution: jacquerie, millenarian rebellion, anarchistic rebellion, jacobin community revolution, conspiratorial coup d'etat, and militarized mass insurrection. The distinctions between these six types are based on the following criteria: targets of revolutionary activity; identity of the revolutionaries, ideology or goals; and whether the revolution is spontaneous or calculated.[285] Evidently these four criteria are an attempt to specify, at least partially, the state co-ordinates for systems; and the values of each state co-ordinate characterizes the different states of a system. In discussing the first of his types of revolution, the jacquerie, Johnson says this type occurs in a traditional system and the dysfunction usually occurs in the ideology state co-ordinate. That is, the actions of the leaders of a system are incompatible with the values of the people in the system, and thus the system is threatened. Seemingly, the state co-ordinate which must change to compensate for the change in the ideology state co-ordinate is "the sense of community" state

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[283] Ibid., p. 99.

[284] Ibid., p. 105.

[285] Johnson, Revolution and the Social System, pp. 27-28.

co-ordinate, a change which permits the system to return to equilibrium through a purge of some of the leaders.

If, on the other hand, the rebels, in a dysfunctional system, suspect that the king or church leaders no longer complement the half of traditional society, "that carries and transmits the wisdom of the culture, their revolution will take a different form from that of jacquerie;"[286] if one accelerator in particular intervenes, a messiah with a salvationist remedy, then a millenarian movement will occur. Johnson makes it quite clear, however, that he is not claiming that a millenarian is a developmental stage that follows a jacquerie rebellion.[287] It is this need to refer to the historical conditions of a system that keeps the generalizations of the type noted above from becoming developmental laws, although this latter possibility must be established on empirical, not logical, grounds. A third type of revolution, anarchistic, "occurs in response to conditions in the social system created when major changes (non-violent or revolutionary) have already been made in order to relieve dysfunctions perceived by the dominant part of the population."[288] Again we see the necessity of referring to a previous condition which must have obtained if this type of revolution rather than another is to occur, and this provides us with more evidence that

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[286] Ibid., pp. 33-35.

[287] Ibid., p. 35. See also p. 144 in Revolutionary Change for a reiteration of this denial.

[288] Ibid., p. 40.

Johnson's generalizations have the characteristics we attributed to historical laws.

Rather than continue the discussion of Johnson's six types of revolution, let us look at an instance where revolution was avoided. In discussing non-violent change, Johnson writes:

> The economy of the United States was dysfunctional during the Great Depression; similarly, during the period of rapid industrialization in England there was considerable dysfunction in the system of property ownership and the supply of labor. But most of the other substructure or "planes" of the societies, including their integrative mythes, remained functional, although at an impaired level of efficiency. The responses to these instances of dysfunction was non-violent change: the New Deal on the one hand, and the abolition of the Corn Laws (1846) and the Enclosure Acts (1760-1830), on the other.[289]

This example permits us to sum up rather nicely several points I have brought out previously: unless the state co-ordinates are made explicit, and the values of the state co-ordinates for a functional (A state) and a dysfunctional (non-A state) system are enumerated, any act can be taken as a response that re-establishes equilibrium. These fundamental points brings us back to functional analysis and the role of historical laws in such an analysis. It is, of course, obvious that social scientists who are not functionalists use historical generalizations; but in doing so they do not leave the first stage as ambiguous as do those social scientists who take the condition of the "whole" system as a determinate (either directly or indirectly) for the occurrence of a future stage.[290] Without

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[289] Ibid., pp. 8-9.

[290] For an example of the formulation of laws of the historical type by historians, see Nagel's Structure of Science, pp. 564 ff.

precise indicators of a dysfunctional or disequilibrated system, precision like Johnson tries to introduce by using single event accelerators is of little benefit in explaining given states of a system or predicting future states. The mention of prediction leads us to examine a rather strange comment by Johnson that

> Social science can contribute to the avoidance of revolution by identifying in advance probable future instances of dissynchronization . . . This does not mean that the social analyst can predict the occurrence of a revolution itself. As W. G. Runciman has pointed out, "The reason that social science is not analogous to meterology is that any prediction made by a social scientist is about people who can by their conscious action upset the prediction made. The proper function of social science is not prediction but diagnosis.[291]

This statement is strange for a number of reasons. First of all, a cursory glance at statements quoted herein from Johnson's works clearly indicate that in almost every instance, he is making predictions as to what will happen under given conditions. Take, for example, his statement that 'if a system is dysfunctional, the emergence of an accelerator leads to revolution'; certainly he is making a conditional prediction as to what will occur if something else obtains. If the "function" of social scientists is not to predict, why does he indulge himself?

The fact that individuals <u>can</u> upset our predictions impairs our predictive ability but by no means destroys it. In the first place, it has been amply demonstrated by Professor Milton Hobbs that knowledge of behavior does not always change behavior.[292]

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[291] Johnson, <u>Revolutionary</u>, pp. 166-167.

[292] Milton Hobbs, "On the Possibility of Scientific Political Science," 20-22.

Furthermore, all predictions are based on conditional laws, and certainly Johnson makes predictions about what will happen if elite intransigence obtains or does not obtain, that is, if elites change policies to correspond with changing demands, or if elites do not change. In the former, given other conditions, non-revolutionary change will occur, while in the latter, revolutionary change will occur. The former is no less a prediction than the first even though the prediction mentions purposive behavior taken to avoid revolution. Although the assertion about prediction is completely refuted by looking at Johnson's own statements, we can also consider the assertion Johnson attributes to Rumciman about diagnosis. A physician bases his diagnosis on known laws of biology, and if he finds that a man has appendicitis, he can predict, on the basis of these laws, what will happen if the man does or does not have his appendix removed. Thus diagnosis and prediction have a common core: the employment of laws to explain (diagnose) and predict. Without laws neither are possible, but if we know enough to diagnose we know enough to predict. Runciman's assertion does not alter this fact.

It is this confusion over historical lawfulness, prediction and explanation that leads to another confusion about the nature of social science explanations: how psychological and sociological concepts are, or can be, used in explanations.

Like a few political scientists who provide functional explanations, Johnson devotes some discussion to whether a functional analysis

should use psychological or sociological concepts in their explanations. The issue, of course, is reduction. In the various works by political scientists considered thus far, very few concern themselves with a thorough discussion of reduction. Mitchell says only that he is interested in psychological data for its sociological dimensions. Beer and Eckstein ignore it completely; only Johnson and Holt attempt any extended discussion of reduction and functional analysis. A discussion of these two works, therefore, will suffice to point out the problems common to political scientists' discussion of reduction in connection with functional analysis.

As is well known, many social scientists who adopt functional analysis do so because they believe that the "whole" is more than the sum of its parts, thus precluding "reduction" of the group disciplines to psychology. In considering this question, we will restrict our comments to a discussion of descriptive and explanatory emergence and composition and cross sectional laws.

Professor Brodbeck points out that the claim that there is emergence at the level of description is an assertion that there are <u>undefinable</u> properties of groups that emerge from the properties of the whole and cannot be defined in terms of the working of the parts of the whole. Thus the position that there are <u>undefinable</u> properties of wholes is referred to as "metaphysical holism" while the denial of this is "methodological individualism;"[293] the adherents

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[293]Brodbeck, "Methodological Individualism," p. 2.

of this latter position are so called because they do hold that there are no undefinable group properties and that group concepts describe characteristics of individuals of the group. They do not hold, however, that group concepts can ever be entirely dispensed with or that at the present time, some concepts that do not refer even implicitly to the individuals making up the group should be abandoned. Most of the adherents of this view do insist, however, that in the formation of concepts, the principle of methodological individualism be kept firmly in mind and that social scientists should strive to meet the ideal of defining group concepts only in terms of the characteristics of individuals. Since the principle of methodological individualism is a requirement in the proper formation of concepts, we can not properly talk about reduction in this context. Anyone who denies there are properties emerging from the whole that cannot, in principle, be defined in terms of characteristics of individuals accepts the principle of methodological individualism, that is, they deny descriptive emergence.

But, as Brodbeck states, definitions alone do not permit the reduction of group behavior to individual behavior. In addition we must know the laws about how individuals act when they are in a group. It is these laws which tell us how the parts act to form the whole by telling us how the parts are connected. These are the composition laws which, in conjunction with the group concepts, permit us to reduce one area to another. And just as we need composition laws to reduce group behavior to individual behavior, we need laws linking mental contents with behavior. These are

cross-sectional laws that connect the simultaneous occurrences between mental states and behavior.

We do, of course, talk about purposes and other mental contents of individuals even though we do not possess the necessary knowledge which permits us to infer these mental contents indirectly, that is, from behavior. In order for the psychologist to describe mental contents in terms of behavior, Professor Bergmann points out that two conditions must be met: first, we must know that the parallelistic hypothesis (the connection between mind and body) is true, and "we must know enough of what according to the hypothesis is there to be known, or, as one says, can be known in principle."[294] But even though we do not at present know enough, we still use purpose (intention, motive) as undefined words in describing mental contents, and, in principle, it makes very little difference. It is obvious, but I will mention it anyway, that a reference to purposes can always be eliminated when we do know enough.

In the group sciences the case is, of course, much different. Unless we accept descriptive emergence, then it is unlikely that many social scientists would ascribe purposes or minds to groups. Thus the functionalist or any other social scientist that describes "group purposes" must refer to the purposes of individuals in the group, as well as to attempt to state, however crudely, how these individual purposes are modified, changed, or maintained or, in short, how the concept 'group purposes' relates to individual

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[294]Bergmann, "Purpose and Function,"

purposes. It will not suffice, however, to define 'group purpose' as being the purpose of some smaller part of the group; even if we knew the dispositional behavior that permitted us to infer the mental contents of this smaller group, we would not want to talk about 'group purposes' of the larger group but would instead confine our remarks to statements about the purposes of the smaller unit.

One of Professor Holt's characteristics, for example, of a social system at the societal level is that there be a "central decision making apparatus that enables it / the system's corporate structure / to act purposively as a collective."[295] It seems that in view of Holt's characterization, if we wanted to talk about group purposes we would focus on the individuals of the central decision making body rather than on the larger group, although we could, of course, try to ascertain how the purposes of the individuals in the organization affect the purposes of the decision making body, providing that we can infer purposes from behavior.

The problem that I have indicated above is not confined to functional explanations of course. Professor Brown, writing of intention explanations in all of the social sciences makes the same point when he states that, "To explain the actions instituted by national governments in terms of intentions is usually an inadequate way of referring to the goals of various officials."[296] And Brown

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[295]Holt, "A Formulation," p. 88.

[296]Brown, Explanation, p. 90.

adds that functional explanations are different from purposive explanations since the effects of purposive behavior may be different from the effects that are expected. Let us turn to examples from Johnson and Holt and Turner's work in an attempt to assess the problems arising when functionalists attempt to deal with some of the issues indicated above.

Professor Johnson opens his comments on reduction by discussing psychodynamic theories of revolution, and then contrasts these to a functional analysis by saying that the former theory does not relate revolution to the social system, as in the case of writers like Eric Hoffer. Psychological theories of revolution, Johnson continues, provide information on why individuals become revolutionaries in terms of childhood deprivation, maladjustments resulting from socialization etc., and he further states that the determinants of the personalities of Lenin, Ghandi, Hitler, etc. are important as are any psychological similarities, authoritarian personalities, for instance, which can be used to characterize a majority of a population. It is also valuable, he says, to know that "many revolutionary brotherhoods" in functional social systems are recruited from groups of outcasts, declasses, undesirables, and the maladjusted, and "to know what needs are met by subversive political activities for such specific individuals." He continues to add that it must be recognized, however, that this data is micro, not macro as it pertains to the individual and not to the system, as Johnson puts it.[297]

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[297]Johnson, Revolution and the Social System, p. 22.

To indicate how the use of micro data rather than macro data effects the study of revolutions, Johnson then notes George Pettee's comment that:

> Given that cramp exists, that is, that institutions are out of adjustment to life in a given society, individual purposes feel maladjusted. The consciousness of maladjustment creates an internal tension which leads the maladjusted individual to ponder his situation. Given his imaginative and intellectual powers, this may result in anything from getting drunk to writing a book.[298]

One effect of the use of micro data then, Johnson says, is that we cannot tell who wrote a book and who got drunk, and thus we would not only have to psychoanalyze those persons predisposed to make a revolution, but everyone in the society, and if this could be done, he says, this would be an alternative to his treatment of revolutions. But as psychologists do not psychoanalyze everyone, but only the revolutionaries, "this will never explain why a revolution occurs."[299] The use of psychological data, he adds, is useful when a macro "model" is employed to structure micro information, but is useless or misinformed when there is the "derivation of revolution from psychological studies of individual revolutionaries and the resultant value judgement that because some revolutionaries are lunatics, revolution is a form of social lunacy."[300] The error of this approach is illustrated, Johnson says, by psychological explanations of why members are attracted to conspiratorial

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[298] Johnson, Revolution, p. 23. The quote is from Pettee's Process of Revolution, p. 66.

[299] Ibid., p. 24.

[300] Ibid., p. 25.

brotherhoods, and whileother similar groups may coalesce into one large group may be valid for each case, the crucial consideration is whether or not fissures, dysfunctions, appear in the society, and these are economic depression, national humiliation, unpopular public institutions, distrusted elites, and blocked channels of social mobility.[301]

It is evident from the above remarks that there is a great deal of confusion present in his discussion. To begin separating sense from non-sense, it is necessary to add a later comment on macro-micro statements as follows:

> Earlier in this paper we suggested that it was a source of error to derive revolution from micro (in this case, individual) psychological data concerning the motivation of revolutionaries. To do so obscures the phenomena of revolution itself; we may isolate many potential or actual revolutionaries psychologically, but we cannot explain a single revolution in these terms. However, we also noted that micro information is relevant to the sociology of revolution when it is used in conjunction with a macro model. Conversely, a macro model requires inputs of micro information in order to avoid being purely formal, and micro data concerning the causes of forms of revolution need not be solely of the psychological variety.[302]

To sort out the sensible from the non-sensical, we can begin by noting what is essentially correct. Johnson notes in two places that macro statements cannot be "derived" from micro statements. As I pointed out earlier, if a theory using macro concepts is to be reduced to a theory where the concepts appearing in the laws of

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[301] Ibid., p. 26.

[302] Johnson, Revolution and the Social System, p. 50. He also makes a similar statement in Revolutionary Change, p. 77.

the theory refer to individuals, then we must have the definitions of the group concepts as well as the composition laws. It follows, then, that a theory where the concepts refer only to individuals cannot be used to deduce laws where the concepts refer to group properties unless we have the composition laws and the macro concepts. Also Johnson states that there must be "inputs" of micro information into a macro model in order to avoid being purely formal, I take this to be an assertion that group concepts must be defined in terms of individual behavior and relations if they are to have empirical import, and thus a denial of "metaphysical holism."

Taking Johnson's comment that "if a macro model is used to structure micro data then the latter becomes useful," to mean that there must be composition laws, or attempts to specify the connections between individual behavior and group behavior or relations, more clarity is introduced into Johnson's remarks. The clarification achieved thus far can now be used to make it clear what he is asserting when he says that "deriving" revolution from the motivation of revolutionaries obscures the phenomenum of revolution itself. He is not, seemingly, seeking what revolution "really" is, but instead stating that the term 'revolution' has properties other than the motivations of leaders. A problem results, however, from his failure to recognize that 'revolution' is a group term describing how individuals stand in relation to other individuals, as the worker to business, or the civilian to the military, as well as characteristics describing the behavior of individuals, and must certainly be defined by more than just the motivations of leaders. But we find

that most of Johnson's group terms are defined in a way that invites the criticism that he levels against psychodynamic terms. He writes, for example, that a jacquerie "is motivated by a belief that the regime has been betrayed by its elite; and violence is invoked in order to purge the regime . . . ."[303]

We see from this example that the same problem is present in Johnson's work as in psychodynamic theories because neither make the connection between individual and group behavior. A jacquerie, Johnson says, is motivated by a belief, but he does not add how a number of individuals holding jacquerie beliefs combine to overthrow the government. Thus, to know that there are a given number of jacqueries in a population does not permit us to explain nor predict how these individuals will combine to instigate a revolution, or even that they will. That is to say, we must still specify the composition law. It seems that the composition law would be contained in Johnson's macro "model," since it is "within" this model that micro data becomes useful he says.

But the macro model refers to whether a system is in an equilibrium or dis-equilibrium state; we gain little if anything by this formulation unless the equilibrium and dis-equilibrium states are represented more precisely than Johnson has formulated them.

Moreover, Johnson mixes up purposive and dispositional terms in a way that needs clarification. In the statement about jacqueries

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[303] Ibid., p. 8.

noted above, he refers to motives of revolutionaries. But to be completely successful in representing mental contents and behavior, he must first relate the mental contents, purposes in this case, to individual behavior, and then relate individual behavior to group behavior. Thus he needs both cross-sectional and composition laws to carry out his analysis. It is because of the need for both types of micro and macro laws that I stated earlier that when purposes or other mental contents are used in functional analysis, they must be introduced as special state co-ordinates. At any rate, there is nothing in Johnson's analysis that would permit us to interpret motives through his macro "model" that permits us to conduct a functional analysis without attempting to make these connections.

Like other functionalists, however, Johnson does not consider purposive acts alone to be functional or dysfunctional. In many cases, he simply takes behavior as given and uses dispositional statements in his analysis. He writes, for example, that,

> The element that distinguishes the acts of criminals or lunatics from a revolutionary coup d'etat or a mass uprising is the functional condition of the social system in which they occur.[304]

Here Johnson is not concerned with purposes, beliefs, or motives but with dispositions to act in a given way under given conditions. We still need a composition law to indicate how individuals with dispositions like the above act under given conditions in relation

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[304]Johnson, Revolutionary, p. 152.

to other individuals to conduct a revolutionary coup d'etat, which is the group term that the composition law relates individual behavior to. But we are left wondering how a functional analysis provides us with this information any more than a non-functional analysis, since in both we must use composition laws.

A number of the points brought out thus far had to be discussed before an adequate assessment could be made of Johnson's work on revolution. We note first that Johnson begins both of his works with the statement that revolutions must be studied in the "context of the social systems in which they occur."[305] He continues by saying that revolutions must also be studied with reference to viable, functioning societies. I see no reason why anyone would deny either of these claims. Indeed, Professor Bergmann pointed out a number of years ago that generalizations about behavior would have to include a reference to a given culture, as well as individual and societal "needs".[306] I think this is exactly what Johnson is saying when he says we must consider the system within which revolutions occur, and the needs of viable, functioning systems, as well as what happens when these needs are not fulfilled. The question raised by Johnson's assertion, it seems to me, is, given that he is correct, why engage in a functional analysis of a system? I am not raising the question merely to cast dispersion on Johnson or other functionalists, but it seems that by asking this

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[305] Revolutionary, p. 3 and Revolution and the, p. 5.

[306] G. Bergmann, "Ideology," Ethics, LXI (April, 1951), 208.

question, we move on to more interesting ones. Obviously, Johnson felt functional analysis might prove beneficial, but is this enough when the functionalists' conception of functional analysis leads him into making statements that seem dubious in many cases, and which seems to always lead back to more traditional forms of explanation anyway? It seems that this is indeed an interesting, and important question and worthy of consideration.

First, we recall, Johnson's formulation committed him to the position that only purposive change could relieve dysfunction, and return a system to equilibrium. This position seems dubious. We are quite aware that behavior is not always purposive, and since we accept this, I think we could admit the possibility that non-purposive behavior might also serve to return a system to equilibrium. Furthermore, it is likely that such a position will push us into methodological errors by making us expand our definition of 'purposive' until there is no way to falsify statements in which this term appears. I am not saying Johnson commits this error, but it is definitely the case that many functionalists do. I am not so sure that Johnson himself does not commit this error when he writes:

> Although today many sociologists doubt that we can speak of the "purpose" of a social system, they nevertheless parallel Hobbes in arguing that social action in the context of a system functions so as to allow the system to exist and persist beyond the life of any one of its members. . . .[307]

It Johnson is equating 'purpose' and 'function' as he seems to be

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[307] Johnson, Revolutionary, p. 9.

doing, he is committing this error.

Leaving aside this problem, however, we find that when Johnson states his generalizations, they have a logical form that is anything but new. This, however, brings up an old well established methodological principle: apply Occam's razor whenever possible. If the appurtenances of functional analysis are dead weight for Johnson's analysis or revolution, why include it at all? But perhaps Johnson, like others, thinks that when we study a physical system, we somehow study a whole that adds up to more than its parts. If so, then, our discussion of reduction will serve to show that this view has no logical basis. He might be saying, however, that while he does not consider the "whole" as being more than the interaction of its parts, he does think it best to attempt to discover laws that apply to group behavior, given our present state of knowledge. There is, of course, nothing wrong with this view if the social scientist eschews making generalizations about individual behavior, or at least, very many generalizations about individual behavior. Since this point is not clear in Johnson's work, let us turn to Holt and Turner's work for an assessment of this claim.

Before doing so, however, I should make it clear that I think Johnson's use of functional analysis serves more to mislead us into thinking that more has been accomplished than has been, and that he could have easily dispensed with functional analysis without altering his work at all.

To say that we must use individual as well as group concepts and laws in our explanations is, and must remain, an empirical question,

which cannot be resolved by logical analysis.[308] And while to say it is unlikely that we will discover a process law containing only group variables is clearly an empirical question, we can look at a functionalist's work who does make the above claim (that a process law containing only group variables is possible) to see what sort of logical problems are involved in attempting to support this claim.

Holt and Turner say that while there are no attributes of corporate structures which are not definable in terms of individual behavior or relations, they seriously doubt the type of macrophenomena they deal with "can be explained in terms of either individual or small group behavior, because the composition laws necessary for such a reductive explanation are not known and may never be known."[309] The authors discuss explanations as being either reductive or emergent and say if one type of explanation is sought rather than the other, political scientists must seek different types of empirical data. The authors then say they are going to focus their attention on emergent explanations.

An emergent explanation is the assertion that a law used in the premises of an explanation at one level, breaks down at a level of

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[308]Abraham Kaplan in The Conduct of Inquiry (San Francisco, 1963), p. 113, writes on the subject of reduction that "on this [reduction] issue . . . methodology must content itself with pointing out only that the question is an empirical one, not logical.

[309]Holt and Turner, The Political Basis, p. 28.

greater complexity or that the laws required for a reductive explanation are totally absent.[310] If we know, for example, that in small groups, tough-minded individuals tend to smooth out their individual differences so as to present a united front, and if we could not expect that in larger groups tough-minded individuals also act in the same way toward other tough-minded individuals, then the explanation of their behavior is emergent, that is, a new variable must be introduced. If, on the other hand, we know that in large groups individuals behave in a given way relative to the other members, and if we say that the explanation of this behavior is emergent, then, it follows that small group relations cannot be explained using the laws which apply to large groups.

The last point we want to make with regard to reduction can now be brought up. This is the assertion that the type of data social scientists collect is dependent upon whether the explanation is to be reductive or emergent. This supposes a much clearer distinction between concepts referring to individuals and those referring to groups than there is in political scientists' works. It might be possible, however, to make a rough distinction based on whether the data the political scientists seek excludes motives or purposes and is confined, as Merton suggests, to "objectively observable responses", but if a political science functionalist were to choose this as the basis for the distinction between emergent

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[310]See Brodbeck, "Methodological Individualism," for a discussion of explanatory emergence.

and reductive explanations, why would he use 'purpose' and 'function' interchangeably? The use of 'purpose' in this context is sure to create confusion in almost all cases, but to use the two terms indiscriminantly and then to suggest that there is a clear distinction maintained between terms which refer only to individuals and those which refer only to groups, and which cannot be defined in terms of individual behavior because of explanatory emergence, is untenable, to say the least.

The functionalist, at any rate, does attempt to provide the connections between individual and group behavior, and this includes all functionalists. An example from Holt and Turner will suffice to make the point. If functionalists who recognize the distinction noted above and assert that they are offering emergent and not reductive explanations continue to attempt to specify the connections, it seems reasonable to assume that those who do not recognize nor attempt to maintain the distinction also include hypotheses which attempt to relate individual behavior to group behavior in their works.

Consider, then, the following from Holt and Turner's work:

> In a traditional economy where the government contributes significantly to the adaptive functional requisite through regulation and control . . . the talented, aggressive, and pecuniarily motivated . . . may regard as the most desirable those government jobs that involve them in economic regulation.[311]

The term 'government' is quite important in Holt and Turner's work, and the attempt to make the connection between the motives or

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[311]Holt and Turner, The Political Basis, 306.

dispositions and the individuals' attraction to governmental jobs must certainly be an attempt to specify the connection between individual and group behavior.

In discussing politics and the economy in Russia during the mid 1950's, we find again that Holt and Turner make another assertion about individuals and groups when they say that if consumer goods are not available and there is little incentive for savings:

> workers in such a situation might tend to opt for leisure time, rather than pouring their efforts into piecework that would enable them to accumulate funds they could not exchange for desired consumer goods, they might choose to conserve their time and energy for low-cost recreation. If this were the case, productivity would obviously suffer.
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> For the wage system to stimulate labor productivity at levels anticipated by the regime, more consumer goods that would appeal to potential purchasers would have to be made available. In order to secure money to buy these goods, however, workers would have to be more diligent in their jobs. Productivity would then increase.[312]

Certainly this is a clear case of the formulation of a composition law indicating how group behavior, productivity in factories, is affected by individual behavior under differing conditions. Since Holt includes numerous generalizations like the above in his work, he is going to have to either (1) abandon his claim that it is unlikely that we can formulate composition laws for the type of system, a society, he deals with, or (2) abandon his claim that if we concentrate on "emergent" or reductionist explanations, a different type of analysis will be required. It is quite likely that functionalists, as well as other social scientists, will

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[312]Holt and Turner, The Political Basis, p. 377.

continue to do what Holt does (but does not recognize), i.e., use generalizations containing both individual and group concepts in their explanations.

With this chapter, we end our discussion of the various types of laws used in different patterns of functional explanations. But our work is not yet ended for we must consider how functional analysis is related to other "systems analyses" if we are to gain a thorough understanding of the former.

CHAPTER 7

A COMPARISON OF THE LOGIC OF GENERAL SYSTEMS THEORY, FUNCTIONAL ANALYSIS, AND SYSTEMS ANALYSIS

Within the past few years, more and more political and social scientists have been asserting that functional and systems analysis have been converging with "general systems theory," or as it is sometimes called, "general behavior systems theory."[313] Although numerous political scientists have made references to a general system theory[314] in connection with functional and systems analysis, most of these statements are too nebulous to mention. Professors Karl Deutsch and Leroy Rieselbach, however, have stated the claim quite explicitly, writing:

> In time [general systems theorists] interests came to overlap and converge with the original non-mathematical concepts of a social system developed by Talcott Parsons and his collaborators; with the interest of David Easton in the study of a political system. . .[315]

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[313]This is the way Professor James Miller refers to general systems theory. See Miller's work, "Toward a General Theory for the Behavioral Sciences," in The American Psychologist, (September, 1955), passim.

[314]Those who have been the most persistent in developing general systems theory are connected with the mental health institute at the University of Michigan.

[315]K. Deutsch and L. Rieselbach, "Recent Trends in Political Theory and Political Philosophy," Annals, 360 (July, 1965), 156.

In an earlier work published in the General Systems Yearbook, Oran R. Young has written of the impact of general systems theory on political science,[316] but neither Deutsch and Rieselbach, Young or Richard Merritt, in his article on "Systems and the Disintegration of Empires," published in the General Systems Yearbook,[317] show that functional or systems analysis in political science have anything like the same logical structure as works where a general systems theory is employed. It is undoubtedly the case that some terms used in general systems theory and functional analysis are the same, but then so are some terms used in physics and functional analysis. But would be consider the latter to be physicists? Of course not. What we want to look at is the logical forms of explanations in general systems theory if we want to show the latter and functional analysis have the same or different forms. To accomplish this, let us look first at the formulation of James G. Miller, one of the better known general systems theorists, and compare his formulation with the works of one of the two writers mentioned by Deutsch and Rieselbach, David Easton. Also we will want to compare Miller's works with some of the functional works considered in previous chapters. By taking this approach, we can also bring out the similarities between "functional analysis" and a "systems analysis," since David Easton is usually considered to be the major spokesman

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[316]Oran R. Young, "The Impact of General Systems Theory on Political Science," General Systems, IX (1964), 239-253.

[317]Richard Merritt, "Systems and the Disintegration of Empires," General Systems IX (1964), 91-103.

for the latter type of analysis in political science. Let us begin by noting several statements from one of James Miller's first works on general systems theory.

Miller defines a system and general systems theory as follows:

> Systems are bounded regions in space-time, involving energy interchange among their parts, which are associated in functional relationships, and with their environments. General systems theory is a series of related definitions, assumptions, and postulates about all levels of systems from atomic particles through atoms, molecules, crystals, viruses, cells, organs. . . .[318]

The definition of system is not greatly different from that employed by most functionalists and in systems analyses, but it is quite manifest that general systems theory is radically different from functional and systems analysis in scope, as well as other essentials. In Miller's statement of the aim of general systems theorists, we find one of the most essential differences between general systems theory and systems or functional analysis. In stating these aims, Miller writes:

> Our attempt is to see how much of all behavior we can explain by a series of formal identities, recognizing of course the differences or disanalogies which exist between one behaving system and another.[319]

Clearly, the aim of general systems theorists differs from the aim stated by other systems theorists. In the latter case, there is certainly very little attempt to use analogies in their analysis.

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[318] Miller, "Toward a," p. 514.

[319] Ibid., p. 519.

By looking at Miller's generalizations, we can establish that there is a great deal of difference indeed between the former and latter theorists. In his proposition three, Miller says that:

> Spread of energy or information throughout systems is quantitatively comparable.

In relating the types of systems to which this hypothesis applies Miller says:

> Rapaport has written moderately complex probability equations describing the spread of excitation in a "random net," originally conceived as a net of interconnected neurons. Later the same type of equation was found applicable to the spread of epidemics, and the spread of information or rumors in a group of society.[320]

But Miller never tells us the significance of the formal identity between the spread of diseases and the spread of rumors. Is it the case that we could administer a virus to one or more individuals, and plant a rumor with another individual or group, and then describe, explain, and predict the spread of rumors and the effect of rumors by using the same laws as we use in describing, explaining, and predicting the spread and effect of a virus? If we can, then, certainly we have accomplished more than the mere establishment of a formal identity. But if we cannot accomplish the latter feat, why bother with establishing the identity at all. Professor R. C. Buck asked the same question of an earlier formulation of Miller's general systems theory, and since then, I can find nothing in Miller to suggest that he has attempted to answer Buck. In discussing the comparison Miller makes between slime molds and Londoners under

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[320] Ibid., p. 7.

attack, Buck asks so what if both slime molds and Londoners band together under stressful conditions, asking:

> What are we to conclude from all this? That Londoners are a form of slime mold? . . . Or, perhaps that during the battle of London some citizens, due to their new and more specialized activities, became sterile, while others devoted themselves exclusively to reproductive activities? One finds it difficult to believe that these are the conclusions he is expected to draw, but, if not these, what others? And if no conclusions, why all the fuss, why bother with the analogy at all?[321]

The above comment by Buck adequately summarizes my own sentiments about Miller's proposition three and others in his 1955 work. In a moment, we will turn to Miller's 1965 formulation to ask whether or not the change of emphasis during the ten years has been as great as Deutsch and Rieselbach assert.

We have seen quite clearly, thus far, that in the beginning general systems theory was quite different from functional analysis, although both theories did employ common terms. But it is also true that Deutsch and Rieselbach assert that only recently did the theories of Parsons, Easton, and the general theorists begin to converge. But when we look at the recent works of James Miller, we are struck not by the similarities, but by the differences still existing between general systems theory and functional analysis. To document my claim, let us look first at a statement by Miller in 1965 of the aim of general systems theorists, and then turn to his most recent generalizations about "living systems." In July of 1965, Miller wrote in Behavioral Science:

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[321]R. C. Buck, "Logic of," p. 229.

> The first issue of this journal began with an editorial which said in part: "Our present thinking - which may alter in time - is that a general theory will deal with structural and behavioral properties of systems. The diversity of systems is great. The molecule, the cell, the organ, the individual, the group, the society are all examples of systems. Besides differing in the level of organization, systems differ in many other crucial respects. They may be living, nonliving, or mixed; material or conceptual; and so forth. A decade later, the thinking has not altered greatly.[322]

In October of 1965, Miller published a paper in Behavioral Science, where he put forth 165 cross-level hypotheses of living systems.[323] Again, Miller focuses attention on "hypotheses which apply to two or more levels of systems, because of their powerful generality."[324] For a hypothesis to be cross-level some aspect of structure "must have been observed at one level at least and which is seriously suspected to have a formal isomorphism with others at other levels."[325] We see from these statements that Miller has retained the basic characteristic of general system theory, formal isomorphism, and in doing so, leaves himself open to the same criticisms made by Professor Buck of Miller's first formulation. But the retention of this fundamental characteristic does make it quite clear that general systems theory and functional analysis are not as nearly convergent as Deutsch and Rieselbach contend. This will become even more

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[322]James G. Miller,"Living Systems: Basic Concepts," Behavioral Science, (July, 1965), 193.

[323]Miller, "Living Systems: Cross-Level Hypotheses," Behavioral Science, 10 (Oct., 1965), 380-411.

[324]Ibid., 381.

[325]Ibid., 381-382.

evident by looking at several of Miller's hypotheses. Let us begin by noting a hypothesis that, at first blush, seem similar to a statement a functionalist might make.

> In general, the more structurally different types of members or components a system has, the more segregation of functions there is.[326]

But nowhere in Miller's work, do we find an assertion that structural differentiation contributes to a trait which is either necessary or sufficient for system maintenance. And it is the contribution an item makes to a trait that is virtually always a part of every functional analysis, since functional explanations are often of existence and/or persistence of the item; hence, the two explanations are logically independent, although a statement by a general systems theorist could be used in a functional explanation if it was found that a behavior pattern described in a general systems generalization did contribute to a functional requisite. This does not, however, make the two theories similar any more than functionalism and other theories, say group or decision making, are alike because generalizations from the latter are used in the former.

Even when Miller states a hypothesis that has been formulated by a political scientist(s) who is either a functionalist or closely associated to functionalists, he uses the hypothesis in a different way. For example, his hypothesis 3.1.2.2.4 is taken from Deutsch, Bliss, and Eckstein, and is stated as follows:

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[326] Ibid., 384.

> The larger a system is and the more components it has, the larger is the ratio of the amount of information transmitted between points within the system to the amount of information transmitted across its boundary.[327]

Miller says that probably the hypothesis holds for other living systems as well,[328] but he does not relate this hypothesis in any way to a self-regulating system or self-steering mechanisms in the way Deutsch often does, as we saw previously. Furthermore, if general systems theory is nothing more than speculating that what is true for a nation, say, is also true for other living systems with regard to "information flow," then this author, for one, is hard pressed to reconcile the use of a hypothesis like 3.1.2.2.4 with the grandiose claims that systems theory is a step toward achieving unity of science. But it is patently clear that most of Miller's hypotheses are not like the above, although we need not ask whether they are any more interesting. In the next few hypotheses we encounter the typical ways in which the general systems theorist states his hypotheses and the levels they apply to.

In Hypothesis 2-4, Miller writes:

> More variance of a system's processes is affected by its suprasystem than by its suprasuprasystem or above, and by its subsystems than by its subsubsystems or below.[329]

In suggesting levels that above hypothesis might apply to, Miller writes:

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[327] Ibid., 385.

[328] Ibid.

[329] Ibid., 384.

> More aspects of a man's behavior are influenced by his family than by the neighbors in his apartment house or the other citizens of his city. The healthiness of a person's life depend upon the liver as a whole more than it does upon any single liver cell.[330]

And in hypothesis 3.3.7.2-14, Miller adds:

> A system which survives generally decides to employ the least costly adjustment to threat or stress first and increasingly more costly ones later.[331]

This hypothesis applies to systems like the following:

> A hungry amoeba, for example, will eat food that is nearby first and later swim to more distant food.
>
> Or, if a continuously increasing amount of acid is injected into a dog's veins, a number of adjustment processes will protect the stability of the blood acidity from this stress.
>
> Or, an organization like an army in order to repel an attack, may first sacrifice a squad then companies, or regiments, and if still unsuccessful, finally throw into battle large mobile reserves like divisions.[332]

Although we could continue to list hypotheses like the above, the form of general systems hypotheses is quite clear. Support for the hypotheses comes from thinking up possible instances where there might be analogies between systems. It is the extensive reliance upon analogies that clearly distinguishes general systems theory from functional analysis. Functionalists do not, as a rule, use analogies to formulate hypotheses that are applied to diverse systems. Another clear distinction between general systems theory and functional analysis is that in the former, needs which must

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[330] Ibid.

[331] Ibid., 396.

[332] Ibid.

obtain if a system is to survive, are not mentioned, and the general systems theorist does not attempt to delineate, and explain, the items which fulfill needs, while the functionalist does. These two distinctions indicate the fundamental differences between general systems theory and functional analysis, and these distinctions are much more important than any similarities between the two theories. Perhaps political scientists are led to assert that the two theories are converging because in both, the concept 'system' plays a prominent part. But as I noted previously there can be numerous theories about a system, and the use of similar terms does not necessarily mean the theories are similar.

One point where there does seem to be similarity between general systems theory and functional analysis needs to be discussed. One of the assertions made, or often assumed, by political science functionalists is that a system will "act" in such a way as to relieve stress on the system. In hypothesis 3.3.7.2-14 noted previously, we also see Miller refers to behavior as being directed toward relieving stress on a system. In light of this similarity, two considerations are in order: first, in reply to Deutsch and Rieselbach, emphasis on behavior to relieve stress has always been an integral part of general systems theory, and second, while general systems theorists formulate generalizations which will apply to all systems under stress, functionalists do not even begin to attempt to accomplish this feat. In fact, Hempel has pointed out,[333]

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[333]Hempel, Aspects, p. 319.

and functionalists often concur, that unless the system level their generalizations refer to is specified, even more problems are incurred than the already numerous ones plaguing functionalists. It follows, then, that even the similarities which seem to obtain prima facie are, on closer observation, not as similar as we often believe. It is the case, however, that the emphasis on stress by functionalists, general systems theorist, and a "systems theorist" like Easton is the link that leads many political scientists to assert that all "systems" theorists are becoming more alike. In our discussion of Easton's work, we will again return to the question of stress and the similarities, or differences, between all three systems theories. Before doing so, however, it will be beneficial to discuss some of the problems found in Miller's work, although we are not overly concerned with these problems since a general systems theory like Miller's formulation is not used by political scientists in explaining political behavior.[334] A brief examination of Miller's hypothesis 3.3.7.2-14 will serve to illustrate the problems we want to consider.

Since it is the formal isomorphism between systems that is of interest to the general systems theorist, we must ask what this isomorphism consists of. In comparing the behavior of an amoeba with

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[334]David Singer is the political scientist most wedded to general systems theory but he does not use general systems theory to explain political behavior in his work "The Level of Analysis Problem," printed in The International System, Knorr and Verba ed., pp. 77-92. Also in a book Singer edited, Human Behavior and International Politics (Illinois, 1965), we find very few references to general systems theory.

an army the only evident similarity is that both are considered as systems. But certainly there are no "structural" similarities between the two systems, and we must look elsewhere for the significant identities between the two systems. Is it that the hypotheses describing one system can be used to explain the operation of another system? Although the hypotheses are stated in such a general way that almost precludes their testing, it seems that it is indeed Miller's intention to construct hypotheses which can be used in the manner mentioned above. But hypothesis 3.3.7.2-14 is so patently false, when applied to an army, that it is unbelievable that Miller really expects us to take him seriously. If an army unit is under attack, for example, and commits a battalion rather than a company when a company would have been sufficient, are we required to say that since a more costly "adjustment" was made before a less costly one, the system's survival is threatened? But this is exactly the conclusion we would have to draw from Miller's hypothesis plus the initial conditions I supplied.

It needs to be added also, that the above interpretation is the best possible one that can be made of Miller's hypothesis. One other possible interpretation is that Miller is suggesting that a proportional amount of "energy" is expended by both the amoeba and an army in "relieving" stress. If this were the case, we could express the generalization as a functional (in a perfectly good sense of this term) relationship, but Miller offers absolutely no way we might measure "energy expended" for an army. In several of his other hypotheses, he does seem to be suggesting that the same

amount of "energy" is expended by social and biological systems, but again he does not attempt to show how we could begin to measure the amount of energy expended by each system.

There are numerous other problems inherent in Miller's hypothesis about amoebas and armies but we shall not concern ourselves with them here. The best ending for our brief comments on Miller is again to ask the same questions asked by Professor R. C. Buck several years ago: even if we find a structural analogy, so what? What are we to conclude?[335] The questions have not been answered any more adequately in 1965 than they were in 1954 when Buck asked them. And neither has general systems theory come to converge with functional analysis, at least not essentially. That is, general systems theorists have not begun to put forth functional requisites which must obtain and then explain behavior by attempting to show how it contributes to the maintenance of a trait or system. Neither have the functionalists begun to formulate generalizations which apply to all types of systems, nor do they depend upon analogies to provide evidence for these "cross-level" hypotheses. This is not to say that the theories are not alike in many respects, but it does illustrate that they are <u>not</u> alike in crucial respects. But while general systems and functionalism are not alike, what of functionalism and "systems analysis"?

Turning to Easton, the first question we must ask is: what

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[335]Buck, "Logic," 232.

constitutes a systems analysis? On several occasions Easton has said a system analysis asks the most inclusive question of all, "How do any and all political systems manage to persist in a world of both stability and change?", and he has attempted to answer this by saying:

> Ultimately the search for an answer will reveal what I have called the life processes of political systems - those fundamental functions without which no system could endure - together with the typical modes of response through which systems manage to sustain them. The analysis of these processes, and of the nature and conditions of the responses, I posit as a central problem of political theory.[336]

Our first consideration must be whether or not Easton is employing the term 'function' in the same way as Mitchell, Almond, Ulmer and others. Easton says that he is not, writing:

> Concepts, we shall find, may identify two fundamentally but analytically distinguishable parts of political life. One reflects the kinds of activities that go on in a political system, what might at other times and places have called the political functions, if this concept itself had not become virtually unusable because of the enormous variety of slippery meanings currently attached.[337]

In a footnote, Easton adds:

> As K Davis has pointed out . . . functional analysis, so-called, is not a theory but a concept intrinsic to all scientific research. Indeed, it is fundamentally devoid of theoretical content.

If Easton is aware of the "slippery meanings" attached to the term 'function', why does he himself use it in the first passage quoted

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[336]David Easton, A Systems Analysis of Political Life (New York, 1965), p. 17.

[337]Ibid., p. 13, note 12.

as well as throughout his work? But we can avoid speculating about the answer because we see clearly from Easton's footnote that he seems not to recognize what functionalists are trying to accomplish. When he reiterates K. Davis' assertion about 'functional' being a concept intrinsic to all scientific research, he surely is talking about the use of 'function' as it is employed to relate how one or more variables vary in relation to other variables. And while it is true some social scientists have been as naive about functional analysis as Easton evidently is, it is absurd to assert that all that is entailed by a functional analysis are functional relationships.

At any rate, it can be easily shown that despite Easton's protestations, he is indeed engaging in inquiry that has exactly the same logical form as arguments by functionalists, a task to which I shall now turn.

We saw in Easton's first statement that he refers to "fundamental functions" which must be present if a system is to endure. Quite obviously these "functions" are necessary and/or sufficient conditions for system operation, and are used just as the functional requisites are in works that are overtly functional analyses. Likewise, the "typical modes of response" are references to the items which fulfill the fundamental functions. Thus we see that a condition n, as well as items i which contribute to n, are incorporated into Easton's "systems analysis just as they are in a functional analysis, as is the generalization 'S operates adequately at time t'. Our next step is to bring out these fundamental functions, and the typical

modes of response, for a close examination to see if Easton has been able to improve upon overt functionalists formulations.

Easton delineates two of these functions when he writes,

> All political systems as such are distinguished by the fact that if we are to be able to describe them as persisting, we must attribute to them the successful fulfillment of two functions. They must be able to allocate values for a society; they must also manage to induce most members to accept these allocations as binding, at least most of the time. These are the two properties that help us to distinguish most succinctly political systems from other kinds of social systems.
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> By virture of this very fact these two distinctive features - the allocations of values for a society and the relative frequency of compliance with them - are the essential variables of political life. But for their presence, we would not be able to say that a society has any political life.[338]

While this is a straightforward assertion of the essential functions, is it the case that the functions themselves define the political system? If so, to then say they are essential for a system persisting is to utter an obvious tautology. It seems quite likely that Easton does include at least one of the functions in his definition of a political system, saying:

> To be of maximum utility . . . a political system can be designated as those interactions through which values are authoritively allocated for a society; this is what distinguishes a political system from other systems. . . .[339]

If it is the case that Easton defines the political system as allocating values, then if values are not allocated, there is no system. Thus, to say that allocation is necessary for system

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[338] Ibid., p. 24.

[339] Ibid., p. 21.

persistence is logically true and, of course, exceedingly trivial. But waiving this point, we can move on to more interesting questions. Since Easton says the two essential functions must obtain for a system to persist, he seemingly runs into the same problem as the overt functionalists, that is, very few systems have failed to persist or "survive." But does Easton mean survive in a given state? Indeed, he speaks of the essential variables as having a "critical range," writing,

> What this means is that something may be happening in the environment - the system suffers total defeat at the hands of an enemy, or widespread disorganization and disaffection from the system is aroused by a severe economic crisis. Let us say that as a result, the authorities are consistently unable to make decisions or if they strive to do so, the decisions are no longer regularly accepted as binding. Under these conditions, authoritative allocations of values are no longer possible and the society would collapse for want of a system of behavior to fulfill one of its vital functions.[340]

In this statement, it seems that Easton is discussing only those cases where a system is totally destroyed, in which case we are aware that the critical range of the essential variables has been exceeded. But how are we to know this critical range when a system is short of destruction? If this question can not be answered, then Easton is saying that 'all systems must have two essential variables whose values fall within a critical range if the system is to survive'; and he then takes survival as evidence that the values were within the critical range. I will have more to say about Easton's analysis and this type of statement later on;

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[340] Ibid., p. 24.

here it is only necessary that we be aware that statements like Easton's raise important questions.

Although Easton does speak of a system as either surviving or being destroyed in numerous instances, at other times he seems to be talking about survival in a given state, saying, "The operation of essential variables need not be an all or nothing matter."[341] He continues by saying that there is a critical point beyond which the values of the essential variables cannot fall and the system still operate, writing:

> The probability of the members accepting all decisions as binding is usually less than one, at least in any significant historical interval of time. Yet is must certainly be higher than .5. A system would be in a state of constant turmoil and confusion and might well be on the threshold of disappearance if there were just an equal probability that the decisions and associated actions of its authorities would be accepted or rejected. The ratio of rejection to acceptance must fall within a limited range well above that of chance. Below that level the system would collapse for want of sufficient authority being attached to its allocations.[342]

Leaving aside the question of whether it is possible to determine the ratio of accepted decisions to rejected ones, we see that Easton asserts that where the values of the essential variables are between .5 and 1, these variables contribute to the adequate operation of a system. We assume, then, that the n states of the system are within this range, while the non-n states occur when the

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[341] David Easton, A Framework for Political Analysis (New Jersey, 1965), p. 97.

[342] Ibid., p. 97.

value of the essential variable falls below .5. Within the n states, however, we would still have to be told the values of the essential variables at different states. This would require that we have a hypothesis of self-regulation with respect to R, and the various states would be R_1, R_2, R_3, and so on, states. We could then begin to test statements about given states and the items which either maintain or change a system state.

In discussing why a system may be pushed toward the limits of its critical region, Easton introduces the term 'stress', saying, "Stress will be said to occur when there is a danger that the essential variables will be pushed beyond what we may designate as their critical range."[343] It is this capacity to respond to stress that Easton considers to be of paramount importance, and in his handling of the term we see again the same logical form we encounter in functional analysis. He, like the functionalists, wants to explain behavior, "of the members in a system in the light of the consequences it has for alleviating or aggrevating stress upon the essential variables."[344] To designate behavior which contributes to stress on the system, Easton introduces the input concepts of 'demands' and 'supports.' In defining the former term, Easton says:

> A demand may be . . . an expression of opinion that an

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[343]Easton, A Systems Analysis, p. 24.

[344]Ibid., p. 25.

> authoritative allocation with regard to a particular subject matter should or should not be made by those responsible for doing so. As such, a demand may be quite narrow, specific, and simple in nature as when grievances and discontents, relevant to a given experience, are directly expressed. . . .
>
> But a call for a binding decision is no less a demand if it is highly general, vague, and complex. Broad pleas for better government, for a more vigorous defense policy, or for greater attention to the underprivileged, without specification of the exact steps to be taken, represent such highly generalized demands.[345]

His second input term, support, "is a means through which the resources and energies of society are mobilized and oriented to the pursuit of goals."[346] These two terms serve, Easton says, as summary variables, "that concentrate and mirror everything in the environment that is relevant to political stress."[347] By restricting attention to these variables, Easton hopes to simplify the task of isolating relevant variables. One of Easton's criticisms of functionalism is that because of the large number of items which can fulfill a given requisite there is no way of selecting among the alternatives; thus, "we are led to a gigantic numbers game that makes the theoretical worth of functional analysis trivial at best."[348] Thus Easton wants to summarize all the impact from the environment by using the two concepts discussed above. But is it of great benefit to include all the diverse means of conveying demands to officials in one concept rather than to regard several structures

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[345] Ibid., p. 39.

[346] Ibid., p. 153.

[347] Ibid., p. 26.

[348] Easton, A Framework, p. 105.

as having the function of conveying demands, as Almond does? It would seem that we would benefit only if we could choose a few indicators as being of primary importance, and had the techniques available for handling the combining of demands. That is, if demands for new civil rights laws are made, we might assume that there would be demands from many sources, as well as opposition to the law. But if we cannot measure the resultant "forces" of the demands and counterdemands, there seems to be very little point to Easton's criticism of functional analysis, since he is faced with exactly the same problem. He, like functionalists, are faced with the problem because so many different structures can contribute to the maintenance of a state or trait, just as many activities can be construed as demands or supports which contribute to the allocation of values. To verify that this is indeed a pertinent criticism of Easton, all we need to do is to recall his definition of demands as including any expression of opinion regardless of how vague, general, simple, and so forth. Surely Easton's concepts are as broad as the ones used by overt functionalists.

To see how demands and support can be conveyed to the political system, let us look at a few of Easton's statements. Taking demands first, we find that, "To say that a person puts in a demand is an elliptical way of indicating that momentarily, at least, he is participating in a political act."[349] In another comment, Easton says that a man is acting politically when in buying a loaf of

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[349]Easton, A Systems Analysis, p. 53.

bread from a grocer, he exchanges comments about a local political candidate;[350] hence, it follows that this man would be putting in a demand. But if this is the case, the concept is so broad that almost any act could be construed as making a demand. To be sure, Easton does indicate there are some activities that are not political, as conversation with an acquaintance at church, or at the family dinner table, and so on, but it is by no means clear why these types of activities do not constitute political participation while the former would. At other times it seems Easton is indicating that political participation occurs when political attitudes are transmitted directly through political organizations,[351] but this does not help us resolve the question posed above.

At any rate, in discussing collection and combination of demands, Easton provides us with examples of these organizations. As we expect, he names interest groups, legislators, mass media, political leaders, and parties[352] as being communicators and combiners of demands. But demonstrations, riots, mass rallies, and so on are also included as mechanisms for conveying demands.[353] The inclusion of such diverse means for articulating demands still leaves our question as to how the use of one concept 'demand' is to be an improvement over the overt functionalist formulations,

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[350]Easton, A Framework, p. 41.

[351]Ibid., p. 41.

[352]Easton, A Systems, p. 136.

[353]Ibid., p. 122.

as we see quite clearly that if one means of communicating demands is not open, it is likely that another one will be. Thus, institutions, mass rallies, and so on, have the same logical form as functional equivalents in other works for they maintain Easton's "essential variables" just as alternate structures maintain functional requisites. It is evident then that Easton's formulation is much like Almond's except that he does not bother to break down the groups communicating information into anomic, associational, or other categories as Almond does. And Easton's discussion of how interests are combined is parallel to Almond's use of the term 'interest aggregation'; but I have not been able to find that Easton has improved the predicative value of functional analysis by lumping together all of these diverse ways of conveying information into one concept.

Easton's second term, support, does not need to be treated as extensively since the same comments made about the use of the term 'demand' also apply to 'support'. That is, since both supports and demands are defined just as broadly, it is inconceivable that support would not be present in all systems, just as it is difficult not to conceive of demands being put forth in some way. But Easton also makes it easy for us to ignore his term 'support' when he says, "In the normal course of events, by the very act of voicing a demand or proposing it for serious discussion, a member will imply that he supports it in some measure."[354] If there is no adequate way of

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[354] Ibid., p. 51.

measuring demands then, ipso facto, there is no way of measuring support. But we do need one statement from Easton to anchor these comments. A typical statement about system support is contained in Easton's assertion that:

> If the authorities are to be able to gear their outputs in any way at all toward some support goal - whether it be to keep a system within its critical range or to drive it quickly beyond to its own destruction and tranformation into a new type of system - a minimal condition is that they must have some information about the current state of support and the relevant consequences that flow from their outputs.[355]

The relevant point is underlined in this statement, and brings out quite clearly that to say some information must be present is such a broad statement that it is physically impossible for some information not to be conveyed to authorities in any system. Hence, the term 'support', like 'demand', seems to apply to everything, and a term that applies to everything is logically empty.

Since I think it has been shown beyond a shadow of a doubt that much of Easton's formulation has the same logical form as a functional analysis, and that we are confronted with some of the same problems in both types of analyses, it is now appropriate to turn to Easton's discussion of system change to see if we again find the same formulation and problems. In his analysis of why and how a system will change, Easton first writes:

> every political system must have some finite channel capacity for transmitting information about demands to the various points where they require processing as they proceed to the output stage. . . .

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[355]Easton, A Systems Analysis, p. 365. Underlining mine.

> Stress from a large number of demands will occur if they require greater channel space than is available or that can be readily produced by the system.[356]

And a few pages later he adds:

> An increase in the rate of input over determinate intervals of time must lead to the growth of structural changes or new operating rules if the increased demands are to be processed.[357]

From these statements we see that Easton's analysis of change is exactly of the same form as functionalists. We noted previously that the essential variables of a system had to remain within critical range; demands and supports contribute to this critical range, and according to the last statement, mechanisms for processing the demands must be present if stress threatens the system. Casting Easton's argument into our schema, we have the following:

> At t, system s operates adequately under condition c.
> S operates adequately if the essential variables are within their critical range.
> If demands and support mechanisms are present or develop, then as an effect, the essential variables are maintained.
> At t, demand and support mechanisms are available or will develop in s.

By putting Easton's argument into our schema, we immediately see the relevancy of my comments on his concept 'demand'. It is quite likely that Easton considers demands and suppotts as being necessary conditions for the fulfillment of the essential variables. If this is the case, then, the conclusion follows deductively from the premises, but if we consider the almost infinite number of

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[356] Ibid., p. 65.

[357] Ibid., p. 68.

mechanisms (organizations) through which both demands and supports are channeled, it seems quite likely that we would consider each of these as an i within I, and the i's as a class of sufficient conditions, not necessary ones. Of course, it is quite possible that Easton considers each mechanism or class of mechanisms as necessary conditions, but other statements in his work seems to indicate that these mechanisms would be a class or classes of sufficient conditions. This seems to be the case because he, like others, does indicate that when one mechanism is not present in some systems, other mechanisms will fulfill the essential functions. If these mechanisms are sufficient conditions, then, we must have a general hypothesis of self-regulation if Easton's argument is to be a valid deductive one.

But if either a systems or functional analysis is to provide us with an explanation of political behavior, then it must also provide us with predictive ability. A look at how Easton provides us with this predictive ability will go a long way in showing us the strength and/or weakness of a system analysis, and if the predictions of his analysis are like functionalists predictions, of functionalism also. Let us turn to several statements that will provide us with a clear pattern of the predictive statements Easton makes about system persistence, the most inclusive question, we remember, that can be asked by a political scientist. He writes at one point,

> All political systems as such are distinguished by the fact that if we are able to describe them as persisting, we must attribute to them the successful fulfillment of two functions.

> They must be able to allocate values for a society; they must also manage to induce most members to accept these allocations as binding at least some of the time.[358]

And in another statement he says:

> to the extent that some kind of system has managed to survive historically, it will in itself be evidence that the members of the system must have been able to devise some means for handling potential dangers from [stress].[359]

In a third comment he adds:

> If allowed to run its course, a disturbance might lead to the complete destruction of the system and even prevent its continuity through resurrection in any other form. But if a system survives, ipso facto, it must have been able to abort such a tendency. Then the disturbance presented a threat rather than an accomplished fact; it stressed the system without destroying it. Most of the kinds of stress we shall be analyzing are of this sort.[360]

In Easton's first statement we again see he asserts that there are two essential variables which must obtain in all systems if they are to survive. But in the next two statements we see clearly the absence of independent evidence that these two functions are fulfilled, that is evidence independent of survival. He is saying that if stress on a system is not resolved, then, the system will not survive, and then says that since a system is "surviving" stress has been resolved. Thus there is no independent test of "survival" except that the system is still operating; hence there is no predictive value since we have no way of predicting that a system will survive except by observing that it is doing so. Because any or

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[358] Ibid., p. 37.

[359] Ibid., p. 43.

[360] Easton, A Framework, p. 91.

all statements about mechanisms fulfilling essential variables or functional requisites are compatible with statements where there is no independent evidence for survival, the functionalist believes he has provided an explanation of political behavior. But a statement that can be confirmed by any or all behavior explains no behavior as the statement is logically empty.

In the third quotation, we note that in Easton's last sentence he says that most of the stress he is concerned with is stress which does not destroy a system. But does this not seem strange? Surely if stress threatens system survival, and we find that most systems are under stress, then should not be expect that a fairly large number of systems have failed to survive throughout history? It seems likely, at least, that we would be able to come up with quite a number of examples if it were the case that systems do fail to survive. But the best Easton can do is to note that the Mesa Verde Indians failed to reproduce and thereby survive.[361] As in Ulmer's discussion, we again find an exception being used to prove the rule, a dubious practice indeed.

The problem of system survival would be partially resolved, of course, if Easton stuck to his implication that he was discussing survival in a given state, but as we have seen from the type of evidence he presents of system survival, it is quite manifest that he is primarily concerned with the continued operation or extinction of a system. Even if this last problem were resolved, however, we would

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[361]Easton, Framework, 82.

still be faced with the problem of the essential variables themselves. That is, Easton says that it is essential that authoritative values must be accepted as binding or the system will fail to survive, but there are numerous instances where "values" were not accepted as binding, as when the revolutionary government in this country and others could not get troops, money, facilities, and so on, but the system still survived, we assume. It would be quite easy to suggest other instances like the above, but it is not necessary as this one example serves to make our point. Perhaps Easton would reply that the "system" indeed did not survive when decisions were not accepted as binding; in this case he would be saying that the system moved to a new state, and while this protects the statement from empirical disconfirmation,it does not add to our knowledge. Again, if this is to be avoided, a hypothesis of self-regulation with respect to R must be added so that we can determine when the system is in R_1 rather than R_2 state. Until there is an attempt to formulate this hypothesis more precisely than has heretofore been the case in <u>all</u> systems analysis, then it is unlikely that systems theorists are to provide us with the knowledge they tell us they can provide.

One more comment on Easton's work needs to be added before we move on to other matters. As we have seen, Easton is not concerned, as is the general systems theorist, with formulating hypotheses that apply to several "levels", and does not use analogies as evidence of connections that hold between systems. But while he does not approach the study of politics like the general systems theorist,

the logic of his argument is exactly parallel to the functionalists argument. In the next and concluding chapter, then, we do not have to distinguish Easton's systems analysis from functional analysis, which will simplify matters somewhat. It will do so because our concern will be to summarize our major criticisms of functional analysis, and bring out a bit more clearly several points that could not be made before, or not made as clearly or as emphatically.

CHAPTER 8

SUMMARY AND CONCLUSION

In this chapter we can summarize several of the important points brought out in previous chapters. The most succinct and efficient way to do this is to center our discussion around the terms used in all the functional works we have considered thus far. By proceeding in this way we can see how the terms are related to each other, and how a functional explanation is related to scientific explanation in general.

The first term we want to consider is 'system'. As I have indicated previously, this term is employed in two ways by functionalists: to indicate a "real" system like a legislature, Supreme Court, and society, and in a second way to refer to a set of roles. A real system is usually considered to be "a group of physical objects in a limited piece of space which remains identifiable as a group through an appreciable length of time,"[362] while an abstract, analytical, or conceptual system is usually considered as a set of roles that have been "abstracted" from the totality of roles and these roles form a political, economic, or social system. A system of roles is, of course, a physical system, but it is in employing the term 'system' in the second

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[362]The definition is from Bergmann, Philosophy, p. 92.

sense that usually leads functionalists to confuse the system itself with the theory about a system. In using 'system' in the second sense, we must describe the system just as we must describe any "real" system, but in neither case can we make predications based on this description alone. What we predict is one state of a system from another state and to do so we need to have a theory about the system. For a "real" system, this is well known and accepted, but in social scientists discussions of analytical systems, the description of the system is often interspersed with the description of the state of the system, giving rise to confusion. At any rate, it is the analytical system that is most often discussed by political scientists conducting a functional analysis, and while I have argued that there is no difference in the logical structure of arguments talking about "analytical" and "real" systems, we will continue to make the distinction in order to show further that there is no difference.

An analytical system, like a real system, is usually considered to have boundaries, and the systems "interact" with each other across these boundaries. Since these analytical systems are composed of a set of roles, it is difficult to determine where one system ends and the other begins. And since there is obvious interaction between systems, it is difficult to determine the effects participating in one system will have on another system. For example, when a man pays taxes he is participating in the economic system, and when he votes, he is participating in the political system; it is obvious that his behavior in one system probably affects his

behavior in another. It is also likely that behavior in one system will be used to change another system, but it is equally obvious that it is difficult to determine the affects one system has on the other. But this discussion brings out clearly that we must be clear headed in describing the system if clarity rather than confusion is to result. It also brings out a problem that I raised previously; before we can achieve completeness of a theory about a given system, we must have a super social science. Since behavior in an economic system affects behavior in other systems, we must know how to account for this effect for the other systems. But once we have stated the problem in this way, it is quite clear that it is exactly the effects social, economic, and psychological variables have for political behavior which gave rise to political behavioralism. If this is indeed the case, we must ask how functional analysis and behavioralism differ. Although it would take considerable space to answer the question fully, I think the fundamental distinction is that behavioralists have not committed themselves as fully to determining all the effects behavior in other systems might have for political behavior. And, of course, non-functionalists do not usually center their analysis around discovering functional requisites or the items which fulfill them. It is also the case that some behavioralists are functionalists, and it is equally the case that the leap from behavioralism to functionalism is merely the attribution of requisites to systems. At any rate, non-functionalist behavioralists have not committed themselves to achieving completeness of a theory about the political system as

have functionalists, and it is here and in the attribution of functional requisites that the fundamental difference arises. If my interpretation of these differences is correct, a few remarks on the use of the term 'functional requisite' seem in order.

In the first place, we must remember that the requisites used by political scientists have been borrowed, in most cases, from Parsons. But it is assumed, we suppose, that the requisites have been established by empirical investigation, and not merely established ad hoc. But however the requisites have been established, they do play a crucial part in all functional analyses because the generalizations containing the requisites are used as the major premises in functional arguments. If you take away these generalizations, then, you take away the "general theory" of functionalists. You do so because the functionalists are left floundering with generalizations that are, so to speak, awash in a sea of generalizations. For example, a behavioralist might have established that as political socialization increases, so does participation in political affairs, but without a theory to fit this generalization into, it has the same status as hundreds, perhaps thousands, of other such generalizations. But if we add the hypothesis that functional requisites are required for adequate operation of a system, and also that participation, say, in some form is necessary or sufficient to fulfill a requisite, we have established a theory (loosely speaking) that allows us to explain our first hypothesis. This discussion also points up the fact that theorizing is cheap and if it is to be beneficial, the generalizations in the

theory must be subject to test, and before accepted, actually tested. Otherwise we could think up numerous generalizations to explain other generalizations. It is this lack of testability of functional statements that we have questioned in the previous chapters.

But even if the functional requisites have been established by empirical investigation, we face another problem. Functionalists must still establish the range within which the values of the variable requisites can fall and the system still operate if they are to establish when an n contributes to the adequate operation of a system and when it does not. The first step it seems, is to provide an independent definition of 'adequate operation' and 'system'.

As I indicated at the beginning of this chapter, there is nothing wrong with defining a system as a set of interdependent roles, but to assert that the system is self-maintaining is a different matter. The first assertion does not entail the second. To discover that a set of roles constitutes a system falls within the context of discovery, while the assertion that the system is self-regulating falls within the context of justification. If we discover only a system of roles, however, this does not entitle us to also say that the system is a self-regulating one, it may or may not be. Whether a given system is or is not self-regulating is a matter for empirical investigation and cannot be established a priori. It is in attributing self-regulation to systems that is dubious, not that we can establish the existence of the systems themselves. Are we prepared to say, for instance, that there is interdependence between roles

making up a system so that when there is a change in role behavior of a part of the system there is a compensating change in the other role behaviors of the system? Perhaps this is the case but thus far functionalists have been lax in providing us with evidence of these changes. It is possible, of course, to attribute self-regulation to a system by definitional fiat but clearly this is the uninteresting case, and to establish that systems are self-regulating in this way would refute the claims of functionalists that their theory can and does explain political behavior.

Ignoring all of the problems mentioned above, however, we still encounter difficulties when we look at the use of the term 'function' to indicate the system relevant effects of structure, or as it is also put, the part an item plays in the maintenance of the system as a whole. A major problem arises when the term is employed in this way because before we can know whether or not an item has a function, we must first know all the relevant variables affecting a system. We must do so because until we do, we can not rule out the possibility that some other unaccounted variable(s), say x, might be having the system relevant effects we attribute to variable y. Since this is an extremely important point, we need to probe more deeply into its implications for functional analysis than we have done previously. If the interpretation I stated above is correct, then, before functionalists can accomplish what they hope to accomplish, now or in the future, completeness of the theory about a given system must be achieved. This is the case because a behavior pattern we attribute a function to might not have a

function at all, and to know whether this is true, we must know all the behavior patterns which do have system relevant effects. Since most political scientists would readily admit that social and economic behavior are relevant to political behavior, we again see that before functionalists can accomplish their goals, we must have a super social science.

It is true that the addition of a general hypothesis of self-regulation by functionalists does take care of part of the problem raised above since this hypothesis, when properly formulated, does mention the necessary and/or sufficient conditions which can contribute to maintenance of a given system requisite. If the functions and functional equivalents that fulfill each or every requisite can be established, then we have achieved completeness of the theory, but nothing short of this permits us to assert that we have constructed an adequate functional explanation. It is because the requirements for an adequate functional explanation are so rigorous that Professor Max Black, among others, thinks the social sciences are not yet ready for the type of explanation functionalists present us with.

This leads us to ask why it is that so many political scientists consider functional analysis to be an adequate theory to explain political behavior, or else assert that it is the most promising approach to developing a theory to explain political behavior? It seems that it is because functionalists look for functions rather than causes that leads them to hold this view and also to commit some of the errors so prevalent in their works. By saying that something has a function, we perhaps obscure the fact that the

item a function is attributed to may not have a function after all. In a more straight forward search for causal relationships, it is more likely that the observer will look for spurious correlations rather than attributing causality to every relationship they find. But the fact that a functional analysis often leads the observer to ignore possible spurious correlations does not mean that function statements and law statements are different, but only that the functionalist prefers to call causes functions. Brown notes this in his comment that:

> it is curious to say, as Durkheim does, that we shall 'find the function more easily if the cause is already known.' To say that we can find the function of punishment . . . more easily if we know the cause of punishment . . . is indisputable but uninteresting.[363]

Another important term used in functional analysis that we need to briefly consider is 'equilibrium'. Just what the functionalist means by a system being in equilibrium is often difficult to discover, but we can be sure that the political scientist does have something in mind that is similar to the use of the concept in physics. There, of course, 'equilibrium' is said to obtain when the resultant of all external forces acting on a body are zero. For a functionalist, a system is in equilibrium when the "forces" acting on the functional requisites have a resultant of zero. To achieve this precision, however, the functionalist would have to be able to compute the sum of the resultant social "forces," a feat not likely to be achieved, or lacking this, he could employ the

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[363]Robert Brown, Explanation, p. 130.

term as the economist does when he says that a system is in equilibrium when demand equals supply. Clearly, the economist cannot sum all the factors affecting supply and demand, but he does achieve precision in defining the term by ignoring multifarious movements and concentrate upon upward and downward movements alone.[364] Political scientists, both functionalists and non-functionalists, have not yet devised a precise measure of equilibrium, as evidenced from the following definition by Liska. In his International Equilibrium, Liska writes:

> An international organization is in equilibrium with respect to its scope when the functional (and geographic) extent of its jurisdiction corresponds to the internationally relevant phenomena of interdependence on the one hand and the willingness of member states to yield the requisite measure of domestic jurisdiction or sovereignty on the other.[365]

The problems inherent in this definition are readily apparent, as they are in most definitions of equilibrium formulated by political scientists. But since the idea that a system is in equilibrium and that it either remains in, returns to, or becomes desequilibrated is to pervasive and central in functional explanations, some attempt must be made to develop a fairly precise definition if any of the statements we find in functional explanations are ever going to be subject to test.

Given the fact that there are rigorous requirements that must be fulfilled if a functional explanation is to be adequate, and

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[364]For an excellent discussion of "social forces" see Quentin Gibson, "Social Forces," The Journal of Philosophy, LV (May, 1958), 441-455.

[365]George Liska, International Equilibrium (Cambridge, 1957), p. 16.

since political or any of the other social sciences does not yet have this requisite knowledge, we might ask what beneficial results have accrued from functional analysis thus far, and how might functional analysis be useful in the future?

Bergmann has pointed out that, in sociology, functionalism has been instrumental in pushing sociologists away from static studies to dynamic ones, and as we have seen, this would also apply to political science functionalists. Thus, there have been some beneficial effects of functionalism. It is also often asserted that functional analysis, while not being adequate for the explanation of behavior might be beneficial in the context of discovery.[366] If functional analysis is to be beneficial in the future, it would seem that it will come from the heuristic value functionalism might have. But we must be extremely careful in using functional analysis for heuristic reasons. There are several good reasons for being wary of functionalism, either for its heuristic or explanatory role.

First off, there is the danger that arises from the propensity to make functional statements true by definition and by doing so, many political scientists think they have accomplished more than they actually have. A second consideration is that even when statements are not logically true, there is a propensity to commit the fallacy of affirming the consequence in their testing. This

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[366]Hempel, Aspects, pp. 329-330.

occurs because the functionalist assumes that there are requisites which must obtain for the system to survive; since the system is surviving, he then assumes that some items are present which fulfill the requisites, as is evident, a practice not conducive to the advancement of science. A third consideration is that since the terms 'purpose' and 'function' are used interchangeably in most functionalists works, a great deal of confusion occurs over whether an analysis is concerned with purposive or non-purposive behavior. And an "approach" that leads to confusion is hardly to be recommended, either for its explanatory or heuristic value. A fourth consideration, and perhaps the most important, is that by employing a functional analysis, one of the canons of scientific method is ignored, that is, functionalists do not ask whether the relationship is spurious or not. This failure was understandable during the period of universal functionalism when all items were assumed to be functional, but even though there has been a refutation of universal functionalism, the practice of failing to look for other factors that might account for a given system effect has been retained. Again, the most plausible reason for this is that in affirming the consequent the functionalist is convinced that he has successfully isolated the relevant variables for system survival and looks no further. A fifth point that must be marshalled against the heuristic value of functionalism is that while most behavioral sciences have at one time or the other adopted functionalism, there is a question as to whether this has been beneficial for these disciplines? Although

there is no conclusive evidence one way or the other, it is just as probable that functionalism has been detrimental to the development of the behavioral sciences as that it has been beneficial. There is evidence, for instance, that some of the problems raised about Easton's first work, The Political System, have not been resolved by Easton in his later works or by other functionalists. Again, this problem centers around the lack of a way to combine "influences" or "forces" acting on a system. Gibson notes at one point, that Easton states that in an equilibrium theory of politics we will have "'to trace the way in which the various groups possessing power use it to shape policy, the way in which the power of one group influences the position of all other power groups, the reciprocal effects of the latter's power, and the ensuing authoritative allocation of values.'"[367] Gibson then notes that Easton concludes that given the measurable dimensions of power that are available, we still do not have a composite index to measure power. Gibson adds his own comment that "This being so, it would seem that we are back where we started."[368]

The problem is still as acute today as it ever was since this composite measure, the resultant of various "forces," is still lacking. And without this measure, a functional analysis of the type presently being employed offers us very little assistance in

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[367]Quoted by Gibson in "Social Forces," 454.

[368]Ibid., 455.

explaining and predicting political behavior. Of course, there may be ways to avoid this problem, but functionalists have not been overly concerned with doing so, or at least, functionalists who are political scientists have not been overly concerned in attempting to do so. To verify this, all we have to do is compare Easton's 1953 work with his 1965 works, and we see the same problems are present in the latter work as in the former.

It is, of course, quite true that probably the two most important theories developed in the non-physical sciences during the 19th and 20th centuries by Darwin and Freud do not contain a single mathematical expression. It might be argued that functional analysis will prove just as beneficial to the social scientists even though functional statements cannot be quantified. Perhaps so, but until functionalists begin to formulate their statements so they are as testable as generalizations in the aforenamed theories, the argument is not a good one, or so it seems to me. And unless functionalists in political science do begin to formulate their generalizations so they can be subject to test, functional explanations of political behavior will remain as dubious as I believe most of them are at the present.

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