Explanation and prediction in political inquiry

The philosopher of science Ernest Nagel has written that "... the distinctive aim of the scientific enterprise is to provide systematic and responsibly supported explanations." If Nagel's view is representative of most students of scientific method, we can conclude that those doing political research and those reading the results of such research ought to know something about the nature of scientific explanation. Furthermore, it is evident that political scientists are forever trying to answer, explicitly or implicitly, "why" questions: Why did the Supreme Court make the Baker v. Carr decision?

Explanation and prediction in political inquiry

One more justification of the political scientist's concern with explanation should be mentioned. A characteristic of scientific explanation which will be examined later in this chapter is its logical structure of identity with scientific prediction. That is, the logical structure of identity between explanation and prediction is the same; the difference between them is pragmatic, that is, based on the way they are used. The objective is to use the model of scientific explanation to account for past events or to predict future events (explanations), or in the case of scientific explanation, to explain the world in the same way that scientists use their models to predict the future. For one of the primary activities of political scientists, the prediction of events based on an expected outcome, prediction about the best means for implementing a given end. In fact, David Truman has written, "we cannot . . . escape the necessity to predict. Government officials and private citizens anticipate as best they can the consequences of political actions with which they are in-

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and general knowledge which links it to other phenomena which account for political phenomena, but these are all patterns of one model of scientific explanation; they are variations on a single theme, not distinct logical types. This single logical type of explanation is usually called the "nomological" or "covering-law model." Stated simply, it claims that explanation is achieved by subsuming what is to be explained under general laws. Most people say that Watergate caused President Nixon to resign his office. But the events at Watergate cannot be used as causal factors unless we have available generalizations such as, "Whenever a President feels that he is about to be impeached, he will resign." If we really know nothing about why presidents resign, if we have no laws linking presidential resignations to other factors, then we cannot explain.

Let us now examine the structure of nomological explanation in the next chapter. Our objective, in addition to describing the model, is a more detailed demonstration that it is a flexible and not unrealistic basis for explanation in political science. That is, in addition to the fact that the nomological model can include within its boundaries many of the patterns of explanation used by political scientists, it is also useful in explaining why presidents resign without knowing anything about why.

In the first place, an explanation can be divided into that which explains and that which is explained; the former will be called the "explanans," the latter the "explanandum." The explanans includes two kinds of statements: general laws, and sentences stating initial or antecedent conditions. Together, they imply the explanandum. More accurately, initial conditions are necessary only when the explanandum is an individual fact. For instance, the fact of when the explanandum is an individual fact. For instance, the fact of the United States' two-party system might be explained by (1) the generalization that all political systems with single-member districts have two-party systems, and (2) the initial condition that the political system of the United States is one of single-member district.

However, suppose that we would like to explain the generalization.

* For the nature of deductive logic, see any logic text. Two of the most highly respected are Irving M. Copi, Symbolic Logic (New York: The Macmillan Co., 1954); and Patrick Suppes, Introduction to Logic (Princeton, N.J. Van Nostrand, 1957).


Exploration is one characteristic of a political phenomenon. If all sample surveys indicate that all business men are Republican, it is not surprising that business man X is a Republican; X is included in the generalization.

We must at this point make a distinction between two kinds of explanation, deductive and probabilistic. As the label implies, the former is an exercise in deductive logic. As already noted, in a valid deductive explanation, the logical connection between the explanans and the explanandum is such that if the former is true, the latter must be. A deductive explanation employs universal laws or generalizations stating that all As are Bs. This is why the explanation can be deductive. Now, as we saw in Chapter 6, a universal law is never necessarily true. An empirical generalization must be test-

What is so special about a deductive explanation? The answer lies in the logical connection between the premises and the conclusion, the premises and the conclusion, the explanations and the explanation. To understand this connection is to grasp the power of deductive explanation. If the premises are true, the conclusion must be true. Here is where the necessity of the argument exists. As Abraham Kaplan puts it, "In the deductive model the necessity does not lie in the premises, but rather in the relation between the premises and the conclusion which they control." In addition, for an explanation to be truly explanatory, its generalizations must be well-confirmed by empirical evidence. This rather obvious requirement refers to the generalizations themselves, not to the logical structure of the argument. So, a sound scientific explanation accounts for a fact by showing that it is one instance of a general tendency. This is what a political scientist does if he explains a political phenomenon. If all sample surveys indicate that all business men are Republican, it is not surprising that business man X is Republican; X is included in the generalization.

We must at this point make a distinction between two kinds of explanation, deductive and probabilistic. As the label implies, the former is an exercise in deductive logic. As already noted, in a valid deductive explanation, the logical connection between the explanans and the explanandum is such that if the former is true, the latter must be. A deductive explanation employs universal laws or generalizations stating that all As are Bs. This is why the explanation can be deductive. Now, as we saw in Chapter 6, a universal law is never necessarily true. An empirical generalization must be test-

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cent of registered voters are cross-pressured, (2) 40 percent of regis-
tered voters who are cross-pressured are Democratic. Let us repeat,
this is a deductive explanation, since if it is a valid argument and the
premises are true (the probabilities are true), then the conclusion
must follow. From the standpoint of logic then, the explanation of
universal laws and that of statistical laws exhibit no differences,
since in a sense they are both "universal" statements. The distinc-
tion is that one states that in a certain universe all individuals
exhibit a certain characteristic, while the other states that 60 percent
have the attribute. So the tricky facet of statistical explanation is the
explanation of the single event.

OTHER NOTIONS OF EXPLANATION

We must now consider an alternate notion of explanation and try
to describe its shortcomings. Robert Brown speaks for many
philosophers and social scientists when he gives the following defi-
nition: "All explanations are attempts to explain away impediments
of some kind." This implies an interpretation of scientific explana-
tion that is psychological. That is, "to explain" means "to make
understandable," to reduce the unfamiliar to the familiar. In the
words of the well-known physicist P. W. Bridgman, "Explanations
consists merely in analyzing our complicated systems into simpler
systems in such a way that we recognize in the complicated system
the interplay of elements already so familiar to us that we accept
them as not needing explanation." This notion of explanation is in
opposition to the nomological interpretation advocated in this book,
and, as will be demonstrated, it misses the point of what explanation
is all about.

The power of scientific explanation lies in the logical connection
between the evidence and the conclusion (fact to be explained), not
in the degree of psychological familiarity the argument has. Ac-
cording to Carl Hempel, "the covering-law concept of expla-

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*Robert Brown, Explanation in Social Science (Chicago: Aldine Publishing Co.,

*See "Deductive Nomological Systems as Models of Scientific Explanation," in
Herbert Feigl and Grover Maxwell, eds., Minnesota vs. Statistical Explanations," in
*Philosophy of Science, vol. 3 (Minneapolis: University of Minnesota

*For an interesting discussion of explanation and understanding, see A. James
and 8.

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explained when it can be fitted into a pattern or system. According to the pattern model, then, something is explained when it is so related to a set of other elements that together they constitute a unified system. We understand something by identifying it as a specific part in an organized whole. If this model proposes another mode of explanation which is nonnomological, then it should be pointed out that one does not account for something simply by showing that it fits into a pattern. This might describe some of its relationships, but it doesn’t answer the why question. On the other hand, the pattern model might be interpreted in a nomological sense if the relationships of the pattern or system are taken as manifestations of generalizations. In this case it cannot be considered a distinct model.

There is another intellectual position that comes to mind in a discussion of the nature of explanation and psychological understanding. It is the argument that the nomological model of explanation does not really explain at all. Using the generalization, “Workers tend to vote left,” and the statement, “X group is made up mainly of workers,” to explain the group’s voting left, does not, according to this criticism, really show why the behavior occurred. Something else is required, so the argument goes. For instance, W. G. Runciman has written, “Given that being a Catholic is correlated with being a Democrat, the question why is not so much answered as asked.” At one level, this is a version of the claim that no explanation is final. All explanations are, to use Abraham Kaplan’s terminology, “indefinite.” That is, “every explanation is in turn subject to being explained.” This is a reasonable claim, and one that the practicing political scientist would do well to keep in mind. However, it tends to cast doubt upon an argument such as Runciman’s, for it makes clear that there are different levels of explanation. One of the tasks of any science is to search constantly for more refined laws to account for more variance (speaking statistically); in other words, to explain a wider range of phenomena more completely. But this does not

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12 Kaplan, The Conduct of Inquiry.


14 Kaplan, The Conduct of Inquiry.


mean that the initial rough generalization fails to provide an explanation of sorts.

Returning again to Runciman’s example, one can explain a group being Democratic (it is predominantly Catholic) using the law provided, and still seek to explain why Catholics tend to be Democrats. There is no contradiction here. The next step will simply be a more refined and inclusive law. Thus, if this argument merely boils down to a noting of the infinite regress of explanations, it need not trouble us. However, it can be pushed further. “There is a widespread notion that the hierarchy of explanations must ultimately ascend to the final comprehensive theory which is itself ineluctable as a brute matter of fact...” What underlies this notion is a belief that the laws of nature represent the necessary order of the universe. That is, science’s ultimate task is to show why things must be as they are. But as we have seen, this is not at all the objective of an empirical science. The laws of any science are contingent; they describe the relations of things as we observe them. Science cannot demonstrate their necessity.

Explanation and prediction

One of the reasons for a political scientist taking an interest in explanation is the fact that all policy scientists have to predict. This justification is valid because of the logical identity between explanation and prediction. The identity is based upon the fact that both explanation and prediction require laws and initial conditions. Thus, if one has a valid explanation, he should be able to employ it to predict, and vice versa. If, given the proper initial conditions, one could not have predicted the event that was explained, the explanation was not adequate in the first place. If it is possible to explain adequately without having a potential prediction, then the door is left open for any pseudoequation of a given phenomenon.

As we shall see, an explanation may be incomplete and yet be accepted by political scientists. This has led some to argue that while one can explain, using such partial explanations, prediction is impossible. Abraham Kaplan then raises the question, “What shall we say, because they do not allow for prediction, that they are not...”

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really explanations at all?” In the strictest sense they are not explanations, and so naturally they do not predict. In this period of a developing science of politics, we must often content ourselves with partial explanations, or even less. But this practical concession does not allow us to weaken the model of explanation to the point that it no longer explains.

Kaplan also implies that statistical laws can often explain better than they predict. However, once again, the explanation only appears sounder because the event has already happened. If the laws of voting behavior assert that it is 80 percent probable that county X will vote for candidate A, we can predict as well as explain the county’s behavior with 80 percent certainty. The fact that it does behave in the predicted manner does not make the explanation sounder than a prediction.

There is another argument often used by those who claim explanation is possible without prediction. A well-worked example has to do with the explanation of earthquakes. We can explain them after they have taken place (using the proper laws and citing relevant conditions), but it is usually impossible to predict a quake. Rather, the last clause should read “technically difficult,” because we are often unable to know about the initial conditions. Shifting the example to politics, we might have rather sophisticated laws accounting for revolutions and civil wars, but the initial social, political, and economic conditions existing right now in a small Latin American republic that would allow us to apply the laws may never come to our attention until after the revolution has occurred. This is, then, a technical, not a logical difficulty and it in no way refutes the logical identity between explanation and prediction. Ernest Nagel has put it this way: “In many cases of physical inquiry we are ignorant of the pertinent initial conditions for employing established theories to make precise forecasts, even though the available theories are otherwise entirely adequate for this purpose.”

There is still another argument made by those who reject the logical identity of explanation and prediction. It is that we are often able to predict without being able to explain. This is, then, a reversal of the argument just considered. Abraham Kaplan has presented the following as a case in point. “Analysis of voting behavior, for exam..."
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Explorability of a science of politics (and therefore the scientific explanation of political phenomena), which we attempted to refute on methodological grounds in Chapter 3, are often of practical significance. For instance, while the complexity of political phenomena presents no logical barrier to nomological explanation, it can create difficulties for the political scientist conducting research. No claim is being made that political science is simple and that complete nomological explanation is immediately achievable. On the other hand, we have argued that explanation in any science must meet certain requirements, and it will only prove disillusioning to attempt to achieve explanation by drastically weakening these requirements. Taking a moderate position, one ought to realize that there are various degrees of completeness possible in explanation; one can make a series of discoveries concerning degrees of completeness and yet draw the line at inadequate explanations. In other words, if we are explicit, the class of incomplete but pragmatically acceptable explanation types can be distinguished from pseudoexplanations, arguments which have no explanatory value. The addition of one or several elements (usually laws) to an incogno complete explanation makes it complete. But no addition could make a pseudoexplanation acceptable, short of complete revision.

Carl Hempel has explicated this criterion of completeness for explanations rather thoroughly. Using his analysis as a guide, we can spell out a typology of completeness for political scientists. First, of course, are complete explanations, those that explicitly state all laws and initial conditions. Hempel points out that such perfectly complete nomological explanations are rarely achieved by scientists. In the natural sciences this is usually because the explainer assumes that certain laws will be presupposed, and so formally states only the necessary facts. "If judged by ideal standards, the given formulation of the proof is elliptic or incomplete: the departure from the ideal is harmless; the gaps can readily be filled in." In other words if asked to, the scientist could easily provide the missing laws (initial conditions) that would completely account for the phenomenon.

Kaplan, Conduct of Inquiry, p. 350.

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10 Kaplan, Conduct of Inquiry, p. 350.
Explanations and prediction in scientific inquiry

classifying the Bolshevik-type personality and then relating it to
total behavior (decision-making, etc.). Lettes' explanations are
speculative and, like most psychosociological analyses, a bit short on
scientific rigor. But as explanation sketches they are interesting and
potentially useful, for they point out some possible explanatory factors
in short, a start is made. Once again we must admit that in its
present stage of development, political science must often be satis-
ied with the explanation sketch. But that is an empirical, not a
logical, shortcoming.

All of these incomplete explanation types can be distinguished
from the pseudo or nonexplanation according to one main criterion:
No matter how incomplete, it will be possible to test even an expla-
nation sketch (admittedly, this may take some doing). That is, even
in its rough state, the incomplete explanation makes some reference
to empirical entities—to the world of experience. Such is not the
case with nonexplanations. "In the case of nonempirical expla-
nations or explanation sketches . . . the use of empirically mean-
ingless terms makes it impossible even remotely to indicate the type
of investigation that would have a bearing upon these formulati-
s. . . ."26 This distinction between incomplete and pseudoex-
planations is important to our analysis. Many of the explanations
that one comes across in political science are incomplete rather than
pseudo. Thus, while they should be evaluated and criticized ac-


Patterns of explanation

The first part of this chapter described the nature of explanation
in political science. We argued that only nonlogical explanations
can account for political scientists' why questions. What might ap-
ppear to be different types of explanation are actually variations on a
single logical model; they share the basic characteristic of employ-

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non in question. The number of elliptical explanations in political
discipline is simply not well enough de-
scribed to allow a political scientist the luxury of assuming that
be to others are aware of the laws he is implying. This is one reason for
asking that political scientists explicitly formulate their generaliza-
Hempel's scheme has a category that is more relevant to political
science. This he calls the partial explanation.23 Like the elliptical
type, it fails to explicitly formulate all the generalizations upon
which it is based. But even when the generalizations are made evi-
dent, the explanandum is not completely accounted for. All that is
demonstrated is that something in a particular general class is to be
expected. Thus, suppose we want to explain why a certain presi-

dence would not show (for example) that (1) F is an aggres-

sive act (class F); (2) in these circumstances an F is to be expected; and

(3) W is in the class F. Thus the aggressive act would be ex-
plained completely, the sending of troops partially. As we have said,
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ing laws to explain. This section will describe a typology of patterns of explanation based on a survey of political science literature. If it is all inclusive, then the argument that every sound explanation in political science contains at least one law becomes stronger, for the nomological character of each pattern will be demonstrated.

The patterns are six in number. The first three, dispositional, intentional and rational, employ human characteristics as independent variables. The others are macroinstitutional, system-maintaining, and genetic. It then becomes clear that a single criterion has not been used to classify patterns. For instance, dispositional explanations are distinguished from macroexplanations mainly on the basis of content, that is, the different types of concepts used as independent variables in their generalizations. On the other hand, a dispositional explanation and a genetic explanation have different structures. But we need provide no lengthy justification of this multiplicity of criteria, since our basic thesis is that all sound explanations are nomological. In this section we are interested in describing the methods (patterns) of explanation actually used by political scientists.

Before moving on to the patterns themselves, one more point needs clarification. Each of the patterns is an ideal-type of sorts. The explanations that one comes across in the literature of political science are often mixed. However, in most explanations either one pattern is dominant, or the two or more coequal patterns are distinguishable; therefore we are justified in speaking about six patterns and assuming that such discussion is useful for the practicing political scientist.

THE DISPOSITIONAL PATTERN

The dispositional pattern in political science is so labeled because it uses dispositional concepts. A disposition is a tendency to respond in a certain way in a given situation. Included in the class of dispositional concepts are attitudes, opinions, beliefs, values, and personality traits. The dispositional pattern can be distinguished from the intentional pattern because the former makes no reference to conscious motives. In other words, the link between the dispositional and behavior is not "out in the open."

May Brodbeck has pointed out that the dispositional definition itself may be employed as the generalization in an explanation. Thus we might explain an individual's electoral decision by stating the following definition: "A leftist is one who votes left" (voting left defines the disposition), and then claiming that the individual is leftist. However, the explanation is then, in May Brodbeck's words, "vacuous and circular."24 That is, useful dispositional explanations which tell us something about the world will relate the disposition to another factor, the result being an empirical generalization. Such an explanation is not vacuous and circular. Thus the pattern's nomological nature becomes evident. Dispositions are antecedent conditions, independent variables which must be linked to resulting actions by covering laws before they can explain anything.

There are as many types of dispositional explanation as there are kinds of dispositions. Some of these we have already mentioned. However, there are several other dimensions according to which dispositional explanations can be classified. The dispositions may be attributed to individuals, decision-makers, groups, types of people, classes, nations, or all men. The laws or relationships can be explicitly stated, consciously assumed, or unconsciously implied; and based on controlled analysis of statistical evidence, observation and experience, or commonsense speculation. A succinct statement on these dimensions can be made in the form of a series of questions, the answers to which provide a clear categorization of any dispositional explanation:

1. What kind of dispositional concept?
2. Who has the disposition?
3. How is it related to behavior (how well-developed and articulated are the laws)?
4. What kind of evidence is provided (how scientific)?

The last two questions can be asked of any pattern, of course. Let us consider an example. Lewis Dexter has attempted an explanation of the proposed fact that congressmen believe the mail they receive from their constituents is valuable and worthy of consideration. The explanation is based on a number of attitudes and beliefs of elected officials and their goals. A weakened version of the argument is that congressmen believe that constituents are not informed about legislation and they are elected to provide information. Consequently, the mail is important. Congressmen act on the belief that constituents are not informed and their goals are to provide information to constituents. Thus, when they receive mail, they believe it is meaningful because they believe constituents are not informed. This is an example of a dispositional explanation.
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The existence of a dispositional pattern in our typology indicates that much political behavior is not intentional. Still, there is a class of actions which do seem to manifest such purposive behavior. This, in turn, is the basis for the inclusion of an intentional pattern. The term intention refers to actions (not necessarily successfully carried out) that are consciously purposive. And as a matter of fact, political scientists often attempt to explain political phenomena by showing that the explanation is the result of some sort of intentional action.

The simplest kind of intentional explanation can be schematically presented: "X does Y because he intended to do it." But this is not a complete explanation of Y, because no grounds are given for expecting its occurrence. Just because X intended to do Y doesn't mean Y will actually do it, unless of course we have a law, based on empirical evidence, that such a person as X acts upon his intentions. Thus it can be seen why at least this simple law is necessary: intentions need not result in actions. Some sort of statement is required which provides grounds for explaining the action. Thus, for instance, saying that Senator Smith lent his support to the Civil Rights Act of 1968 because that was his intention doesn't explain anything unless we include the very general law that "When a senator intends to support a bill, he usually does." Thus even in this overly simplified case, a generalization is necessary for sound explanation.

Usually, however, we have called an intentional or purposeful explanation includes more justification of its explanandum than "because he wanted or intended to," and "he who intends to does." For if we want an intentional explanation of a political phenomenon X that goes beyond this trivial argument, we will probably have to refer to goals or objectives. It can be asserted, then, that another important characteristic of most intentional explanations is that there is some reference to goals, purposes, or objectives. The structure of the pattern then becomes, "X did Y because he wanted G," based on the generalization "people who want G tend to do Y under these particular conditions."

We have now noted two kinds of intentional explanation based on two kinds of intentional generalizations. The second clause is important because, as we have argued, intentional explanations, whether of the simple ("because he intended to") or more important goal-seeking (because he had X-goal type), require laws that relate the intention to the explanandum phenomenon and therefore demonstrate why it is as it is. The mere stating of an intention or a goal does not explain (unless, of course, there are laws implied and we accept it as a partial or elliptical explanation).

Lewis J. Edsinger's explanation of why the nonpolitical elite in postwar Germany was not anti-Nazi is intentional because it is based on the proposed fact that the costs of a purge of pro-Nazi officials would have been more than the Allies were willing to pay. In effect, Edsinger explains the lack of a purge by setting forth the conditions for the decision to carry one out — that is, recruiting an entirely new group of anti-Nazi nonpolitical leaders. His explanatory law is, "The more extensive the purge the more it will cost. . . . On
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The other hand, the less the victor is willing to pay one or the other price, the more difficult it will be to carry through such a purge.34 Clearly, the term which makes this variation on the intentional theme is "willing." If X is not willing to pay the price, it will not carry out the purge. The explanation is not, "X failed to carry out the purge because it didn't want to," but, "because it didn't want to pay the price required." The lawful relationship exists between purging and willingness to pay the price. In short, goals are cited to explain the action.

So intentional explanations, like all other sound explanations, are nomological. They differ from the other patterns only in the type of concepts used and the way in which generalizations are arranged. However, some philosophers of social science see in intentional explanations a unique way of accounting for social phenomena—an method of explanation logically distinct from the nomological model. The basis of this position is a belief that a citing of intentions explains by showing the meaningfulness of the behavior under question. The explanatory force of learning the agent's intention depends upon the author's familiarity with intentional behavior; the explanation must solve a puzzle and in order for the puzzle to exist there must be a "previous stock of knowledge and beliefs" with which the perplexing event is at variance.35 This interpretation of intentional explanation is based upon an assumption that we tried to refute in the first section. We contended that the psychological fact of familiarity has nothing to do with the logical requirements of intentional explanation. There does not seem to be an added attractiveness in viewing intentional explanation as being somehow more "meaningful" than other kinds. However, an intention explains a political fact only in so far as it is lawfully related, directly or indirectly, to it. That the fact is thereby made psychologically meaningful is not a necessary nor sufficient condition of the explanation.

THE RATIONAL PATTERN

A rational-type explanation is based on the presumed or demonstrated rationality of men (all or types of men). This pattern may be considered as a special case of intentional explanation in the most general sense. However, it is sufficiently distinct and in wide enough use among political scientists to justify separate consideration.

A rational explanation has the form, "X because Y is rational," or, bringing out its nomological nature, "X because Y is rational and in situation S a rational man does X." There are obviously many points in this basic characterization that require explication, but first a preliminary definition of rationality is in order.

Most definitions talk about rational behavior or action; thus, people are rational insofar as they behave rationally. Robert Dahl and Charles Lindblom have stated what seems to be the consensus definition of rational behavior: "An action is rational to the extent that it is correctly designed to maximize goal achievement, given the goal in question and the real world as it exists."36 So an individual is rational if his pursuits of goals is as efficient as possible. The importance of goals to rationality indicates why we could say at the outset that rational explanation is, in a way, a special kind of intentional explanation. According to the definitions we have been considering, all rational behavior is goal-seeking. The only difference between it and the intentional pattern is the claim that rational action is the best way to achieve a goal. An intentional explanation makes no such claim; it merely states that X has goal Y and in situation S, people with Y tend to do W to achieve it—W is not necessarily the best method. J. W. N. Watkins has succinctly made his point: "If we define purposeful behavior as trying . . . to do or achieve something, it follows that fully rational behavior is a limiting case of purposeful behavior."37 So we can now see why the rational pattern is often confused with intentional explanation.

We have referred to the nomological nature of rational explanations. Let us now show in more detail why this pattern shares the basic logical structure of all adequate scientific explanations. Saying that "A man, M, voted for candidate X because M was rational," while providing the outline of an explanation, does not really account for the behavior—show why it happened. It lacks the information that relates the initial condition, "M is rational," to the expla-
conclusion that Kruschev was trying to close the missile-gap—
decrease the American superiority in nuclear weapons by placing
Russian missiles at America's doorstep. According to this rational
account, this is the only goal that was worth the great risk of an
American retaliation.

This appears to be a very reasonable explanation of the Soviet
decision yet it should be noted that we don't actually know what the
intentions of the Soviets were. Thus, as Allison himself would point
out, he has not actually explained that decision but rather given it a
rational reconstruction: it might be that Kruschev had other goals
and/or was not rational. We might view this example as an explana-
tion sketch; if Kruschev was rational, if his goal was to close the
missile gap, and if there is a generalization which indicates that
leaders in this kind of strategic situation will usually take great risks
in order to improve their nation's position, then we have begun to
explain the decision.

THE MACRO PATTERN

We have now analyzed three patterns of explanation. Each ac-
counts for political phenomena in a different way, on the basis of
different types of independent variables. Yet all are similar in that
(1) they are nomological, and (2) the concepts, and subsequently the
gereralizations containing them that account for the explananda
explicitly refer to human characteristics, whether individual or
group. The pattern of explanation which will be analyzed in this
section parts company with the first three on the latter point. That is,
the generalizations that a macroinstitutional explanation employs
have as antecedent factors or independent variables institutional or
physical concepts, so that in an institutional law $A \rightarrow B$, the $A$
is such a concept. There are consequently two variations of the macro
pattern, the institutional and the physical.

The dispositional pattern already analyzed includes some group
properties—group dispositions—such as public opinion and na-
tional character. These are properly considered as statistical aver-
ages of many individual opinions or individual personality traits.
Thus, since we have classified such concepts as dispositional, they
will not be included in this section. What we are saying, in effect, is
that there is a difference between an institution (admittedly made up-
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of individuals and properties of individuals) and a group property such as public opinion. The opinion of a group is a direct disposition of the individuals who make up the group. When an institution such as the party system is cited as the cause of a political phenomenon, a property of that institution, its decentralized nature for instance, is usually being referred to implicitly or explicitly. Thus one might want to call decentralization a disposition of a party, since its existence is determined by observing certain behaviors of political parties in given situations. This is not incompatible with our macro pattern, even when we add the additional assumption that such dispositions as party decentralization and group cohesion are ultimately reducible to laws about individual behavior. That is, we can give this interpretation of party decentralization and still opt for the usefulness of a macro pattern of explanation in political science because the decentralization of a party is not a direct characteristic of its members as it is a public’s opinion. While according to methodological individualism this concept is definable in terms of individual behavior, an individual is not a cohesive; but, of course, an individual does have opinions or personality traits. Therefore, we talk about the decentralization of the party, of the institution. This is because, while the party’s decentralized nature is in part a result of human dispositions, these interact in such a way as to give the institution a characteristic which none of the individuals possess.

One of the best-known explanations in the literature of political science is the accounting for of the U.S. two-party system. One of the first formulators of such an explanation was E. E. Schattschneider.46 The general hypothesis from which he operates is, "The American two-party system is the direct consequence of the American election system, or system of representation."47 Two institutional features of the electoral system in particular are cited as antecedent conditions—single-member districts and plurality elections.48 The French sociologist Maurice Duverger has stated his version of the law: "The simple-majority single-ballot system favors the two-party system,"49 and says about it, "Of all the hypotheses that have been

47 Ibid., p. 49.
48 Ibid., p. 74.

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defined in this book, this approaches the most nearly perhaps to a true sociological law."44 These arguments are important to us because they represent straightforward institutional explanations. The fact of having a two-party system is adequately accounted for by laws relating it to institutional properties of the electoral system.

We have now sketched the general nature of the macro pattern and provided a justification for its consideration as a separate kind of explanation. One kind of macro explanation uses institutions and properties of institutions. There is another subclass of the macro category. Besides institutional explanations there are those employing physical characteristics of the environment. Thus David Easton identifies three categories of, as he calls it, situational data: (1) the physical environment; (2) the non-human organic environment; and (3) the social environment or patterns of human activity flowing from social interaction."43 The latter is close to the institutional category we have just discussed, and the former refers, of course, to our present concern. Easton goes on to say that, "Our physical environment influences our activity, regardless of the kind of people we are. Our nonorganic resources, topography, and spatial location, such as being near or distant from the seat of government, influences the kind of political lives we lead."44 A physical explanation in political science in simplest terms takes the form "A; if A (a physical fact), then B; therefore B (explanandum)." Physical facts include geographical variables and characteristics of the political system; for instance, the type of electoral ballot can be considered as a physical explanatory factor.

Some students of politics have noticed a relationship between the type of ballot and the incidence of straight-party voting. Angus Campbell states the association in the following manner: "We find, in the states which make it relatively easy for the voter to mark a straight ticket, that the number of straight tickets marked is some 20 percent higher than in those states where the ballot requires a series of separate decisions among the candidates for each of the various offices."45 And in a study of the impact of the Australian
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A certain political function is necessary for the maintenance (continu-ued existence) of the social system. But one cannot show that a particular political institution is the only one that could perform the function.

At this point, we can discuss the sound type of system-maintaining explanation. Its main feature is the assertion and demonstration of a causal relationship between variables and a system. "It should be apparent that functional explanation is essentially causal; if it is concerned with the effects of a given activity or practice on a system, its purpose must be the establishment of cause and effect relationships." Based on the analysis in Chapter 6, it seems reasonable to assume that if the notion of causality has any significance at all, it is because "to show cause means "to subsume under general laws"; the concept of cause is reducible to the covering-law model. It follows that to explain functionally or to use the system-affecting pattern is to employ laws; thus, there is no difference in this respect from other sound patterns of explanation. In explaining a certain change, state, or maintenance of a system, we show what factors help produce it. The causal relationship can only be accounted for by citing a law that indicates the resulting state of affairs is expectable under the circumstances. The distinctive feature of system-maintaining explanations is the dependent variable, system maintenance. Such an explanation attempts to demonstrate that certain functions are necessary for the maintenance of the system and that specific variables fulfill these functions.

THE GENETIC PATTERN

Of the six patterns of explanation we have distinguished, the one that is most distinctive structurally is the genetic pattern. Each of the other patterns can be reduced to the admittedly oversimplified schema, "If (representing laws and initial conditions), then B (the explanandum)." But, in Ernst Nagel's words, "The task of genetic explanations is to set out the sequence of major events through which some earlier system has been transformed into a later one." Thus, a genetic explanation does not fit the above schema because it

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45 Van Dyke, Political Science: A Philosophical Analysis (Stanford, Calif.: Stanford University Press, 1960), p. 32.
46 Nagel, The Structure of Science, p. 25.
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Involves several stages. Its basic pattern (in its simplest form, in- 
volving only two stages) is, "If A (factors at time 1), then B (con- 
sequent factors); and if C (B plus other factors at time 2), then D 
(explanandum)." It is clear, then, that the factors in the schema occur 
or exist at different times. This is why we say the genetic pattern is 
characterized by stages. A simple causal explanation, "If A then B; 
A, therefore B," involves a time sequence. However, a genetic expla- 
nation is marked by at least two explanation stages, each of which 
then proceeds to explain, on the basis of X, another state 
of affairs and so on.

Thus the genetic pattern accounts for the present state of a politi- 
cal phenomenon by showing how it developed over time from pre- 
vious stages. It differs from other patterns because of this develop- 
mental and the multiplicity of stages. From what we have 
mental element and the multiplicity of stages. From what we have 
said so far it seems reasonable to conclude that the genetic pattern is 
to note, in this regard, that much of the methodological analysis of 
the genetic pattern has been carried out by philosophers of history.44 
And, as a matter of fact, many of the explanations provided by politi- 
cal scientists that can be classified as genetic are actually historical. 
That is, in these instances the political scientist functions as an 
archivist in accounting for political events or situations. For in- 
stance, Wilfred E. Blinkley traces the development of the office of the 
Presidency using a narrative style that mentions the key historical 
trends that have influenced the formation of the office.45 But genetic 
and historical explanations are not identical. There are genetic 
explanations which are not historical. Even the explanation of the development of party 
identifications in The American Voter.46

43 A genetic explanation can be cut off at any point, so that the origin at one time 
may be a state at another, and a stage may become the explanandum if we push the 
analytic back in time.

44 See, for instance, W. B. Gallie, "Explanations in History and the Genetic Sci- 


46 Angus Campbell et al., The American Voter (New York: John Wiley & Sons, Inc., 
1960).

A main characteristic of many genetic explanations, then, is a 
narrative style or chronicling of events. However, it is obvious that 
in accounting for a political phenomenon, not every antecedent 
event is relevant. We can say, at this point, that genetic explanations 
account for political phenomena by describing a series of relevant 
events which, in a chain-like fashion, determine the state of the 
explanandum. However, there is more to genetic explanation than a listing 
of relevant stages in the development of a political phenomenon. A 
 genetic explanation accounts for a political phenomenon by show- 
 ing how it was changed or influenced at various stages in its de- 
velopment. Now the important point is that each stage supposedly 
has influence on the following stage, and so on until the expla- 
nandum is reached; one talks about "necessary conditions." The 
question is, How can each stage be linked to the next? Our answer is, 
through the use of generalizations. That is, a law explains why the 
phenomenon changed from A to B, and then another law relates 
some part of B to C, and so on. Thus we see that if a genetic explana- 
tion is to be of any value, it must be nomological, for it depends on 
the demonstration that one stage has an effect on the next.

An example will help clarify our argument. William Riker's ex- 
planation of the decline of judicial review can be interpreted as a 
genetic explanation.47 Taking some liberties with his analysis, we 
can present the following as an explanation of the phenomenon in 
question: (1) the Supreme Court's experience with the "Court-pack- 
ing" bill of 1937 persuaded it to practice judicial restraint; (2) one 
manifestation of its judicial restraint was its periodic restriction 
of doctrines that had been used to justify striking down acts of Con- 
gress; (3) therefore, when acts of Congress that previously were af- 
ected by such doctrines come before the Court, it does not employ 
the doctrines. Thus, it does not practice judicial review. The expla- 
nation is genetic because the explanandum is the result of the re- 
lationships between three stages of the Court's history. And each 
relationship must be expressed in the form of a law; for instance, "a 
judicial body which is trying to divest itself of a power will give up 
vehicles that justify the exercise of the power."

In addition to laws, nomological explanations contain initial con- 

1965), pp. 250-54.
pointed out that the stages of a genetic explanation can be analytically viewed as a series of separate explanations. Thus, a dispositional explanation may account for the movement from one stage, and an intentional explanation the movement to the next. If a genetic explanation uses dispositional generalizations at each stage, it might be classified as both genetic and dispositional.

The system-maintaining pattern is distinctive in that it is characterized by the nature of its explananda or dependent variables, namely, the maintenance of systems. As we have seen, various sorts of laws can account for this phenomenon. Thus, for instance, dispositional or macro concepts can be cited as antecedent conditions for the maintenance of systems. It is trivial, then, to say that system-maintaining explanations employ different kinds of concepts. This is simply a restatement of the assertion that our typology of patterns lacks a single distinguishing criteria.

If this last point is kept in mind, the discussion to follow will be more meaningful. We will examine several ways that patterns can be combined (in addition to the sequential combining which occurs in genetic explanations). First, and most obvious, the types of laws that characterize several patterns may be employed jointly to account for a single explanandum. Take for instance, V. O. Key’s tentative explanation of the U.S. two-party system. He argues that instead of a single-factor explanation, “A more tenable assumption would be that several factors drive toward dualism on the American scene.”

The factors he cites (with appropriate generalizations stated or implied) are: (1) the persistence of initial form—this implies both institutional and dispositional explanations; (2) the influence of institutional factors, such as the single-member district; (3) the existence of “systems of beliefs and attitudes”—this, of course, implies a dispositional explanation.

Another way of combining patterns in an explanation is to relate several of them in one of several ways. That is, instead of showing how a number of factors independently come together to influence the explanandum, the political scientist often attempts to demonstrate how several variables interact to bring about the phenomenon to be explained. The simplest type in this category is characterized

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**Bold, p. 227.
political skills and motivations lead to differences in political influence, the latter in turn helps determine the amounts of the former two factors. It can be seen, then, why such an explanation is more complex.

We have now distinguished three kinds of pattern-combination structures: the coming together of several independent variables; the arrangement of several variables in a causal chain; and the more complex arrangement of several variables, with provisions for interaction and feedback. The conclusion to draw from this discussion is that rarely will a political scientist discover a sound explanation which uses a single causal factor.