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Processes in Political Development:
Simulating Theories of Political Systems

Ronald D. Brunner

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SUMMARY

Conventional verbal and statistical forms of theory in comparative government are in part responsible for the inability to explain political change and development over periods of time in individual countries. If a theory incorporates a number of processes interacting as a system, it is necessary to represent the theory as a computable structure, incorporate data from a particular historical context into the structure, and deduce the behavior of the system through simulation.

In this dissertation the alternative theories of political change and development of Seymour Martin Lipset and Samuel P. Huntington are represented as computable structures, data approximating the relevant aspects of the political context in Turkey in mid-1950 are incorporated into the structures, and their behavior is deduced and compared with the major events and gross trends in Turkey in the same period. The Lipset model and to a lesser extent the Huntington model reproduce many of the most important historical outcomes rather well. However, attention is directed away from empirical fit to the purpose of accelerating the systematic improvement of theories having this unconventional form. The purpose is threefold: To understand the behavioral significance of structural differences between the two models, as well as omissions and empirical inadequacies in each of them; to introduce and explore means of representing verbal political theories as computable structures; and to revise data collection priorities to obtain information that would permit one to choose more confidently among alternative theoretical specifications.

The Lipset model has a lesser tendency to generate extreme political crises than the Huntington model because the basic institutional constraint on the political behavior of social groups and political parties in the former (legitimacy) facilitates adjustments in the political environment and predispositions while two of the constraints in the latter (the autonomy and coherence of institutions) hamper such adjustments. Each theory substantially omits consideration of the motivation to act (stress), the sequence and timing of political actions, forms for stimulus-response relationships, and the impact of politics on social and economic trends. Each omission requires additional specifications in the models. Through reference runs and sensitivity analyses, several individual structural specifications are shown to be empirically implausible.

The most important general behavioral property of event-oriented, branch-processing models such as these is the tendency for small quantitative differences between runs to cumulate and to generate important qualitative differences in behavior.

Finally, data resources can be improved enormously by collecting qualitative information directly relevant to certain structural specifications and by collecting quantitative information emphasizing the important functional and temporal contexts defined in the models.

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INTRODUCTION

Chapter 1

The Approach: Organized Complexity

A Problem.

The study of change and development in political systems at the national level has produced many generalizations but even more exceptions. According to Seymour Martin Lipset, "Perhaps the most common generalization linking political systems to other aspects of society has been that democracy is related to the state of economic development."¹ But Argentina is among the most economically developed of nineteen South American countries and among the least democratic, and India is one of the poorest nations of the world but by most standards democratic. Similarly, according to Samuel P. Huntington the relative strength of political organizations and procedures on the one hand and modernization and mobilization on the other, is the crux of politics in the underdeveloped countries and determines the effectiveness of the government.² But India has two highly developed political institutions, the Congress Party and the Indian Civil Service, and "the relatively slow pace of modernization and social mobilization in India did not create demands and strains which the Party

¹Seymour Martin Lipset, Political Man: The Social Bases of Politics (Garden City, N.Y.: Anchor, 1963), p. 31.

²Samuel P. Huntington, "Political Development and Political Decay," World Politics, 17 (April 1965), p. 386, passim.

and the bureaucracy were unable to handle."¹ Yet the government of India has been ineffective in solving some of its most pressing problems, including the declining amount of food production per capita.

It comes as no surprise that cross-national generalizations of this type have exceptions, and it is not difficult to explain the exceptions in a general way. In Argentina, the increased frequency of armed rebellions and military rule can be traced in part to economic development. According to one analysis,² 88% of the twenty-five armed rebellions from 1870 to 1966 are associated with downturns in the Argentine economy; and with the transition from export agriculture to import substitution manufacturing, economic downturns have occurred about twice as often in the last two decades compared to the earliest five in the period studied. In India democracy seems to be supported by an elite political culture rather than the conditions associated with levels of economic development; and the high rate of population growth and cultural constraints on policy seem to overburden the government even in the absence of rapid modernization.

While the existence of cross-national generalizations and exceptions is not surprising, the shift in perspective from

¹Ibid., p. 410.

²Gilbert W. Merx, "Economic Cycles and Armed Rebellions in Argentina, 1870-1966," (Albuquerque, N.M.: Department of Sociology, University of New Mexico, mimeographed, 1968).

associating characteristics in a sample of countries to explaining political change and development over time in a single country has important implications. To the extent that it emphasizes our inability to use generalizations of this type to explain the course of individual countries, it suggests the need to reconsider the proper form of theories of comparative government: In what respects are political systems the same, and in what respects are they different? How can we reconcile the diversity we observe among systems with the need for theoretical generalizations applicable to each? These are some basic questions of comparative government. The purpose of this chapter is to provide some provisional answers to these questions and to introduce the design of the present study which takes them into account.

Processes and Systems.¹

The basic problem in the examples above and in most quantitative and theoretical studies in comparative government appears to have at least two sources. One is the failure to distinguish between generalizations as empirical summaries of cross-national patterns and generalizations as hypothesized processes. The other is the failure to distinguish between collections of political variables and relationships on the one hand and political systems as systems on the other, in

¹The material in this section is presented in greater detail in Organized Complexity: Empirical Theories of Political Development (New York: The Free Press, forthcoming) by Ronald D. Brunner and Garry D. Brewer.

spite of the prevalence of systems' vocabulary and imagery. These two distinctions suggest an alternative form for theories of comparative government.

An Example from Economics. In order to develop these distinctions and their implications, let us consider a classic study in Keynesian economics, Paul Samuelson's analysis of the marginal effects of a constant level of governmental deficit spending on national income.¹ Following Alvin Hansen, Samuelson specified an economic system consisting of five components:

Y_t , additions to national income;

C_t , private consumption expenditure induced by previous public expenditure;

I_t , induced private investment;

α , the marginal propensity to consume; and

β , the relation, giving the ratio of induced private investment to changes in induced private consumption.

Variables are denoted by the time subscript t ; parameters, which are assumed to be constant over time, have no time subscript.

The relationships between the components of the system were given in three equations:

¹Paul Samuelson, "Interactions between the Multiplier Analysis and the Principle of Acceleration," Review of Economic Statistics, 21 (1939), pp. 75-8.

$$Y_t = C_t + I_t + 1 \quad (1)$$

$$C_t = \alpha Y_{t-1} \quad (2)$$

$$I_t = \beta (C_t - C_{t-1}) \quad (3)$$

Equation (1) is merely an accounting identity specifying that additions to national income are defined as the sum of induced private consumption, induced private investment, and a constant level of governmental deficit spending denoted by 1. Equation (2) is a mathematical representation of a process hypothesis known as the multiplier analysis: Additions to national income in one time period $t-1$ induce private consumption in the next time period t . Equation (3) is a representation of another process hypothesis, the principle of acceleration: Changes through time in private consumption induce private investment.

Hansen had previously calculated time sequences for the variables in this system using various magnitudes for the parameters α and β . In effect, he generated the behavior of hypothetical economies having identical structure but different parameters. The results, similar to those presented in Table 1.1, were surprising and somewhat confusing. In some cases a constant level of governmental deficit spending caused the variables to increase asymptotically to constant levels. These levels are 2.0 and 1.0 for Y_t and C_t , respectively, in Table 1.1a. (I_t is constant and equal to zero because $\alpha = 0$.) In other cases Y_t , C_t and I_t oscillated, but each oscillation was smaller than the previous one and the variables converged to constant levels. In Table 1.1b,

Table 1.1. Behavior of the Multiplier-Accelerator Model.

a. Asymptotic				b. Oscillates, Converges			
$\alpha = .5, \beta = 0$				$\alpha = .5, \beta = 1$			
t	Y_t	C_t	I_t	t	Y_t	C_t	I_t
1	1.00	.00	.00	1	1.00	.00	.00
2	1.50	.50	.00	2	2.00	.50	.50
3	1.75	.75	.00	3	2.50	1.00	.50
4	1.88	.88	.00	4	2.25	1.25	.25
5	1.94	.94	.00	5	2.25	1.25	.00
6	1.97	.97	.00	6	2.00	1.13	-.13
7	1.98	.98	.00	7	1.88	1.00	-.13
8	1.99	.99	.00	8	1.88	.94	-.06
9	1.996	.996	.00	9	1.94	.94	.00
10	1.998	.998	.00	10	2.00	.97	.03
.
.
.

c. Oscillates, Diverges				d. Quasi-Geometric Growth			
$\alpha = .8, \beta = 1.5$				$\alpha = .8, \beta = 3$			
t	Y_t	C_t	I_t	t	Y_t	C_t	I_t
1	1.00	.00	.00	1	1.00	.00	.00
2	3.00	.80	1.20	2	4.20	.80	2.40
3	5.80	2.40	2.40	3	12.04	3.36	7.68
4	9.00	4.64	3.36	4	29.45	9.63	18.82
5	12.04	7.20	3.84	5	66.34	23.56	41.78
6	14.28	9.63	3.65	6	142.61	53.07	88.54
7	15.11	11.42	2.69	7	298.13	114.08	183.04
8	14.09	12.09	1.00	8	612.75	238.50	373.25
9	11.04	11.27	-1.23	9	1246.20	490.20	755.10
10	6.18	8.83	-3.66	10	2518.55	997.04	1520.51
.
.
.

these levels are 2.0, 1.0, and 0.0 for the three variables respectively. In still other cases, as in Table 1.1c, the variables oscillated but each oscillation was larger than the previous one. Finally, in some cases the variables increased smoothly, approaching a compound interest rate of growth as in Table 1.1d.

Using the mathematical technique of difference equations, Samuelson proved that the system can produce these four and only these four qualitatively different forms of behavior over time depending on the relative magnitudes of α and β but independent of the initial values of the variables.

Some Implications. The behavior of the multiplier-accelerator model suggests that even in the absence of observation error and stochastic factors, systems having identical structure can exhibit very diverse behavior. The cross-system diversity in behavior arises in part from cross-system quantitative differences in behavioral propensities, the parameters. Yet the processes in the systems' common structure explain and can reproduce exactly the behavior of each of the four systems. As theoretical generalizations, the process hypotheses are meaningful and useful both in the cross-system context and within the individual systems through time. In contrast, consider generalizations based on the association of variables across systems and at a cross-section in time. (Such generalizations are quite similar in form to Lipset's generalization about democracy and economic development.)

At any cross-section in time except $t = 1$, the product-moment correlation between any two variables across the four systems in Table 1.1 is less than one and the estimates of α and β in the corresponding regression equations differ from the actual values of α and β in the individual systems.¹ Unexplained variance and inaccurate parameter estimates indicate that while empirical summaries of cross-system patterns can be derived from data on a sample of systems, they cannot be expected to explain the behavior of the individual systems.² Although such generalizations can be applied to individual countries, they have little meaning apart from the cross-system context from which they are derived. The implication is that in principle theorists should seek to clarify process hypotheses rather than to derive empirical summaries of cross-system patterns of behavior.³

¹Moreover, the magnitudes of the correlations and the parameters can be expected to vary from one time cross-section to the next.

²Daniel Lerner derived a regression equation relating urbanization and literacy from a sample of 73 countries and then attempted to apply it to Egypt without success: Given its level of urbanization in 1950, Egypt should have had four times as many literates as it actually had! Rather than re-assessing the logic of applying cross-national regression relationships to individual countries, Lerner construed Egypt as a case of unbalanced growth. See his work, The Passing of Traditional Society (Glencoe, Ill.: The Free Press, 1964), p. 88.

³For a suggestion that political scientists return to process analysis, "the tool which Bentley fashioned," see Norman Jacobsen, "Causality and Time in Political Process: A Speculation," American Political Science Review, 68 (March 1964), pp. 15-22.

The cross-system diversity in behavior also arises in part from the interaction of the multiplier and accelerator hypotheses. Before the Hansen-Samuelson analyses, the multiplier and the accelerator were well-known in macroeconomics. Indeed, it was known that the model sequences in Table 1.1a were characteristic of the multiplier and that this asymptotic form of behavior was the only form the multiplier could produce. Yet the multiplier-accelerator model produced four qualitatively different forms of behavior. It was the interaction between the hypotheses that produced the surprising and initially confusing results. Thus in principle a collection of variables and relationships has very different behavioral properties than the same variables and relationships interacting as a system. The implication is that even if Huntington's generalizations about political organization and modernization are construed as a set of process hypotheses, they must be put together as a system before they can be tested or used to explain the course of change and development in any country.¹

In terms of the basic questions of comparative government, we need not assume that countries are similar to the extent

¹Cf. K. J. Cohen and R. M. Cyert, "Computer Models in Dynamic Economics," in R. M. Cyert and J. G. March, A Behavioral Theory of the Firm (Englewood Cliffs, N.J.: Prentice-Hall, 1963), p. 317: "The behavior of the total system can be observed. The problem is to derive a set of component relations that will lead to a total system exhibiting the observed characteristics of behavior." (Emphasis added.)

that they conform to the cross-national pattern and different to the extent that they deviate from it. Instead, we can usefully assume that countries are similar to the extent that the processes operating in each of them are the same and different with respect to the parameters governing the operation of the processes in each country. The diversity of behavior we observe in a given sample of countries can be attributed in principle to differences in parameters and systemic interactions even if the processes in each country are assumed to be the same. In short, we can usefully construe political systems as problems of organized complexity:¹ They are organized in the sense that their observed diverse behavior need not be attributed largely to observation error or stochastic factors; and they are complex in the sense that it is not a trivial matter to deduce their behavior from knowledge of their components and relationships, or to infer process relationships from their behavior.

Procedures. A definition of the proper form of theories and a statement of the nature of the problem say little about the procedures involved in the development of the theories. Before describing these procedures, let us define some convenient terms we will continue to use. The structure of a class

¹The term "organized complexity" was introduced by Warren Weaver in "Science and Complexity," American Scientist, 36 (1948), p. 539. Its meaning as used here was developed in Brunner and Brewer, op. cit. See also Herbert A. Simon, "The Architecture of Complexity," General Systems, 10 (1965), pp. 63-4 for a rough definition of a complex system.

of systems (e. g., countries in a region) consists of a state description (a set of variables and parameters) and the relationships among the components in the state description. The structure represents a theory, a temporary commitment to and statement of the phenomena of importance in the systems. A model of any one of the systems is the general structure with the initial values of the variables and parameters (the inputs) specified to represent the particular context. The behavior of any one of the systems (the output) is the set of time series of the variables produced as the model is operated over time.

Given the structure of a theory, the first step in achieving a productive confrontation between theory and data is to deduce the time series of the variables for a particular country. The second step is to compare the outputs of the model with historical time series data in order to discover where they diverge. The third step is to use the comparisons to infer changes and hopefully improvements in the structure of the model. The procedure can then be recycled.

In practice this highly idealized version of the procedure is complicated by missing data, which require estimates, and inaccurate data. To the extent that estimates and data are inaccurate, it is difficult to attribute divergences between generated and historical time series to the structure of the model alone and consequently to infer productive changes in

the structure. The divergences may reflect data errors as well as structural misspecifications. There are at least three approaches to this problem.

The first is to use whatever quantitative data are available and, where they are lacking, to use qualitative judgments gleaned from political histories. If complete and accurate data are not available at any given point in time, we can at least constrain the behavior of the model as much as possible using existing data and anticipate the improvement of data resources in the future. The alternative, of course, is to abandon data constraints altogether and work on a hypothetical case.

A second approach is to perform sensitivity tests of a model by varying selected inputs, generating the resulting time series, and then assessing how differences in inputs are reflected in differences in outputs. For example, a variation of $\pm 10\%$ in the best estimate of a particular parameter may or may not have a significant impact on important outputs. To the extent that it does not, possible errors of this magnitude in the parameter may be ignored. If all inputs are either insensitive in determining outputs or are accurately measured, then the fit between generated and historical time series can be attributed solely to the structure of the model. By showing the relative impact of the inputs, sensitivity tests also can be used to guide the allocation of limited data collection

resources in order to improve the possibility of rejecting structural specifications conclusively.

A third solution is to apply alternative models to the same case in order to disentangle the effects of structure and inputs in determining outputs. To the extent that inputs to alternative models are identical, the inputs can be eliminated as explanations of differences in outputs among the models, and the differences can be attributed to structural differences alone. Quite apart from the comparison of outputs with historical data, the comparison of the outputs of alternative models should reveal a good deal about the systemic implications of differences in the process relationships embedded in the models, and this information should prove helpful in understanding and modifying them.¹

To infer productive changes in structure using these procedures assumes that theory has been represented as a structure from which behavior can be deduced in specific cases. In comparative government this is not the case. Theories are expressed in verbal form, and in this form the net result of a chain of deductions quickly becomes indeterminate as the number of deductions increases.² Consequently, the

¹The use of alternative models also has some of the same benefits as the method of multiple working hypotheses: "It differs from the simple working hypothesis in that it distributes the effort and divides the affections..." T. C. Chamberlin as quoted by John R. Platt in The Step to Man (New York: Wiley, 1966), p. 28.

²See Herbert L. Costner and Robert K. Leik, "Deductions from Axiomatic Theory," American Sociological Review, 29 (December 1964), pp. 819-35.

prerequisite to making deductions from and inferring productive changes in a complex theory is the representation of theory as a computable structure. In practice this means that a verbal theory must be translated into a mathematical structure, and if this structure is sufficiently large it must be simulated on a computer. What is lost in richness, subtlety, and detail is gained in the ability to generate the necessary behavior and more generally, to achieve an efficient and productive confrontation between theory and data taking into account the systemic interactions.

An Overview of this Study.

Theories and a Case. As a step in the analysis of political systems as organized, complex systems, this study focuses on two major theories of political change and development at the national level. One is the theory of Seymour Martin Lipset as expressed primarily in the first three chapters of Political Man¹ but also in The First New Nation² and an essay on "Political Cleavages in 'Developed' and 'Emerging' Polities."³ The other is the theory of Samuel P. Huntington as expressed in his long article "Political Development and

¹Lipset, op. cit.

²Seymour Martin Lipset, The First New Nation: The United States in Comparative and Historical Perspective (New York: Basic Books, 1963).

³Seymour Martin Lipset, "Political Cleavages in 'Developed' and 'Emerging' Polities" (Berkeley: Institute of Industrial Relations and Institute of International Studies, University of California, 1964).

Political Decay."¹ In terms of form, these theories do include some empirical summaries of cross-national patterns as we have seen. However, each theory is based on a number of reasonably explicit and well-defined process hypotheses that can be represented as a mathematical structure amenable to computer simulation. In terms of substance, each theory is a plausible general explanation of political change and development with emphasis on the growth and decay of political institutions. Taken together, they are in an important sense alternative explanations as we shall see at a later point. In short, the theories are not only amenable to analysis as problems of organized complexity, they are also promising enough to justify the effort.

To provide empirical constraints on the inputs to simulation models based on these theories and to evaluate their outputs, we shall use material from Turkey in the period 1950 to 1960. Both Lipset and Huntington locate Turkey in their respective cross-national patterns and on occasion refer to Turkey to illustrate theoretical points. Thus Turkey lies within the scope of these theories. In addition, Turkey experienced a good deal of rapid political change from 1950 to 1960. Compared to more stable polities and eras, it should provide a greater challenge for the theories. Finally, Turkey

¹Huntington, op. cit. To simplify the present study, subsequent works by both Lipset and Huntington have not been included.

has been the subject of a number of political histories written by competent historians and political scientists, and usable quantitative data on some aspects of modernization and change go back to at least 1950.

Purposes. The purpose of producing models that might explain the historical trends in Turkey from 1950 to 1960 (in so far as they can be determined) within some small margin of error is at this stage utopian. For one thing "The likelihood that a process model will incorrectly describe the world is high, because it makes some strong assumptions about the nature of the world."¹ Confidence in the strong assumptions of the Lipset and Huntington theories is currently based on little more than a sense of plausability. Furthermore, we have almost no experience in representing complex political theories as computable structures. The problem of representation requires a good deal of innovation. Finally, data limitations make it difficult to determine anything less than gross discrepancies between generated and historical time series. Consequently, the purposes of this study are more modest and realistic, directed toward the amelioration of these barriers to the development of complex theories of political systems.

With regard to the substance of the theories, the purposes are primarily negative and comparative. To what extent

¹Cohen and Cyert, op. cit., p. 319.

are these theories incomplete explanations of political change and development, given the level of analysis? In other words, are there important gaps in the theories? To what extent are these theories impossible or implausible explanations? Are there particular specifications which can be rejected with some confidence given the current barriers to theory development? Finally, what are the implications of differences between the process hypotheses embedded in the two theories?

With regard to methodological problems, how can complex political theories be represented as computable structures? What are the general behavioral properties of these forms of representation? Are there better ways of representing the same or similar theories?

Finally, with regard to data problems, what kinds of data are needed to improve these particular models and the theories on which they are based?

Overview. After the introduction of the two theories in the next chapter, Part I traces the representation of the theories as computer simulation models, considering in order the specification of state descriptions, the specification of process relationships, and additional specifications needed to fill gaps in the theories. Part II presents a case study of Turkey from 1950 to 1960 and abstracts from it the gross historical trends of the period as well as the inputs required

to operate the models. Part III is an exploration of the behavior of the models using these inputs and some sensitivity tests. Finally, provisional answers to the questions raised above are formulated in the Conclusion.

Chapter 2

Two Theories of Political Systems

Overview and Initial Comparisons.

The theories of Lipset and Huntington differ in their central emphases, theoretical and historical sources, and conceptions of political development. Lipset's theory of political systems emphasizes the role of values in a nation's evolution.

For the value system is perhaps the most enduring part of what we think of as society, or a social system. Comparative history shows that nations may still present striking differences, even when their technological, demographic, or political patterns are similar. Thus it is necessary to work out the implications of the value system within a given material setting--while always observing, of course, the gradual, cumulative effect that technological change has upon values.¹

Correspondingly, the process of development may be conceived in terms of an unstable equilibrium model "...which posits that a complex society is under constant pressure to adjust its institutions to its central value system, in order to alleviate strains created by changes in social relations..."² His theoretical analysis of values is drawn from Max Weber, Talcott Parsons, and Karl Deutsch, and used to interpret the patterns of development in the United States, other advanced

¹Seymour Martin Lipset, The First New Nation: The United States in Comparative and Historical Perspective (New York: Basic Books, 1963), p. 123.

²Ibid., pp. 7-8.

Western nations, and the underdeveloped nations of Latin America, Africa and Asia. There is no assumption that categories of analysis appropriate to one region and era will be appropriate to others--"The left and right categories set in nineteenth and twentieth century Europe, prove inadequate when applied to most of the 'third' world of Asia, Africa, and Latin America"¹--but America is the first new nation, and there is the suggestion that the fundamental processes Lipset deals with are applicable in both the West and the underdeveloped countries. In Lipset's view societies develop as they approach stable democracy, and "Democracy may be conceived of as a system of institutionalized opposition in which the people choose among alternate contenders for public office."²

Huntington's emphasis is suggested near the beginning of his article: In underdeveloped countries, "the conflict between mobilization and institutionalization is the crux of politics....Rapid increases in mobilization and participation, the principal political aspects of modernization, undermine political institutions."³ Strong political institutions, on

¹Seymour Martin Lipset, "Political Cleavages in 'Developed' and 'Emerging' Polities" (Berkeley: Institute of Industrial Relations and Institute of International Studies, University of California, 1964), p. 52.

²Lipset, The First New Nation, p. 36.

³Samuel P. Huntington, "Political Development and Political Decay," World Politics, 17 (April 1965), p. 386. (Emphasis added.)

the other hand, can control the process of modernization and promote effective government. "The existence of political institutions...capable of giving substance to public interests distinguishes politically developed societies from underdeveloped ones."¹ Huntington's theory is offered in part as an improvement over more narrow views; it is applicable to city-states, bureaucratic empires and modern nation-states. The range of his theory is also reflected in the diversity of his sources which include Plato, Aristotle, Cicero, Polybius, Machiavelli, Montesquieu, as well as contemporary theorists such as Kornhauser. His empirical illustrations are drawn from communist countries as well as Western and underdeveloped countries. Huntington defines political development as the institutionalization of political organizations and procedures.² Institutionalization is necessary for stable and eventually democratic government, and a precondition for sustained economic growth.³

Lipset's Theory.

Cleavage, Consensus, and Legitimacy. In Lipset's theory stable democracy depends on cleavage and consensus in the society and on the legitimacy of institutions in the political system. Cleavage and consensus refer to the differences and

¹Ibid., p. 415.

²Ibid., p. 393.

³Ibid., p. 417.

similarities among the values of groups in a society. A high degree of cleavage occurs when historical political crises or social conditions have exacerbated existing value differences, and a high degree of consensus occurs when differences among the values of groups have largely been eliminated. Patterns of cleavage and consensus among groups tend to overlap with patterns of intolerance and tolerance, but the latter refer to relative barriers to interaction among groups. Cleavage serves to insure some struggle over ruling positions in a democracy, and consensus serves to contain the struggle.

According to Lipset, "Legitimacy of any kind is derived from shared beliefs, that is, from consensus as to what constitutes proper allegiance."¹ There must exist "a 'political formula' or body of beliefs specifying which institutions-- political parties, a free press, and so forth--are legitimate (accepted as proper by all)..."² Thus the degree of legitimacy in a political system is the extent to which groups in the society evaluate the existing political institutions as "the most appropriate ones for the society."³ While these definitions of legitimacy are not entirely clear, the role of legitimacy is relatively explicit. Where political institutions are legitimate, contending political actors are

¹Lipset, The First New Nation, p. 16.

²Seymour Martin Lipset, Political Man: The Social Bases of Politics (Garden City, N.Y.: Anchor, 1963), p. 27.

³Ibid., p. 64.

constrained to pursue their political objectives within the rules and procedures of the institutions. Where political institutions are illegitimate, actors are unconstrained by the institutions and may pursue their objectives through other means.

Cross-National Patterns. Before industrialization, feudal or traditional systems enjoy the allegiance of most of their members. But as industrialization begins and mass communications enable new groups to organize around values other than the traditionally accepted ones, cleavages arise among these groups and the traditional legitimacy of the system may be threatened.¹

Crises of legitimacy occur during a transition to a new social structure, if (1) the status of major conservative institutions is threatened during the period of structural change; (2) all the major groups in the society do not have access to the political system in the transitional period, or at least as soon as they develop political demands.²

Patterns of development diverge sharply depending on whether traditional legitimacy is destroyed in a legitimacy crisis; and if it is destroyed, whether legitimacy can be re-established on another basis.

In ten of the stable European and English-speaking democracies--Great Britain, Sweden, Norway, Denmark, the Netherlands, Belgium, Luxembourg, Australia, Canada, New

¹Ibid., pp. 64-5.

²Ibid., p. 65.

Zealand--an intense crisis of legitimacy was avoided according to Lipset. In the pattern exemplified by these countries the institution of the monarchy was adapted to the changing social structure rather than replaced. Thus the political system retained the loyalty of the traditional groups which resented the demands of the lower strata for democracy and equality. "And by accepting the lower strata and not resisting to the point where revolution might be necessary, the conservative order won or retained the loyalty of the new 'citizens.'"¹ Gradually, the reciprocal acceptance of each group by the other moderated the intensity of cleavage, and the widespread acceptance of evolving institutional forms preserved the traditional legitimacy of the system.

In other European countries--among them France, Italy, and Germany--crises of legitimacy occurred, and a second pattern of development ensued. The overthrow of the monarchy in France and the disruption of the temporal power of the Popes in Italy broke the continuity of these traditional integrative institutions. "Both the Italian and French democracies have had to operate for much of their histories without loyal support from important groups in their societies, on both the left and the right."² The denial of access first to the bourgeoisie and later to the workers in nations like

¹Ibid., p. 66.

²Ibid.

Germany led to a situation in which "the lower strata were alienated from the system and adopted extremist ideologies which, in turn, kept the more established groups from accepting the workers' political movement as a legitimate alternative."¹ The reciprocal rejection of each group by the other exacerbated the intensity of cleavage and the disruption of traditional institutions destroyed traditional legitimacy.

The new nations resemble these old European nations in their absence of traditional legitimacy. "A basic problem faced by all new nations and post-revolutionary societies is the crisis of legitimacy. The old order has been abolished and with it the set of beliefs that justified its system of authority."² Charismatic leadership may contribute to the re-establishment of legitimacy,³ but the primary source of legitimacy is effectiveness. "Effectiveness means actual performance, the extent to which the system satisfies the basic functions of government as most of the population and such powerful groups within it as big business or the armed forces see them."⁴ "For new states today, demonstrating effectiveness means one thing: economic development. Given

¹Ibid., p. 67.

²Lipset, The First New Nation, p. 16.

³Ibid., p. 18.

⁴Lipset, Political Man, p. 64.

the 'revolution of rising expectations' that has swept the emerging nations, need for payoff in terms of economic goods and living standards is more important than ever."¹ Lipset probably overemphasizes the importance of economic development in determining overall governmental effectiveness. In any case, according to his theory, if a government proves to be effective over a long enough period, and other factors such as the degree of cleavage are favorable, a new or post-revolutionary state may progress to legitimacy, moderate conflict, and stable democracy. The United States--the first new nation--"gradually acquired legitimacy as a result of being effective."² But the United States was fortunate because "Internal value cleavages, which frustrate contemporary new nations, were comparatively less significant in young America."³ Also, "American social structure did not possess those great 'gaps' which, in the contemporary new states, 'conspire to separate the ordinary people from their government.'"⁴ Latin America, which is politically more like nineteenth century Europe than Asia, has a chance to follow a similar pattern.

If Latin America is allowed to develop on its own and is able to increase its productivity, there is

¹Lipset, The First New Nation, p. 46.

²Ibid., p. 59.

³Ibid., p. 91.

⁴Ibid., p. 92.

a good chance that many Latin-American countries will follow in the European direction....There is, however, the great danger that these countries may yet follow in the French and Italian direction rather than that of northern Europe...¹

In Asia and Africa, the nations with the best prospects are Israel, Japan, Lebanon, the Philippines, and Turkey, all of which resemble Europe in some respects.²

On the other hand, "if the new system is unable to sustain the expectations of major groups (on the grounds of 'effectiveness') for a long enough period to develop legitimacy upon the new basis, a new crisis may develop."³ Most of the less developed countries appear to exemplify this pattern. "Given the existence of poverty-stricken masses, low levels of education, an elongated-pyramid class structure, and the 'premature' triumphs of the democratic left, the prognosis for political democracy in Asia and Africa is bleak."⁴ Furthermore, "with the pressure for rapid industrialization and the immediate solution of chronic problems of poverty and famine, it is unlikely that many of the new governments of Asia and Africa will be able to support an open party system representing basically different class positions and values."⁵

¹Lipset, Political Man, pp. 85-6.

²Ibid., p. 84.

³Ibid., p. 65.

⁴Ibid., p. 84.

⁵Ibid., pp. 84-5.

Barring Communist or military dictatorship, it seems likely that in countries such as these

political developments will follow the pattern developing in countries such as Ghana, Guinea, Tunisia, or Mexico, with an educated minority using a mass movement and leftist slogans to exercise effective control, and holding elections as a gesture toward ultimate democratic objectives and as a means of estimating public opinion rather than as effective instruments for a legitimate turnover in office.¹

The Place of Turkey. As we have seen in Political Man (first published in 1960), Lipset characterized Turkey as one of the nations with the best prospects for democracy. In his subsequent book The First New Nation (published in 1963), Lipset elaborated on the Mexican pattern of one-party "democracy" and construed Turkey as a country that had emerged from this pattern. In these countries

parties tend to be loosely structured, more like a reassemblement than a party of ideology or interest.... Other parties may be permitted, as in Ghana, Tunisia, and Mexico (the model in this pattern for other underdeveloped societies), but they cannot be allowed a chance of electoral victory. Any failure in effectiveness--and there are bound to be many--may become grounds for challenging the entire system if an opposition can hope to gain more support and power.²

In these "guided" or "tutelary" democracies, in contrast to Communist or other totalitarian states, the leaders have as their image of the good society,

¹Ibid., p. 84.

²Lipset, The First New Nation, p. 315.

...not a one-party state or a society without internal conflict, but rather the existing stable Western democracies. They regard the existence of opposition, free elections, and public criticism as ideals to be attained. Turkey, for example, has already developed from a one-party into a two-party state, and Mexico seems to be moving gradually in the same direction. The dominant parties in both states have tolerated much internal diversity, and acknowledged their opponents rights to discussion and organization--while at the same time denying them a chance of electoral victory.¹

Huntington's Theory.

Mobilization, Participation, and Institutionalization.

As indicated above, the crux of politics in the less developed countries is the conflict between mobilization and institutionalization. Mobilization refers to the creation of social forces based on families, clans, work groups, churches, ethnic, linguistic, and other groupings, which pursue their private or parochial interests in the political arena. In contrast to other contemporary theorists, Huntington defines modernization (of which mobilization and participation are the principle political aspects) to be independent of political development in order to facilitate study of the interaction between the two.

In this theory, "Institutionalization is the process by which organizations acquire value and stability"² and "Institutions are stable, valued, recurring patterns of behavior."³

The level of institutionalization of any organization or

¹Ibid., pp. 315-6.

²Huntington, op. cit., p. 394.

³Ibid.

procedure, or of the political system as a whole, can be described in terms of four dimensions: Adaptability-rigidity, complexity-simplicity, autonomy-subordination, and coherence-disunity. Adaptability is simply the ability to maintain an organizational structure even though its original values must be changed in a changing environment. "Complexity may involve both multiplication of organizational subunits, hierarchically and functionally, and differentiation of separate types of organization subunits."¹ Autonomy is "the extent to which political organizations and procedures exist independently of other social groupings and methods of behavior....the autonomy of political institutions is measured by the extent to which they have their own interests and values distinguishable from those of other social forces."² Finally, coherence is the degree of consensus and unity among participants in the organization. Institutions vary in their scope of support as well as their level of institutionalization. "Scope refers simply to the extent to which political organizations and procedures encompass activity in the society..."³ In other words, scope is the proportion of the population which is organized under them and follows their procedures. "The strength of political organizations and procedures varies

¹Ibid., p. 399.

²Ibid., p. 401.

³Ibid., p. 394.

with their scope of support and their level of institution-
alization."¹ And finally, "The public interest...is whatever
strengthens governmental institutions."²

Cross-National Patterns. In the underdeveloped countries
there is a "reciprocal interaction between the on-going social
processes of modernization, on the one hand, and the strength,
stability, or weakness of political structures, traditional,
transitional, or modern, on the other."³ In terms of patterns
of development at the national level, the basic relationship
is that "Rapid increases in mobilization and participation...
undermine political institutions. Rapid modernization, in
brief, produces not political development, but political decay."⁴
In terms of relative strength, rapid modernization strengthens
social forces and weakens political institutions. In terms
of conflicting interests, rapid modernization increases the
weight of private and parochial interests and decreases the
weight of the public interest. "A society with weak politi-
cal institutions lacks the ability to curb the excesses of
personal and parochial desires. Politics [in such a society]
is a Hobbesian world of unrelenting competition among social
forces...a competition unmediated by more comprehensive

¹Ibid.

²Ibid., p. 412.

³Ibid., p. 393.

⁴Ibid., p. 386.

political organizations."¹ The various combinations of high and low institutionalization and mobilization define four ideal types of political systems, each reflecting a different pattern: The primitive, corrupt, contained, and civic political systems.

Where both institutionalization and mobilization are low, the political system is primitive. Presumably few of these societies exist anymore, since the only example cited is Banfield's primitive society.

Where institutionalization is low and mobilization is high, the political system is corrupt. "This [second] type of polity characterizes much, if not most, of the modernizing world."² One manifestation of this type of system is the frequent occurrence of coups and military interventions. "Seventeen of the twenty Latin American states experienced coups or coup attempts between 1945 and 1964, only Chile, Mexico, and Uruguay having clean records of political stability."³ Another manifestation of low or declining institutionalization, and at the same time often a cause of it, is the rise of charismatic leaders. "The increasing despotism of Nkhrumah, for instance, was accompanied by a marked decline in the institutional strength of the Convention People's

¹Ibid., p. 411.

²Ibid., p. 409.

³Ibid., p. 408.

Party."¹ Another example is Stalin, who consistently weakened the party beginning in the late 1930's. "He increased his personal power, not the governmental power. When he died, his personal power died with him."² Corrupt societies lack the ability to curb the excesses of personal and parochial desires. "Typical of the corrupt, praetorian, or mass societies is the violent oscillation between extreme democracy and tyranny....Such instability is the hallmark of a society where mobilization has outrun institutionalization."³

Where institutionalization is high and mobilization is low, the political system is contained. India is an example of this third type, having strong and distinct "input" and "output" institutions, the Congress Party and the Indian Civil Service, as well as a low rate of mobilization. "The stable, effective, and democratic government of India during the first fifteen years of independence rested far more on this institutional inheritance than it did on the charisma of Nehru."⁴ Other countries, perhaps leaning toward the corrupt category, are unbalanced in their institutional development. Pakistan and the Sudan have had relatively strong output institutions and weak input institutions; North Vietnam

¹Ibid.

²Ibid., p. 414.

³Ibid., p. 417.

⁴Ibid., p. 410.

"which fought its way into independence with a highly disciplined political organization...was distinctly weak on the administrative side."¹

Where political institutionalization and social mobilization are both high, the political system is civic. Examples are the United States and the Soviet Union. "The existence of political institutions (such as the Presidency or the Presidium) capable of giving substance to public interests distinguishes politically developed societies from underdeveloped ones."²

In more global terms, Huntington believes there is a political gap comparable to the economic gap among the nations of the world.

The level of political institutionalization of the advanced countries has, with a few exceptions such as France, remained relatively stable. The level of political institutionalization of most other countries has declined. As the result, the political gap between them has broadened. In terms of institutional strength, many if not most of the new states reached their peak of political development at the moment of independence.³

The difficulties in closing the global political gap and of individual countries making the transition to a civic polity are seen in Huntington's analysis of the dilemmas faced by modernizing monarchs, charismatic leaders, and military juntas.

¹Ibid., p. 411.

²Ibid., p. 415.

³Ibid., p. 408.

If opposition to reform is not sufficiently strong to require the concentration of power in a modernizing monarch, traditional political institutions can be adapted to accommodate the social forces unleashed by modernization as in Great Britain, Sweden, and Japan. However, if the push to modernize results in the concentration of power in a modernizing monarch

it means the weakening or destruction of whatever traditional representative institutions may exist and thus complicates still further the assimilation of those social forces created by modernization. The concentration of power also makes the traditional regime (like the eighteenth-century French monarchy) more vulnerable to forcible overthrow.¹

Charismatic leaders frequently arise to attempt modernization where traditional political institutions are weak.

A conflict exists, however, between the interests of [this] individual and the interests of institutionalization. Institutionalization of power means the limitation of power which might otherwise be wielded personally and arbitrarily. The would-be institution-builder needs personal power to create institutions but he cannot create institutions without relinquishing personal power.²

According to Huntington, Mustafa Kemal was one of the few leaders who resolved this dilemma. Finally, a military junta often "confronts a distinct set of problems in the conflict between its own impulses to modernization and the needs of institution-building."³ On the one hand, "The officers are

¹Ibid., p. 422.

²Ibid., p. 423.

³Ibid.

usually passionately devoted to measures of social reform..."¹
On the other, "Concern with their own personal authority and unfamiliarity with the needs of political institution-building create problems in the fulfillment of [the task of institutionalizing their power]." ²

The organizational form which may help achieve short run stability if not long run development is the one-party state.

Where traditional political institutions are weak or nonexistent, the pre-requisite of stability is at least one highly institutionalized political party....Where traditional political institutions are smashed by revolution, post-revolutionary order depends on the emergence of one party: witness the otherwise very different histories of the Chinese, Mexican, Russian, and Turkish revolutions.³

The Place of Turkey. In Huntington's theory, Turkey is an important example of political development and political decay, and an interpretation of Turkish history is used to buttress several theoretical points. After the War of Independence, political stability in Turkey was based on the skill and devotion of Mustafa Kemal (Ataturk) and the institutionalization of the Republican People's Party. This stability endured into the 1940's when opposition parties were allowed to form. It is worthwhile to quote at length Huntington's characterization of subsequent events in Turkey.

¹Ibid.

²Ibid., p. 424.

³Ibid., p. 425.

In Turkey a rough balance between the mobilization of people into politics and the development of political institutions existed so long as the Republican People's Party retained a political monopoly. The conscious decision to permit an opposition party, however, broadened the scope of political competition beyond the urban, Westernized elite. The Democratic party mobilized the peasants into politics, strengthened the forces of traditionalism, and broke the previous consensus. This led the party leaders to attempt to maintain themselves in power through semilegal means and to induce the army to join them in suppressing the Republican opposition. The army, however, was committed to modernization and seized power in a coup d'etat [in May, 1960], dissolving the Democratic Party and executing many of its top leaders. In due course, the military withdrew from direct conduct of the government, and democratic elections led to a multi-party system in which no party has a clear majority.¹

Huntington then summarizes the implications of this interpretation of Turkish history in terms of his theory.

Thus from a relatively stable one-party system, Turkey passed through a brief two-party era to military rule and a multiparty system; the familiar syndrome of states where mobilization has outrun institutionalization. In the process, not only were political institutions weakened, but the traditional-minded were brought into politics in such a way as to create obstacles to the achievement of many modernizing goals.²

While Lipset sees both considerable progress and good prospects for the development of democracy in Turkey, Huntington sees not political development but political decay.

¹Ibid., p. 421.

²Ibid.

PART I

Chapter 3

State Descriptions

According to the familiar formula, the study of politics is concerned with "Who gets what, when, and how?"¹ This and related conceptual tools can be used to clarify and formalize the basic structure of the theories of Lipset and Huntington.² "Who gets what..." suggests the major questions about the state description of a political system: Who are the actors? What are the values they pursue as goals and utilize as resources in the system? And more generally, what are the outcomes and effects resulting from their political activity? These questions are considered in this chapter. The "...when and how?" suggests questions about the processes governing the behavior of a system. These questions are considered later.³

By imposing our comparative and exploratory purposes and these conceptual tools and methods on the theories of Lipset

¹Harold D. Lasswell, Politics: Who Gets What, When, and How? (Cleveland: World Publishing, 1958).

²See Harold D. Lasswell and Abraham Kaplan, Power and Society: A Framework for Political Inquiry (New Haven: Yale University Press, 1950).

³In FORTRAN IV, the computer language used in this study, the state descriptions are expressed in DIMENSION and COMMON statements and the processes are expressed in conditional and assignment statements. See Elliott I. Organick, A FORTRAN IV Primer (Reading, Mass.: Addison-Wesley, 1966).

Wherever possible in this study, an attempt is made to relegate technical details to the footnotes and to concentrate on substance in the text. A listing of the computer programs for each model can be found in the Appendix.

and Huntington, we inevitably modify the theories. The need to compare provides an incentive to minimize non-essential differences between the theories and to emphasize the essential ones. The need to formalize each theory as a computable structure forces us to ignore some details, to infer processes in those instances where only empirical generalizations are given, and to fall back on criteria such as parsimony or trial and error when the information required to make necessary choices is ambiguous or lacking. If we can preserve the essential ideas of each theory in a computable structure, these modifications are a small price to pay for large gains in the ability to apply the ideas to individual cases, to compare and explore their behavior as systems, and to propose meaningful refinements and improvements.

Overview: The Structural Elements.

Although in the final analysis each individual in a country is an actor in the political system in some sense, the theories of Lipset and Huntington define aggregates of individuals as actors. One such aggregate is the social group. Lipset distinguishes groups such as "peasants," the "landholding elite," the "urban proletariat," and the "better educated members of the urban white-collar and professional classes."¹ In Huntington's theory social groups are called social forces

¹Seymour Martin Lipset, "Political Cleavages in 'Developed' and 'Emerging' Polities" (Berkeley: Institute of Industrial Relations and Institute of International Studies, University of California, 1964), p. 44.

which include "the groupings of men for social and economic activities: families, class, work groups, churches, ethnic and linguistic groupings."¹ The boundaries of social groups in any empirical situation are not likely to be well-defined. But since it is extremely difficult to deal with individuals and whole systems at the same time, the aggregation of individuals into social groups is a necessary simplification. Another kind of aggregate political actor defined in the theories is the political party, which is also an institution relatively specialized to the pursuit of political interests by social groups.

The outcomes of the political process in the two theories include two types of political values. One is generalized popular support. In an electoral context, support can be conceptualized as the potential vote of social groups for political parties, and the number of votes cast by each group for each party at election time can be taken as a crude indicator of support. Another kind of political value is access to decisions in the political process. Thus in Lipset's theory, legitimacy crises arise when all major groups do not have access to the political system in the period of transition from traditional rule, or at least when they develop distinct political demands. In Huntington's theory, strong institutions serve the function of moderating the redistribution of

¹Samuel P. Huntington, "Political Development and Political Decay," World Politics, 17 (April 1965), p. 401.

access in a system. A crude indicator of access to or power over values in a legislative context might be the number of seats controlled by each party or the size of the voting coalition that can be mobilized. However, "It is important to distinguish clearly in concrete situations between power as a value and the values over which power is being exercised."¹ Consequently, unlike generalized support, access must be defined with respect to each value at stake in the political process. Thus the number of votes a party can mobilize for a legislative roll call varies with the value in question. In these theories, wealth or income is the most important of the values over which power (as access to decisions) is exercised. Lipset is very explicit: "It is obvious that the distribution of wealth is the most important source of interest conflict in complex societies...However, religion has been a source of considerable tension in many societies."² Another value over which power is exercised is the use of the mass media, a precondition for political appeals to the masses in each theory.

The outcomes of the political process include expectations or aspirations about the distribution of values as well as the actual distribution. As we have seen, Lipset refers

¹Lasswell and Kaplan, op. cit., p. 77.

²Seymour Martin Lipset, Political Man: The Social Bases of Politics (Garden City, N.Y.: Anchor, 1963), p. 23. See also p. 71.

to the "revolution of rising expectations" in the context of the need for governmental effectiveness as a means of increasing legitimacy. Lipset writes elsewhere that

Individuals whose experience limits their significant communications and interaction to others on the same level as themselves will, other conditions being equal, be more conservative than people who may be better off but who have been exposed to the possibilities of securing a better way of life. The dynamic in the situation would seem to be exposure to the possibility of a better way of life rather than poverty as such. As Karl Marx put it in a perceptive passage: "A house may be large or small; as long as the surrounding houses are equally small it satisfies all social demands for a dwelling. But if a palace arises beside the little house, the little house shrinks into a hut."¹

Similarly, Huntington notes that political mobilization

may result simply from increases in communications, which can stimulate major increases in aspirations that may be only partially, if at all, satisfied. The result is a "revolution of rising frustrations".... Increased communication may thus generate demands for more "modernity" than can be delivered.²

Although the expectations and aspirations referred to above are primarily economic, dealing with levels of income or wealth, political expectations dealing with levels of access and support are not inconsistent with the theories. In any case the point is that expectation or aspiration levels may differ from actual levels attained, and that this difference is important.³

¹Ibid., pp. 47-8.

²Huntington, op. cit., p. 406.

³In a more refined analysis than we can undertake here, it might be worthwhile to distinguish between aspirations and

The difference seems to underlie some major concepts in each theory and points to an unnamed but important additional concept. If political values such as access and support define the range of possible interests and values in politics, then at the cost of some simplification the difference between expected and actual positions can be used to define and sort out the relative intensity of interests and demands in the system. The greater the difference for any value, the greater is the intensity of the interest and the more salient is the demand for the value in question. Consensus-cleavage in Lipset's theory and coherence-disunity in Huntington's theory may be conceived as relative similarities and differences in the distribution of intense interests or salient demands among actors in the system. Furthermore, as suggested by hypotheses that communications may generate value conflicts and political mobilization through increases in expectations, the difference between expected and actual positions can be taken as the basis of the dissatisfaction and frustration that generates political activity. The difference, in short, provides the essential dynamic element in the theories. In

expectations in a manner similar to Lasswell and Kaplan's distinction between demand and expectation statements: "a demand statement is one expressing a valuation by the maker of the statement." "An expectation statement is one symbolizing the (past, present, or future) occurrence of a state of affairs without demands or identifications." See op. cit., pp. 17, 21.

a later section we shall define the stress of any actor with respect to any value as a function of this difference.¹

The what in "Who gets what, when and how" includes not only such political outcomes as the expected and actual distributions of access and support, but also more fundamental political effects. The latter refer to relatively slow changing constraints on political activity which can be distinguished from the resource constraints inherent in the value positions of the actors. The political effects in Lipset's theory are the legitimacy of political institutions and tolerance among actors in the system. The political effects in Huntington's theory are the adaptibility, complexity, autonomy, and coherence of political institutions.

Political Arenas.

Not all of the theoretically possible combinations of these structural elements refer to likely contingencies. Instead, political systems tend to be organized into political arenas, institutions, or subsystems relatively specialized

¹Cf. the following definitions from Lasswell and Kaplan: "The intensity of an actor in a situation is his stress toward action in that situation. The tension level is the intensity of all the actors." "The demand ratio is the ratio of demand to the initial position of the demand maker....the demand ratio may be said to measure the degree of dissatisfaction with the existent distribution....It is the demand ratio, and not merely an unfavorable value position, which occasions stress toward changes in the practices of value distribution." Op. cit., pp. 7, 60. See also Phillip C. Chapman, "Stress in Political Theory," Ethics, 80 (October 1969), pp. 38-49.

to certain kinds of interactions.¹ At the cost of some simplification, each arena can be characterized in terms of the weight, scope, and domain of power.

The weight of power is the degree of participation in the making of decisions; its scope consists of the values whose shaping and enjoyment are controlled; the domain consists of the persons over whom power is exercised. All these enter into the notion of "amount" of power.²

A legislative arena, for example, is relatively specialized to political parties' pursuit and exercise of access to decisions affecting the values at stake in the political process, and the domain is the government. In order to constrain the range of possible political outcomes and effects, it is necessary to define the most prominent arenas in the theories of Lipset and Huntington.

Party Arena. In both theories, social groups tend to participate indirectly in the making of governmental decisions through access to the decisions of political parties. Stated differently, parties represent the interests of social groups. In Lipset's theory this is most clearly seen in the distinction between parties of integration and parties of representation: The latter tend to represent the interests of broad coalitions of social groups in an effort to obtain popular support, while the former tend to reinforce a narrow and ideologically

¹Arenas are represented as subroutines in the computer programs being developed here.

²Lasswell and Kaplan, op. cit., p. 77.

homogeneous constituency.¹ In Huntington's theory the same distinction is found in the concept of autonomy.

A political party...which expresses the interests of only one group in society--whether labor, business, or farmers--is less autonomous than one which articulates and aggregates the interests of several social groups. The latter type of party has a clearly defined existence apart from particular social forces.²

Regardless of the diversity of interests represented or the degree of autonomy, political parties in each theory are construed as brokers in the political participation of social groups.

The possible outcomes in the party arena are summarized in Figure 3.1, which gives the state description of the party arena. In the notation used here the subscript G refers to one of the NG social groups, the subscript V refers to one of the NV values at stake in the political process, and the subscript P refers to one of the NP political parties. In formal terms, $AP(G,V,P)$ is access, denoting the weight of group G in the decisions of party P (the domain) affecting value V (the scope). $EP(G,V)$ ³ denotes the distribution of access expected by each group in the party system as a whole. In the next chapter we shall specify the processes by which

¹Lipset, Political Man, pp. 74-6, 80.

²Huntington, op. cit., p. 401.

³The array $EP(G,V)$, like most other two-dimensional arrays defined here, is represented in the computer programs as a three-dimensional array with one dummy dimension, $EP(G,V,1)$. The dummy dimension is added to facilitate printing of results through the use of subroutine OUTPUT.

Figure 3.1. State Description of the Party Arena.

		<u>Access in Party P</u>			
		Values			
		1	2	...	NV
Groups	1	AP(1,1,P)	AP(1,2,P)	...	AP(1,NV,P)
	2	AP(2,1,P)	AP(2,2,P)	...	AP(2,NV,P)

	NG	AP(NG,1,P)	AP(NG,2,P)	...	AP(NG,NV,P)

		<u>Expected Access in the Party Arena</u>			
		Values			
		1	2	...	NV
Groups	1	EP(1,1)	EP(1,2)	...	EP(1,NV)
	2	EP(2,1)	EP(2,2)	...	EP(2,NV)

	NG	EP(NG,1)	EP(NG,2)	...	EP(NG,NV)

individual elements in these matrices change as a result of political activity. For present purposes it is sufficient to note that these matrices at any point in time reflect the cumulative political outcomes in the party arena of all previous actions.

Since, as we have seen, political activity depends on the difference between expected and actual value positions, it is useful to define a third matrix in terms of the previous two. Let

$$SP(G,V) = \frac{EP(G,V) - AP(G,V,NPP)}{AP(N,V,NPP)}, \quad SP(G,V) \geq .01$$

where

$$AP(G,V,NPP) = \sum_{P=1}^{NP} AP(G,V,P)$$

SP(G,V) is the standardized difference between the expected and actual access of group G with respect to value V, and represents the degree of stress toward action to change the distribution of access. By defining stress as a function of the difference between expected and actual access, an increase in expected access (for example, rising expectations due to political propaganda of the parties) increases stress, and an increase in access decreases stress. By expressing this difference as a proportion of G's access in the party arena, it becomes meaningful to compare the stress across one value for several groups, or the stress across several values for one group.¹ As suggested above, stress is an extremely important although largely implicit concept in the two theories, and is given several interpretations and functions in the specifications that follow.

Legislative Arena. We have already seen that a political party in both theories has interests that may differ to a greater or lesser extent from those of its constituents. Moreover, political parties participate directly in the making of governmental decisions. These aspects of the theories

¹Technically, SP(G,V) becomes a dimensionless number and does not depend on the units of measurement of EP(G,V) and AP(G,V,P).

suggest the need for a legislative system, even though Lipset and Huntington devote more attention to interactions between groups and parties than to interactions among the parties themselves.

The possible outcomes in a legislative arena are summarized in Figure 3.2, which gives the state description of the legislative arena. This formulation assumes a parliamentary form of government, appropriate for the case of Turkey,

Figure 3.2. State Description of the Legislative Arena.

		<u>Access in the Legislative Arena</u>			
		Values			
		1	2	...	NV
Parties	1	AG(1,1)	AG(1,2)	...	AG(1,NV)
	2	AG(2,1)	AG(2,2)	...	AG(2,NV)

	NP	AG(NP,1)	AG(NP,2)	...	AG(NP,NV)

		<u>Expected Access in the Legislative Arena</u>			
		Values			
		1	2	...	NV
Parties	1	EG(1,1)	EG(1,2)	...	EG(1,NV)
	2	EG(2,1)	EG(2,2)	...	EG(2,NV)

	NP	EG(NP,1)	EG(NP,2)	...	EG(NP,NV)

in which the power of a party in the legislature more or less accurately reflects its access to governmental decisions.

AG(P,V) denotes the weight of party P's access to the decisions of the government (the domain) affecting value V (the scope).

EG(P,V) denotes party P's expected or desired access to governmental decisions affecting value V. As in the case of the party system, we define SG(P,V), the stress of party P with respect to value V, as the difference between expected and actual access, expressed as a proportion of actual access.

Thus

$$SG(P,V) = \frac{EG(P,V) - AG(P,V)}{AG(P,V)} , \quad SG(P,V) \geq .01$$

The cumulative outcomes of political activity affecting the legislative arena is reflected in these matrices at any point in time.

Support Arena. Political parties not only seek access to governmental decisions affecting specific issues, they also seek popular support. Lipset's parties of representation, for example, "view their function as primarily one of securing votes around election time."¹ In Huntington's theory, "If the elite divides against itself, its factions appeal to the masses for support."² As suggested by Huntington's subsequent references to the Republican People's Party and the Democratic Party in Turkey, the elites in question may be party elites.

¹Lipset, Political Man, p. 74.

²Huntington, op. cit., pp. 420-1.

The possible patterns of support and expected support are summarized in Figure 3.3, which gives the state description of the support arena. $AE(P,G)$ is the degree of support for party P by group G. $EE(P,G)$ denotes party P's expected or

Figure 3.3. State Description of the Support Arena.

		<u>Support in the Support Arena</u>			
		Groups			
		1	2	...	NG
Parties	1	$AE(1,1)$	$AE(1,2)$	...	$AE(1,NG)$
	2	$AE(2,1)$	$AE(2,2)$	...	$AE(2,NG)$

	NP	$AE(NP,1)$	$AE(NP,2)$	...	$AE(NP,NG)$

		<u>Expected Support in the Support Arena</u>			
		Groups			
		1	2	...	NG
Parties	1	$EE(1,1)$	$EE(1,2)$	...	$EE(1,NG)$
	2	$EE(2,1)$	$EE(2,2)$	...	$EE(2,NG)$

	NP	$EE(NP,1)$	$EE(NP,2)$	...	$EE(NP,NG)$

desired level of support from group G. As in the other arenas the level of stress can be defined as a function of the difference between expected and actual support. Thus

$$SE(P,G) = \frac{EE(P,G) - AE(P,G)}{AE(P,G)}, \quad SE(P,G) \geq .01$$

where $SE(P,G)$ is the stress experienced by party P with respect to the support of group G. At any point in time, the cumulative outcomes of changes in support and expected support are reflected in these matrices.

Military Arena. In Huntington's theory, the military is an alternative to other arenas such as the legislative arena when the latter lack autonomy and coherence.¹ Lipset is much less explicit, but he does consider instances in which the military is used for political purposes.² To provide for the possibility that the political activity of parties moves toward the military when civilian institutions break down, we can define arrays $AM(P,V)$, $EM(P,V)$, and $SM(P,V)$ with exactly the same dimensions as $AG(P,V)$, $EG(P,V)$, and $SG(P,V)$. $AM(P,V)$ denotes the weight of party P in the decisions of the military (the domain) affecting value V (the scope). $EM(P,V)$ denotes the corresponding expectation and $SM(P,V)$ denotes the corresponding stress. Since Lipset and Huntington do not trace in sufficient detail the processes governing interactions between the parties and the military, we shall not specify processes that produce changes in $AM(P,V)$.³

¹Ibid., p. 407.

²Lipset, "Political Cleavages," p. 43.

³However, it would not be difficult to extend the structures in this direction using specifications derived from other sources. The work of John S. Fitch III on simulating coups in Ecuador might be an appropriate place to begin.

Figure 3.4. State Description of the Military Arena.

		<u>Access in the Military Arena</u>			
		Values			
		1	2	...	NV
Parties	1	AM(1,1)	AM(1,2)	...	AM(1,NV)
	2	AM(2,1)	AM(2,2)	...	AM(2,NV)

	NP	AM(NP,1)	AM(NP,2)	...	AM(NP,NV)

		<u>Expected Access in the Military Arena</u>			
		Values			
		1	2	...	NV
Parties	1	EM(1,1)	EM(1,2)	...	EM(1,NV)
	2	EM(2,1)	EM(2,2)	...	EM(2,NV)

	NP	EM(NP,1)	EM(NP,2)	...	EM(NP,NV)

However, we can specify processes that produce changes in expected or desired access $EM(P,V)$ and consequently simulate the strength of the motivation $SM(P,V)$ to divert political activity into the military arena.

Political Effects. As we have seen, legitimacy in Lipset's theory is the belief on the part of actors in a political system that certain political institutions are proper or the most appropriate ones. Tolerance-intolerance is a slowly changing relative barrier to interactions among pairs of

actors. It is related to but not identical with patterns of consensus and cleavage. The possible patterns of legitimacy and tolerance in the structure based on Lipset's theory are summarized in Figure 3.5(L). LEG1(G,1) and LEG2(G,2) denote

Figure 3.5(L). Structure of Lipset's Theory: Political Effects.

		<u>Legitimacy</u>			
		Party Arena		Support Arena	
Groups	1	LEG1(1,1)		LEG1(1,2)	
	2	LEG1(2,1)		LEG1(2,2)	
	
	NG	LEG1(NG,1)		LEG1(NP,2)	
		Legis. Arena		Support Arena	
Parties	1	LEG2(1,1)		LEG2(1,2)	
	2	LEG2(2,1)		LEG2(2,2)	
	
	NP	LEG2(NP,1)		LEG2(NP,2)	
		<u>Tolerance</u>			
		Actors			
		1	2	...	NA
Actors	1	TLF(1,1)	TLF(1,2)	...	TLF(1,NA)
	2	TLF(2,1)	TLF(2,2)	...	TLF(2,NA)

	NA	TLF(NA,1)	TLF(NA,2)	...	TLF(NA,NA)

the legitimacy accorded to the party arena and the support arena, respectively, by group G. $LEG2(P,1)$ and $LEG2(P,2)$ denote the legitimacy accorded to the legislative and support arenas, respectively, by party P. $TLF(I,J)$, $I \neq J$, denotes the tolerance of actor I for actor J. (I or J may refer to a group or a party, and the number of actors NA equals the number of groups NG plus the number of parties NP.) $TLF(I,J)$, $I=J$, may be interpreted as a measure of the solidarity among members of group or party I.

While the political effects in Lipset's theory involve the relationships of actors to other actors or institutions, the political effects in Huntington's theory are defined as properties of institutions themselves, as shown in Figure 3.5(H). $XAT(I)$, $COM(I)$, $AUT(I)$, and $COH(I)$ denote the adaptability, complexity, autonomy, and coherence, respectively, of institution I.

Adaptability, like legitimacy and tolerance in Lipset's theory, is a conceptually distinct variable. However, complexity, autonomy, and coherence are best represented as indices calculated from the matrices already defined. To begin with an example from the legislative system, the stress $SG(P,V)$ of each party P with respect to each value V is weighted by P's proportion of total access to V in the legislative arena. The weighting takes into account the relative degree of participation of each party in the arena. Then these weighted stresses are summed across all parties in the arena to produce

Figure 3.5(H). Structure of Huntington's Theory:
Political Effects.

	Adapt.	Complexity**	Autonomy*	Coherence*
	1 XAT(1)	COM(1)	AUT(1)	COH(1)
	2 XAT(2)	COM(2)	AUT(2)	COH(2)
Parties	...	...	...	...
	NP XAT(NP)	COM(NP)	AUT(NP)	COH(NP)
Legislative	XAT(NP+1)	COM(NP+1)	AUT(NP+1)	COH(NP+1)
Support	XAT(NP+2)	COM(NP+2)	AUT(NP+2)	COH(NP+2)
Military	XAT(NP+3)	COM(NP+3)	AUT(NP+3)	COH(NP+3)

*In the operation of the computer programs, complexity, autonomy, and coherence are represented by the undimensioned variables CM, AT, and CH, respectively. The institution in question is always clear from the context. The subscripted versions of these variables are used only for purposes of output, but they indicate more clearly that these political effects are attributes of particular institutions.

+The program requires comparison of a previous and current level of complexity. The previous level is denoted by CMP, the current by CM.

a composite pattern of stresses for the arena as a whole. Finally, product-moment correlations among these weighted stresses are computed to measure the extent of agreement among actors and the arena as a whole. For example, $r_{1,2}$ is a measure of the extent of agreement across all values between the weighted interest pattern of the first and second political parties, and $r_{1,NPP}$ is a measure of the extent of agreement between the first party and the arena as a whole. (The subscript NPP denotes the summed stresses for the arena.)

Then complexity can be calculated as the proportion of stress in the institution as a whole unaccounted for by the most salient value in the institution. In symbols, the complexity of the legislative arena is

$$CM = 1.0 - SG(NPP, V) / \sum_{V=1}^{NV} SG(NPP, V)$$

If all of the NV values defined in a run of the model are equally salient, then complexity equals $1.0 - \frac{1}{NV}$; if stresses with respect to all but one value are close to zero, then complexity is close to 0. Huntington distinguishes several types of complexity¹ but this index focuses on functional complexity only: The higher the index of complexity, the greater is the number of salient interests in the institution and the more complex is the institution. Autonomy is the proportion of variance in the interest pattern of the arena as a whole unexplained by variance in the interest pattern of the dominant party. In symbols, the autonomy of the legislative arena is

$$AT = 1.0 - r_{P, NPP}^2$$

where P is the party whose interests most closely match those of the arena as a whole. Complete agreement ($r_{P, NPP}^2 = 1.0$) produces an autonomy index of zero, in which case the institution is subordinate to party P; no agreement ($r_{P, NPP}^2 = 0$) produces an autonomy index of 1.0, in which case the institution is autonomous. Finally, coherence is the average

¹Huntington, op. cit., pp. 399-401.

agreement between all pairs of actors in the arena. In symbols, the average agreement in the legislative arena is

$$\bar{r} = \frac{1}{(NP)(NP-1)} \sum_{P=1}^{NP} \sum_{IP=1}^{NP} r_{P,IP}, \quad P \neq IP$$

and

$$CH = \begin{cases} \bar{r}^2 & \text{if } \bar{r} \geq 0 \\ -\bar{r}^2 & \text{if } \bar{r} < 0 \end{cases}$$

If there is complete agreement on the relative salience of interests among parties, then coherence is 1.0; if there is complete disagreement, then coherence is -1.0. These three indices are calculated in an analogous way¹ for each party as an institution having social groups as participants and for the support and military institutions having political parties as participants.

As a consequence of these specifications, any change in access, support, or expectations produces a change in the complexity, autonomy, and coherence of at least one arena.

Social System.

Since our purpose in this study is to focus on political change and development in each theory, we need only consider the social and economic variables having an important bearing on politics in the theories in order to specify the state description of the social system. These variables are listed in Figure 3.0. Group exposure to radio and newspapers per unit of time, ARF(G) and ANF(G), respectively, are included

¹The calculations are performed in subroutine INSTIT.

Figure 3.0. State Description of the Social System.

	Exposure to Radio	Exposure to Newsp.	Per Capita Income*	Population [†]
1	ARF(1)	ANF(1)	AY(1)	PO(1)
2	ARF(2)	ANF(2)	AY(2)	PO(2)
Groups	...	...	...	...
NG	ARF(NG)	ANF(NG)	AY(NG)	PO(NG)

*The programs require a comparison of current and previous (by one year) level of per capita income. The current level is AY(G), and the previous is AYP(G).

[†]POP(G) is the previous (by one quarter) level of population.

because in both theories changes in politically relevant expectations result in part from exposure to mass communications. It should be pointed out that ARF(G) and ANF(G) refer to technological and other factors predisposing groups to be exposed to the media and are conceptually distinct from political access to the use of the media by social groups or political parties. Group per capita income and population, AY(G) and PO(G), respectively, are necessary because in Lipset's theory economic payoff (which can be measured in terms of income per capita) is an important component of governmental effectiveness and because in both theories income is an important value at stake in the political system. In addition, group population or size is necessary to represent the relative impact of groups in determining total support for each political party.

Summary and Comparisons.

Although in subsequent chapters we shall define a few additional indices and some constants, the variables defined here constitute the basic description of the state of a political system at any point in time according to this interpretation of the theories of Lipset and Huntington. These specifications distinguish between the values at stake in a political system and political access to these values; between the distribution of access and support and expectations about these distributions; and between these political outcomes and the political effects, the slowly changing constraints on political activity. Through a definition of stress, these specifications provide a dynamic element, a motivation to change both actual and expected distributions of access and support.

The two theories are sufficiently similar with respect to political outcomes, arenas, and the important components of the social system that differences can be ignored. In these respects, the state descriptions of the two structures are identical. Furthermore, while Lipset emphasizes value conflict, institutionalization (in terms of legitimacy) and mobilization (in terms of potentially high levels of stress) are also represented in the structure based on his theory. While Huntington emphasizes the interaction between institutionalization and mobilization, value conflict (as differences in the distribution of stress across actors) is also represented

in the structure based on his theory. The theories and the structures differ primarily in political effects. Lipset defines for each actor patterns of tolerance and legitimacy which constrain activity with respect to other actors on the one hand and within political institutions on the other. Huntington defines for each institution the variables adaptability, complexity, autonomy, and coherence which constrain the activity of participants within institutions.

Chapter 4

Processes

Overview: Sequences of Events.

While the state description in each structure consists of a set of arrays, the processes in each structure consist in part of mechanisms determining possible sequences of events that give rise to changes in the arrays as an individual actor pursues one of its interests. These mechanisms and the possible sequences of events can be represented as flow charts. The particular sequence realized in each case depends upon the current state of the system, and each sequence modifies the state of the system to some extent.

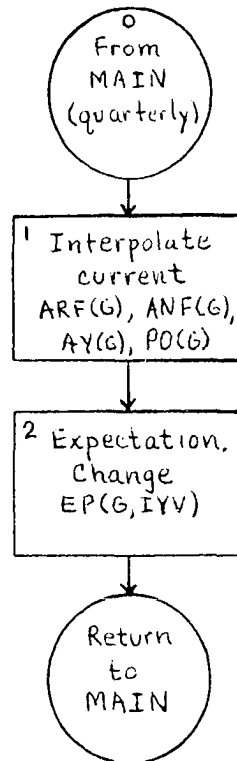
Social System.

Because we are primarily interested in the exploration and comparison of political change and development in the two theories, the social system is simplified and the same for each of the structures. Changes in the radio exposure, newspaper exposure, per capita income, and size of each group are not simulated through the specification of process hypotheses but are incorporated by reading yearly time series data into the models. The first step in the social system is to interpolate quarterly levels of each variable for each group, as shown in the flow chart in Figure 4.0.¹ The second

¹Particular points in the flow charts are identified by number. For example, the entry to the SOCIAL subroutine at the top of Figure 4.0 is denoted as 4.0.0.

Constrained by the linear nature of the printed page,

Figure 4.0. Processes in the Social System.



step is to change the expected level of political access to income as a function of the performance of the economy. In particular, $EP(G, IYV)$, where IYV identifies income as the value in question, increases when the trend in per capita income is downward for group G and decreases when the trend is upward. In effect, relatively poor performance of the

we cannot consider all questions at once. Consequently, the description of the MAIN program referred to in 4.0.0, the specification of the functional form implicit in 4.0.2, and the rationale for quarterly units of time must be postponed to Chapter 5.

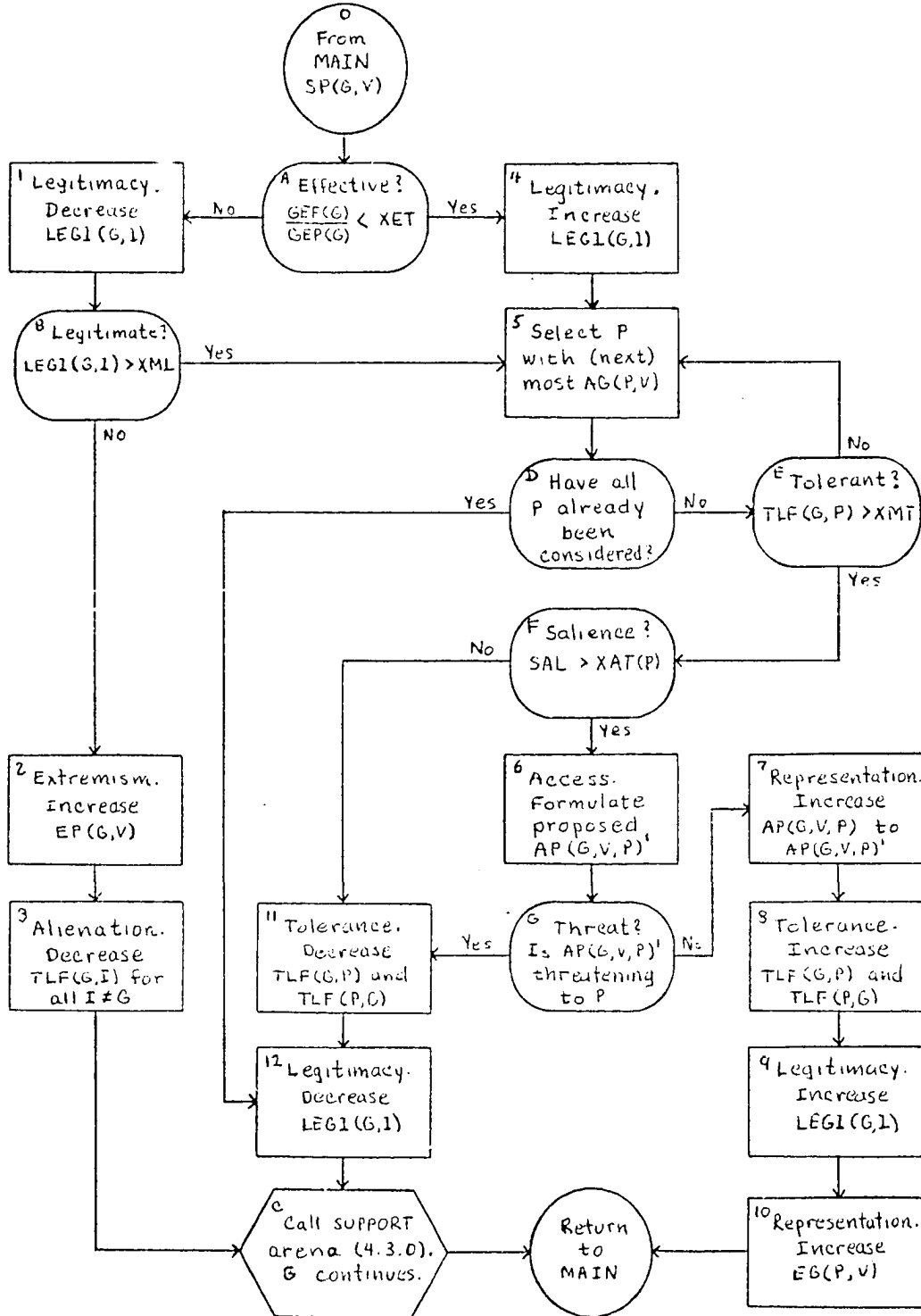
economy through time exacerbates existing stresses toward redistribution of political access to income, and relatively good performance alleviates them. The impact of each of the other three variables occurs at various points in the political arenas.

Structure of Lipset's Theory: Political System.

Party Arena. Figure 4.1(L) is a process reconstruction of several hypotheses and generalizations in Lipset's theory. It specifies how a social group pursues a political interest in the party arena. Political activity through these processes is motivated by a given group G's stress toward greater access to the decisions of a political party affecting a given value V. In general, the possible political effects relating G to the rest of the system range from widespread intolerance and insufficient legitimacy, indicating the breakdown of the party arena as an effective constraint on G's pursuit of its interests [the contingencies on the left side of Figure 4.1(L)]; to an increase in both tolerance and the legitimacy of the party arena (the contingencies on the right). Before developing the bases of the flow chart from Lipset's theory, it is worthwhile to trace through the flow chart verbally, defining the necessary additional variables and parameters as we proceed.

The sequence of events in the party arena depends initially on the trend in the effectiveness of the government as it affects group G (4.1.A). $GEF(G)$ is governmental effectiveness, the current stress of G across all values attributed

Figure 4.1(L). Structure of Lipset's Theory: Processes in the Party Arena.



to the governing party; $GEP(G)$ is the level of the same variable from the previous quarter; and the ratio $GEF(G)/GEP(G)$ represents the trend in governmental effectiveness.¹ If the ratio does not exceed XET , the effectiveness threshold, then the party arena becomes more legitimate for G (4.1.4). Otherwise, there is a crisis of effectiveness and the party arena becomes less legitimate (4.1.1). The sequence of events then depends on the cumulative level of legitimacy of the party arena (4.1.B). If the level of legitimacy exceeds the threshold of minimum legitimacy XML , group G proceeds within the party arena despite the crisis of effectiveness. If the level of legitimacy is insufficient, group G becomes more extremist by increasing its expected level of access to V (4.1.2) and more alienated by decreasing its tolerance for the other actors in the system (4.1.3). Group G continues the pursuit of its interest in the support arena (4.1.C).

If a crisis of effectiveness or a crisis of insufficient legitimacy has been avoided, G selects the party P with the (next) most access to V in the legislative arena (4.1.5 and 4.1.D), but rejects P if its tolerance for P falls below the

$$^1 \text{In symbols, } GEF(G) = \sum_{V=1}^{NV} \frac{EP(G,V) - AP(G,V,IGP)}{AP(G,V,IGP)}, \text{ where}$$

IGP is a subscript identifying the governing party. Note that the sense of measurement is inverse: Relatively high levels of $GEF(G)$ indicate relatively low levels of effectiveness in reducing stress. $[GEF(G)/GEP(G)] > 1$ indicates that stress attributed to the government has increased, and that governmental effectiveness has decreased through time.

threshold of minimum tolerance XMT (4.1.E). Having selected a party for which tolerance is sufficient, G is successful in achieving a redistribution of access only if the relative salience SAL of V for P exceeds the threshold of adaptability XAT(P) (4.1.F) and if the proposed change in access (4.1.6) is not threatening to P. SAL is the stress of P with respect to V as a proportion of P's stress on all values.¹ A proposed change in access is too threatening if it would elevate G to the position of the most powerful constituent in P, replacing some other group. If these conditions are met, G is given increased access (4.1.7), the tolerance of G for P and of P for G increases (4.1.8), the legitimacy of the party arena increases (4.1.9), and P modifies its interest priorities in the direction of V (4.1.10). If the high salience and low threat conditions are not met, tolerance between the two actors decreases (4.1.11), the legitimacy of the party arena decreases (4.1.12), and G continues to pursue its interest in the support arena.

The initial determinants of the sequence of events in Figure 4.1(L) reflect Lipset's hypotheses and generalizations about the way in which effectiveness and legitimacy constrain or fail to constrain the political activity of a group within the party arena. When faced with a crisis of effectiveness, legitimate societies remain stable and illegitimate societies break down. For example,

¹In symbols,
$$SAL = \frac{SG(P,V)}{\sum_{IV=1}^{IV=N} SG(P,IV)}$$

When the effectiveness of various governments broke down in the 1930's, those societies which were high on the scale of legitimacy remained democratic while such countries as Germany, Austria, and Spain lost their freedom, and France narrowly escaped a similar fate.¹

In this context effectiveness, as "actual performance, the extent to which the system satisfies the basic functions of government...",² is represented as the trend in the governing party's performance in redistributing access at a rate sufficient to offset increases in political expectations. Breakdown is represented as the unwillingness of the group in question to constrain the pursuit of its interest within the rules and procedures of the institution. Changes in legitimacy at the top of Figure 4.1(L) reflect Lipset's hypotheses that "prolonged effectiveness over a number of generations may give legitimacy to a political system"³ and that "a breakdown of effectiveness, repeatedly or for a long period, will endanger even a legitimate system's stability."⁴ Where legitimacy is insufficient, indicating prolonged ineffectiveness or denial of access, the group's expectation (and consequently stress toward a redistribution of access)

¹Seymour Martin Lipset, Political Man: The Social Bases of Politics (Garden City, N.Y.: Anchor, 1963), p. 64. Elsewhere Lipset refers to the legitimacy of political institutions rather than the legitimacy of a system as a whole. See ibid., p. 68.

²Ibid., p. 64.

³Ibid., p. 70.

⁴Ibid., p. 68.

is increased, and its tolerance for other actors is reduced. These changes reflect growing extremism and alienation, two consequences of prolonged denial of access.¹

The processes guiding the determination of a party with which to bargain are only partially considered in Lipset's theory. The rejection of a party on the basis of insufficient tolerance reflects Lipset's important discussion of the impact of historical conflicts on current political activity.

The character and content of the major cleavages affecting the political stability of a society are largely determined by historical factors which have affected the way in which major issues dividing society have been solved or left unresolved over time.²

Resolving tensions [over each issue] one at a time contributes to a stable political system; carrying over issues from one historical period to another makes for a political atmosphere characterized by bitterness and frustration rather than tolerance and compromise.³

The failure to resolve previous major issues not only leaves deep cleavages in the form of conflicting and reinforced interests, it also leaves a residue of intolerance which may be sufficient to preclude bargaining between the group and party in question. Otherwise, the success or failure of the attempt to redistribute access depends on aspects of

¹See Ibid., p. 67.

²Ibid., p. 71.

³Ibid., p. 17.

the current situation to be discussed below. The current attempt contributes to the historical residue of tolerance and intolerance at 4.1.8 and 4.1.11 in the flow chart. The tolerance criterion alone is not sufficient however, to determine the party with which bargaining takes place. The additional criterion adopted here is that the group approaches first the party with the most access in the legislative arena (the party which has the potential to do it the most good), and approaches the party with the next most access if the level of tolerance for the previous party is not sufficient.

The relative salience of the value in question incorporates into the sequence of events an important choice open to parties in Lipset's theory: Whether to pursue their own interests or the interests of their constituent social groups. For example, Lipset writes that

In developed western societies, parties are increasingly agents of "collective bargaining," representing the conflicting demands of diverse groups and strata. In the emerging nations, parties, particularly left-wing or nationalist ones, ...see themselves not as representatives of particular groups which seek "more" of the total national pie, but rather as bearers of programs and ideologies most likely to successfully mobilize society for a massive effort at economic development.¹

In terms of these specifications, parties' representativeness or responsiveness to other actors can be reflected in the adaptability threshold: The more representative or responsive

¹Seymour Martin Lipset, "Political Cleavages in 'Developed' and 'Emerging' Polities" (Berkeley: Institute of Industrial Relations and Institute of International Studies, 1964), pp. 51-2.

parties have lower adaptability thresholds, indicating that the relative salience of the value in question need not be very pronounced for the party to respond favorably. If a party grants increased access to a group, it also modifies its own expectations in the direction of the group. Thus in an important sense, it represents the group's interest and modifies its own.

The threat contingency and the consequences following it reflect Lipset's observation that

In general, even when the political system is reasonably effective, if at any time the status of major conservative groups is threatened, or if access to politics is denied to emerging groups at crucial periods, the system's legitimacy will remain in question.¹

In these specifications the proposed change in access is threatening if it would replace the party's most powerful constituent group. A decrease in legitimacy follows a denial of access. On the other hand,

Whenever new groups become politically active...easy access to the legitimate political institutions tends to win the loyalty of the new groups to the system, and they in turn can permit the old dominating strata to maintain their own status.²

An increase in legitimacy follows an increase in access. The giving or denial of access may be considered an alternative effectiveness criterion, determining whether the group increases or decreases its estimation of the legitimacy of the party arena.

¹Lipset, Political Man, p. 67.

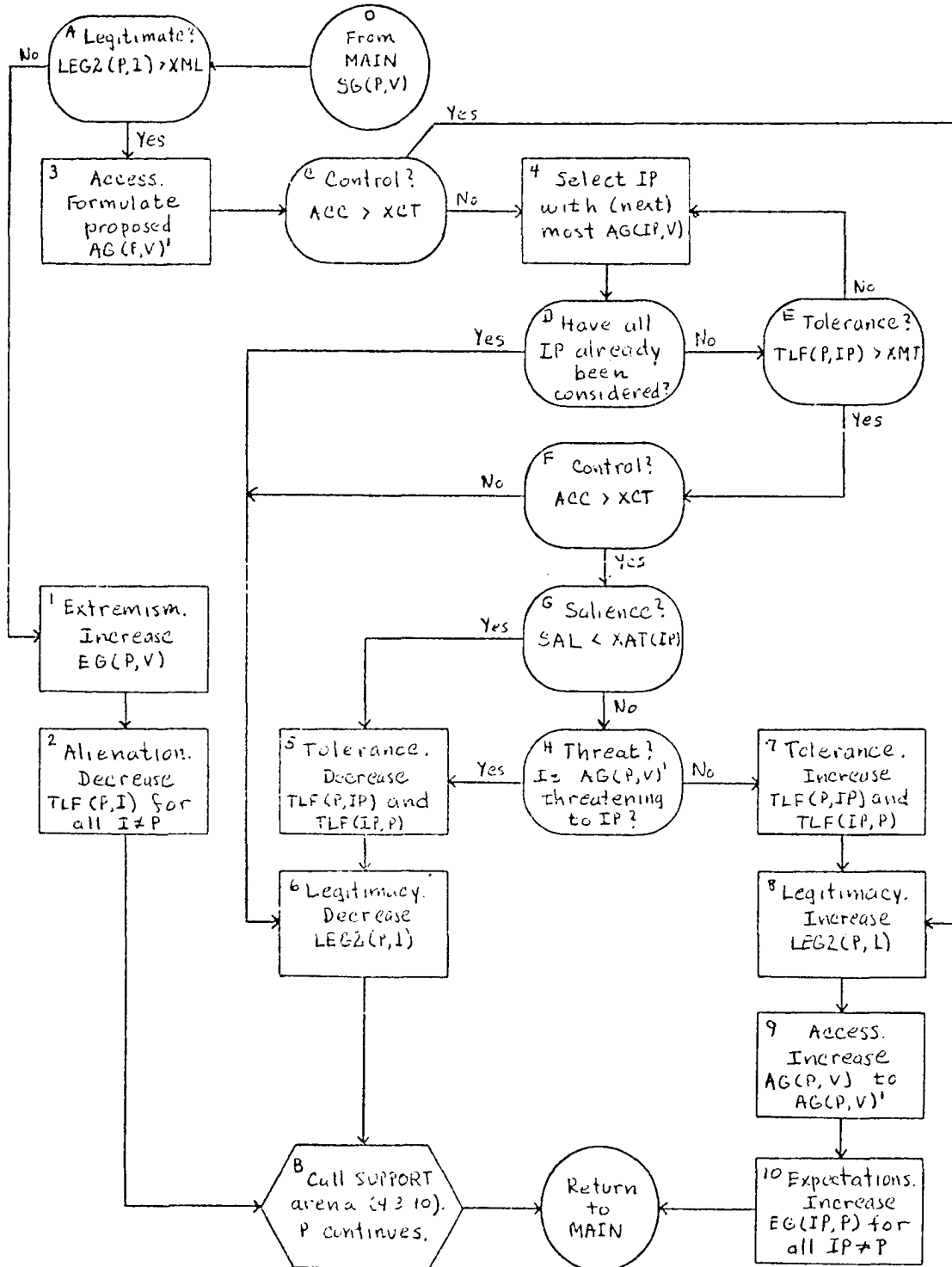
²Ibid.

Legislative Arena. Figure 4.2(L) specifies how a political party pursues its political interest in a legislative arena according to this interpretation of Lipset's theory. Political activity is motivated by a given party P's stress $SG(P,V)$ toward a redistribution of access to a given value V. In general, the effects range from changes in the direction of breakdown, a decrease in the legitimacy of the arena and a decrease in tolerance (the contingencies on the left); to changes in the direction of development, increases in tolerance and legitimacy (the contingencies on the right).

The sequence of events in the legislative arena depends initially on the legitimacy of the arena in the evaluation of party P (4.2.A). Insufficient legitimacy produces a tendency toward extremism, represented as an increase in expectations and stress (4.2.1), and alienation, represented as a decrease in tolerance for other actors (4.2.2). P then continues the pursuit of its interest in the support arena (4.2.B), unconstrained by the procedures of the legislative arena. On the other hand, sufficient legitimacy leads to the formulation of a proposed new level of access (4.2.3) and a determination of P's relative access ACC to or control over decisions affecting V (4.2.C). ACC is simply P's access to V as a proportion of total access to V,¹ and if it exceeds

¹In symbols, $ACC = \frac{AG(P,V)}{AG(NPP,V)}$ in 4.2.C.

Figure 4.2(L). Structure of Lipset's Theory: Processes in the Legislative Arena.



the control threshold¹ XCT the bargaining processes can be bypassed and P is successful. If P has insufficient control to force redistribution unilaterally, it considers first the party IP with the (next) most access (4.2.4), but rejects IP if tolerance for it is insufficient (4.2.E) or if P and IP together do not have sufficient combined control² to force a redistribution of access (4.2.F). If P is tolerant toward IP and the two parties are a potentially winning coalition, the course of events depends on the relative salience SAL of V for IP (4.2.G) and the degree of threat to IP inherent in the proposed redistribution of access (4.2.H). As before, SAL is the stress of IP with respect to V as a proportion of IP's stress on all values.³ A proposed change in access is threatening if it would change the rankings of P and IP with respect to access to V. If the high salience and low threat conditions are met, tolerance between the two actors increases (4.2.7), the legitimacy of the arena for P increases (4.2.8), access to V is redistributed in favor of P (4.2.9), and the expectations of the other parties in the arena increase (4.2.10). If the high salience and low threat conditions are not met, tolerance between parties P and IP decreases (4.2.5), the

¹If XCT = .5, then a majority rule is in effect.

²ACC = $\frac{AG(P,V) + AG(IP,V)}{AG(NPP,V)}$ in 4.2.F.

³In symbols, SAL = $\frac{SG(IP,V)}{\sum_{IV=1}^n SG(IP,IV)}$

legitimacy of the arena for P decreases (4.2.6), and P continues the pursuit of its interest in the support arena (4.2.B).

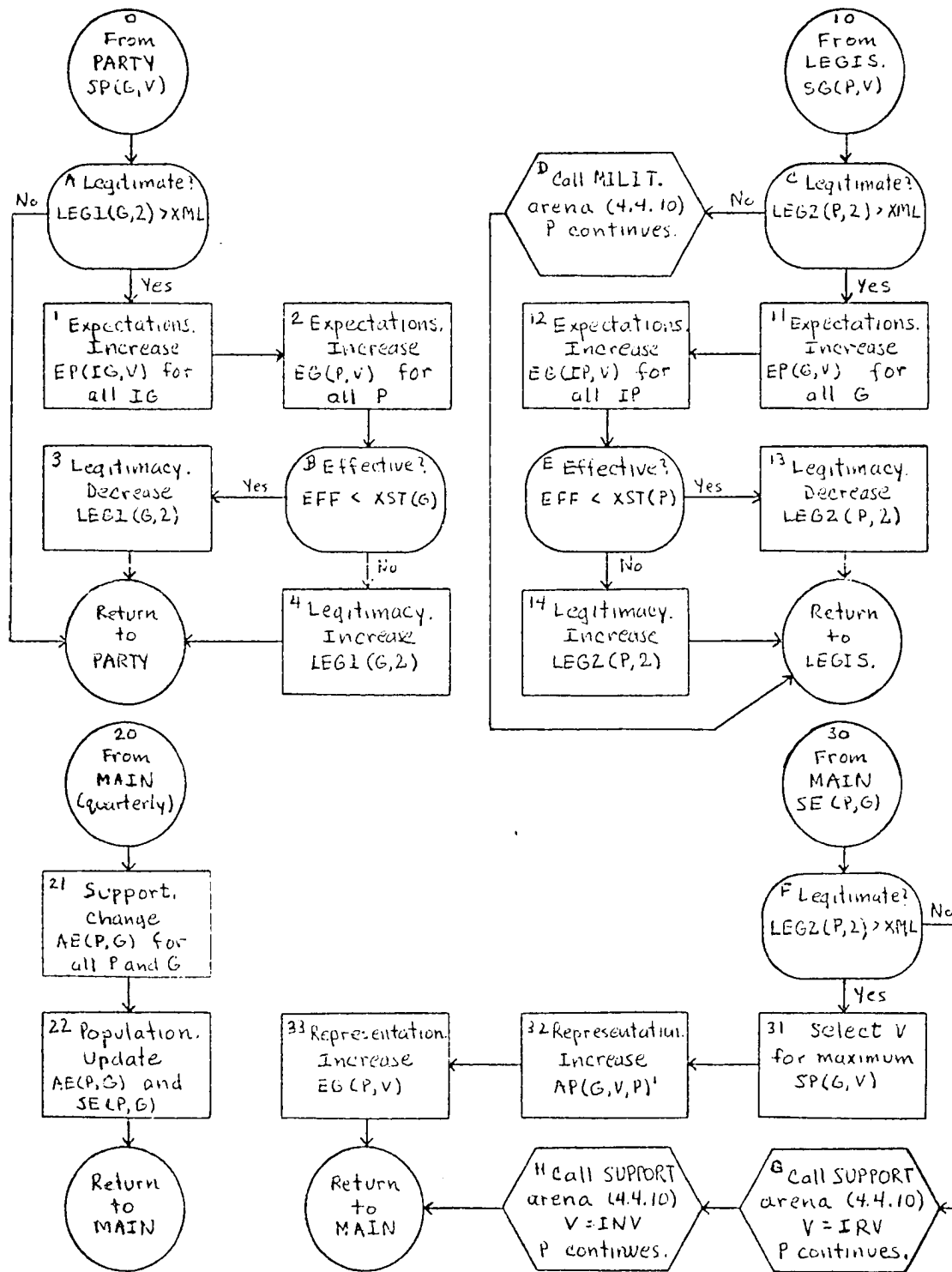
It should be apparent that most of the hypotheses and generalizations underlying Figure 4.2(L) have already been considered in the discussion of the party arena. Legitimacy changes as a function of the giving or withholding of access and serves to constrain the pursuit of an interest within the procedures of the arena. Tolerance serves to preclude the formation of certain coalitions (reflecting the impact of previous conflicts on the current situation) and the resolution or failure to resolve the current conflict contributes to the historical residue of tolerance or intolerance. The relative salience of the issue and the degree of threat it poses are again the key aspects of the current situation. Finally, the issue is escalated to the support arena if the attempt to redistribute access in the legislative arena is unsuccessful.

The principal differences between the specifications in Figure 4.1(L) and Figure 4.2(L) require some elaboration. The processes relating to governmental effectiveness in 4.1.A have been deleted from the legislative arena because effectiveness in this sense is relevant primarily to social groups in Lipset's theory. In Figure 4.2(L) the branch points based on the relative degree of access represent formalized legislative rules for determining the success or

failure of attempts to redistribute access. If a majority rule is in effect and the control or relative access of P is greater than one-half, then P is in a position to force a unilateral increase in access. In nearly all conceivable instances, if P enjoys this degree of control, then P is the governing party. Similarly, if the combined control of P and IP is greater than one-half, then a coalition of the two parties has the potential to force a redistribution of access and is worth pursuing. In this case P is either an opposition party or a member of a coalition government.

Support Arena. The support arena, as shown in Figure 4.3(L), is actually four distinct sets of processes which are relatively specialized to the production of changes in group support for political parties. The set of processes in the upper left section beginning at 4.3.0 provide for the continuation from the party arena of group G's activity motivated by $SP(G,V)$. If the support arena is illegitimate (4.3.A) group G withdraws, terminating the pursuit of the interest for the time being. If the support arena is legitimate, group G attempts to use its access to the mass media to increase the expectations (and consequently the stress) of all actors in the system with respect to value V (4.3.1 and 4.3.2). The relevant criterion of effectiveness EFF in this context (4.3.B) is the average proportional increase in stress across all actors. If sufficiently high, G increases the degree of legitimacy it accords to the support arena (4.3.4).

Figure 4.3(L). Structure of Lipset's Theory: Processes in the Support Arena.



Otherwise, group G decreases its evaluation of the legitimacy of the support arena (4.3.3). In a similar manner, the processes in the upper right section of Figure 4.3(L) beginning at 4.3.10 trace the continuation from the legislative arena of party P's activity motivated by $SP(G,V)$. The only difference is that if party P considers the support arena to be illegitimate, it continues the pursuit of its interest in the military arena (4.3.D).

The set of processes in the lower right beginning at 4.3.30 trace the course of events when $SE(P,G)$, the stress of party P with respect to support from group G, motivates political activity by P. Again, if the support system is illegitimate in the evaluation of P (4.3.F), P continues in the military arena (4.3.G and 4.3.H). Otherwise, P determines the most salient value for G (4.3.31), concedes an increase in access to V for G (4.3.32), and then modifies its own interest priorities in the direction of V (4.3.33).

Finally, the basic process in the lower left section of Figure 4.3(L) cumulates on a regular quarterly basis the consequences of access redistribution and increases in expectations among the social groups. At 4.3.21, $GEF(G)$, the stress of G attributed to the governing party (and unaccounted for by access in the governing party) is aggregated across all values for each group G and compared with $GEP(G)$, the level of governmental ineffectiveness in the previous quarter. The difference between current and previous governmental

effectiveness is positive (an increase in governmental ineffectiveness) if increases in the expectations of a social group have more than cancelled any redistribution of access by the governing party. Conversely, the difference is negative (a decrease in governmental ineffectiveness) if increases in access have more than cancelled increases in expectations. A positive difference causes G to withdraw some fraction of its support for the governing party and allocate it to the opposition parties, and a negative difference causes G to withdraw support from the opposition parties and allocate it to the governing party. At 4.3.22, $AE(P,G)$ and $SE(P,G)$ are updated to reflect population growth [$PO(G) - POP(G)$] in group G.

The role of legitimacy in constraining political activity and the role of effectiveness in changing legitimacy in Lipset's theory have already been considered. Here the appropriate criterion of effectiveness is the proportional increase in stress (averaged over all actors) resulting from the appeal through the mass media of group G or party P. These increases in expectations are, of course, what Lipset calls the "partly artificially--that is, politically--stimulated...rising 'level of expectation'"¹ which may be beyond the capacity of the system to fulfill.

¹Seymour Martin Lipset, The First New Nation: The United States in Comparative and Historical Perspective (New York: Basic Books, 1964), p. 246.

The impact of each appeal through the media is influenced by a number of factors representing other aspects of Lipset's theory. One is the extent of political access¹ to the media enjoyed by the group or party making the appeal. Restricted access to the media reduces the impact of the appeal on the expectations of each actor. A second factor is the extent to which each actor is exposed to communications through the mass media. For groups this is ARF(G) and ANF(G) for radio and newspapers, respectively.² As Lipset points out, gaps in communications may isolate social groups from partisan appeals.³ A third factor is the existing salience of the value for other actors in the system. Those for whom the salience of the value is already relatively high respond with relatively larger increases in expectations.⁴ Thus there is a tendency here (which may be counteracted through a redistribution of access) for value cleavages to be exacerbated when demands rejected in the party or legislative arena lead to an appeal through the media.

...the more cohesive and stable a democratic system is, the more likely it becomes that all segments

¹IRV and INV denote radios and newspapers, respectively, and AP(G,IRV,P), AP(G,INV,P), AG(P,IRV) and AG(P,INV) are the relevant access variables.

²For political parties, exposure to mass communications of a political nature is assumed to be complete. That is to say, if ARF(P) and ANF(P) were defined, they would equal one.

³Lipset, Political Man, p. 79.

⁴In the next chapter, the stress of the actor receiving the communication is interpreted as an elasticity.

of the population will react in the same direction to major stimuli...Conversely, an indicator of low consensus would be a situation in which a political tendency grows only among the groups to whom it primarily appeals...¹

Low consensus in the form of diverging patterns of interest is, according to this specification, exacerbated under the stimulus of an appeal through the mass media. A fourth factor is the tolerance each actor has for the group or party making the appeal. To the extent that the failure to resolve previous conflicts in the party or legislative arena has left a residue of intolerance for the actor making the appeal, the other actors are insensitive to the current appeal. Consequently, patterns of intolerance among actors may, through this specification, cause patterns of cleavage on various interests to reinforce each other and become correlated with patterns of intolerance.

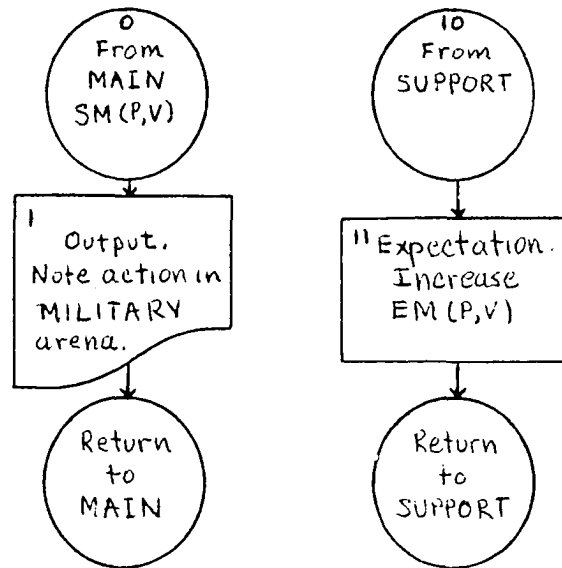
Political support $AE(P,G)$ is obviously a variable in Lipset's theory, but Lipset does not explicitly consider what causes variations in support. However, current and previous governmental effectiveness are well-suited to the production of changes in support since they aggregate all the interests of each social group, taking into account both expectations and access. Thus through the initiative of a social group, a party may increase its support by redistributing access in the party arena. Following the failure to increase its

¹Lipset, Political Man, p. 15.

access in the legislative arena, an opposition party may increase its support by raising the expectations of social groups as it continues the pursuit of its interest in the support arena. However, as we have seen, in Lipset's theory parties which tend toward being parties of representation may view their function primarily as one of seeking support. According to the specifications in the lower right section of Figure 4.3(L), a party can do this directly and on its own initiative by increasing the access of a social group. Here as before, the representation of the group's most salient interest takes the form of an increase in the group's access and a modification of the party's interests in the direction of the group's interest.

Military Arena. The process structure of the military arena is summarized in Figure 4.4. When activity in the military arena is a continuation of activity in the support arena, the expected level of access to the value in question in the military arena is increased (4.4.11). This increases the motivation $SM(P,V)$ to divert activity into the military arena. When activity in the military arena is generated by $SM(P,V)$, the entry into the arena is merely noted (4.4.1) and processing continues. In a more elaborate formulation, processes governing the interaction between a party and the military might be included here, and one possible outcome might be a decision by the military to intervene on behalf of the party.

Figure 4.4. Processes in the Military Arena.

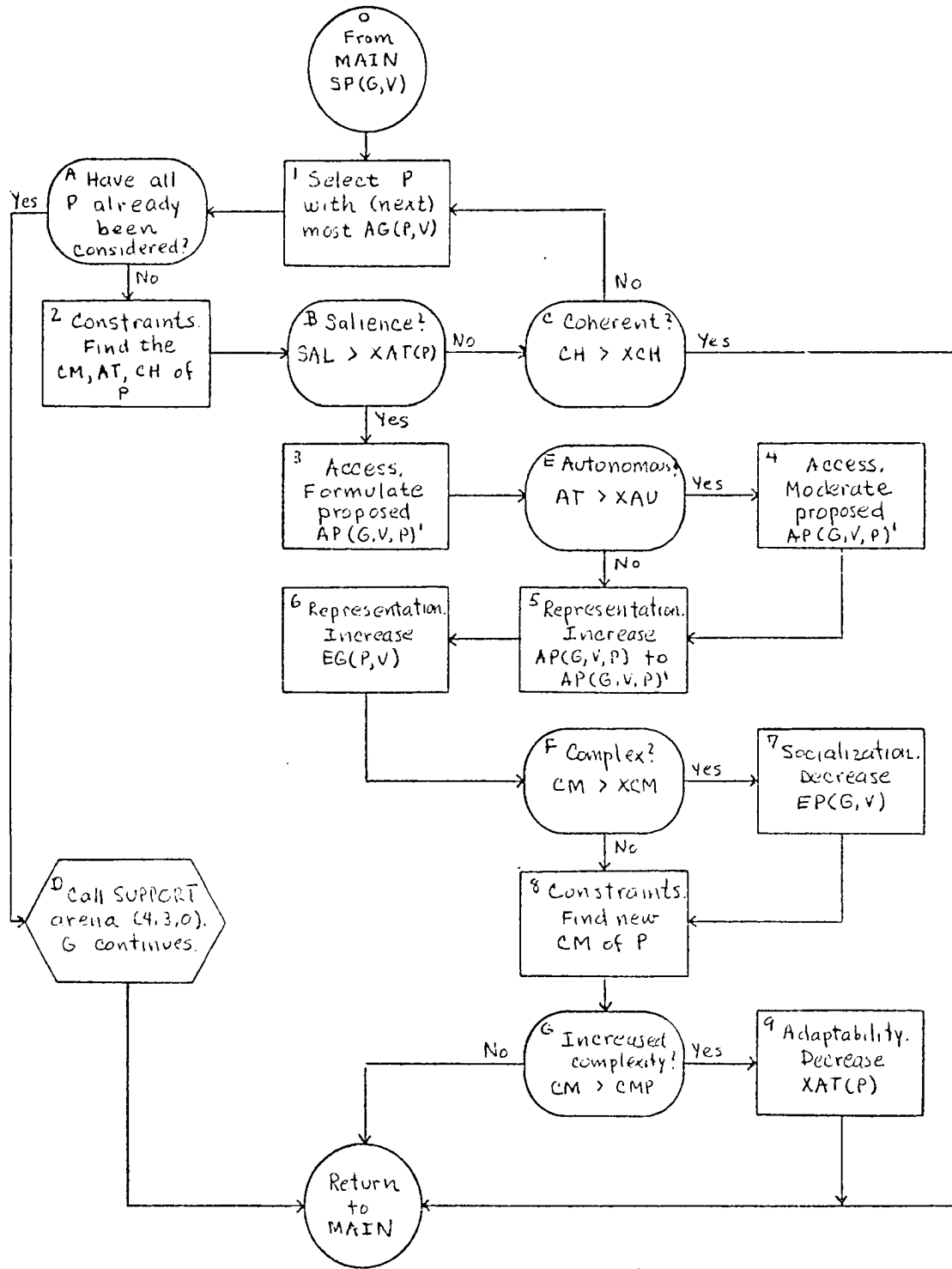


Structure of Huntington's Theory: Political System.

Party Arena. A flow chart interpretation of several hypotheses and generalizations in Huntington's theory, specifying how a group pursues a political interest in the party arena, is given in Figure 4.1(H). As in the interpretation of Lipset's theory, activity through these processes is motivated by a given group G's stress toward increased access to a given value V. Depending upon the contingencies determining the sequence of events in each case, G may achieve or fail to achieve a redistribution of access, expectations may change, and as a result the scope of the party arena and the level of institutionalization of one of the parties may be altered.

The first steps in the sequence of events are the determination of the most powerful party P in the legislative

Figure 4.1(H). Structure of Huntington's Theory: Processes in the Party Arena.



system (4.1.1) and the determination of P's complexity, autonomy, and coherence (4.1.2). If the relative salience SAL^1 of V for P is less than P's adaptability threshold $XAT(P)$ (4.1.B) and if P is not sufficiently coherent relative to the coherence threshold XCH (4.1.C), the next most powerful party is considered. In the case where all parties have been considered unsuccessfully in the same way (4.1.A), G continues the pursuit of its interest in the support arena (4.1.D), outside the scope of the party arena. However, if the relative salience of V is not sufficient for any of the parties and if one of the parties is sufficiently coherent, the search procedure terminates: G is unsuccessful but temporarily discontinues the pursuit of its interest. In effect, G's activity is contained within a coherent party.

If V is sufficiently salient for some party P, G formulates a proposed level of access (4.1.3), but the magnitude of the proposed new level is moderated (4.1.4) if the autonomy of P exceeds the autonomy threshold XAU (4.1.E). Accompanying the increase in access (4.1.5) is a modification of P's priorities in the direction of V: P increases its expected access to V in the legislative arena (4.1.6). If P is complex relative to the complexity threshold XCM (4.1.F), the expectation of G is moderated to reflect socialization (4.1.7). Finally, if the net result of increasing G's access and (in some cases) moderating its expectations has been an increase

¹SAL here is exactly the same as SAL in the structure based on Lipset's theory.

in the complexity of P as an institution (4.1.8 and 4.1.G), the adaptability threshold of P decreases (4.1.9) making P adaptable to issues of less relative salience in the subsequent course of events.

In Huntington's theory as in Lipset's theory, there is no complete discussion of the criterion governing a group's search for a political party to bargain with. Consequently, in this structure as in the previous one, the search is guided by the access rankings of the parties: Activity gravitates toward the most powerful party first. The other specifications in Figure 4.1(H) have a reasonably firm basis in Huntington's theory. The escalation of political activity from the arena is consistent with Huntington's assertion that

If the elite divides against itself, its factions appeal to the masses for support. This produces rapid mobilization of the masses into politics at the same time that it destroys whatever consensus previously existed among the politically active on the need for modernization.¹

The elites in question in the flow chart are group and party elites, and division between them takes the form of different value priorities. The appeal to the masses and mobilization (represented as increases in stress) take place in the support arena, to be considered below. However, where an organization has solidarity in terms of consensus or coherence, the private impulses of an actor can be subordinated to common objectives;

¹Samuel P. Huntington, "Political Development and Political Decay," World Politics, 17 (April 1965), pp. 420-1.

"otherwise, in trying social situations the desire to fend for oneself becomes overwhelming."¹ In short, the coherence of an institution constrains political activity within its scope.

The salience branch point reflects some key ideas in Huntington's analysis of the cumulative capacity of organizations and institutions to adapt.

Organizations...are usually created to perform very specific functions. When the organization confronts a changing environment, it must, if it is to survive, weaken its commitment to its original functions. As the organization matures, it becomes "unset" in its ways.²

An organization which has adapted itself to changes in its environment and has survived one or more changes in its principle functions is more highly institutionalized than one which has not. Not functional specificity but functional adaptability is the true measure of a highly developed organization.³

A party with the capacity to adapt, for example, is more likely to absorb new groups organized around different values, thereby modifying its constituency, representing new interests, and performing a somewhat different function in the political system. "A political party gains in functional age [adaptability] when it shifts its function from the representation of one constituency to the representation of another...A party which is unable to change constituencies or to acquire

¹Ibid., p. 404.

²Ibid., p. 397.

³Ibid., p. 396.

power is less of an institution than one which is able to make these changes."¹ Furthermore, "...the first hurdle is the biggest one. Success in adapting to one environmental challenge paves the way for successful adaptation to subsequent environmental challenges."² In the lower part of Figure 4.1(H) an increase in complexity, representing a broadening of interests or functions, is taken as the criterion of successful adaptation and further increases the adaptability of the institution.

The autonomy and complexity branch points near the middle of Figure 4.1(H) reflect the mechanisms by which institutions preserve their identity and at the same time constrain the political activity of the actors participating in them.

...in a developed political system, the autonomy of the system is protected by mechanisms which restrict and moderate the impact of new groups. These mechanisms either slow down the entry of new groups into politics or, through a process of socialization, impel changes in the attitudes and behavior of the most politically active members of the new group.³

Slowing down the entry of new groups into politics seems to be a function of autonomy.

Where the political system lacks autonomy, [new] groups gain entry into politics without becoming identified with the established political organiza-

¹Ibid., p. 398.

²Ibid., p. 395.

³Ibid., p. 402.

tions or acquiescing in the established procedures.¹

By moderating changes in access as a function of autonomy as in 4.1.4, it takes a group a longer period of time to achieve a given level of access than would otherwise have been required. The socialization of new groups seems to be primarily a function of complexity.

The complexity of a political system contributes to its autonomy by providing a variety of organizations and positions in which individuals are prepared for the highest offices....the less powerful positions, the peripheral organizations, and the semi-political organizations are the filters through which individuals desiring access to the core must pass. Thus the political system assimilates new social forces and new personnel without sacrificing its institutional integrity.²

In systems where autonomy and complexity are low, the results produced by the specifications in Figure 4.1(H) should parallel the results suggested by Huntington:

In a political system which lacks such defenses, new men, new viewpoints, new social groups, may replace each other at the core of the system with bewildering rapidity.³

This is, of course, the case where mobilization has exceeded institutionalization.

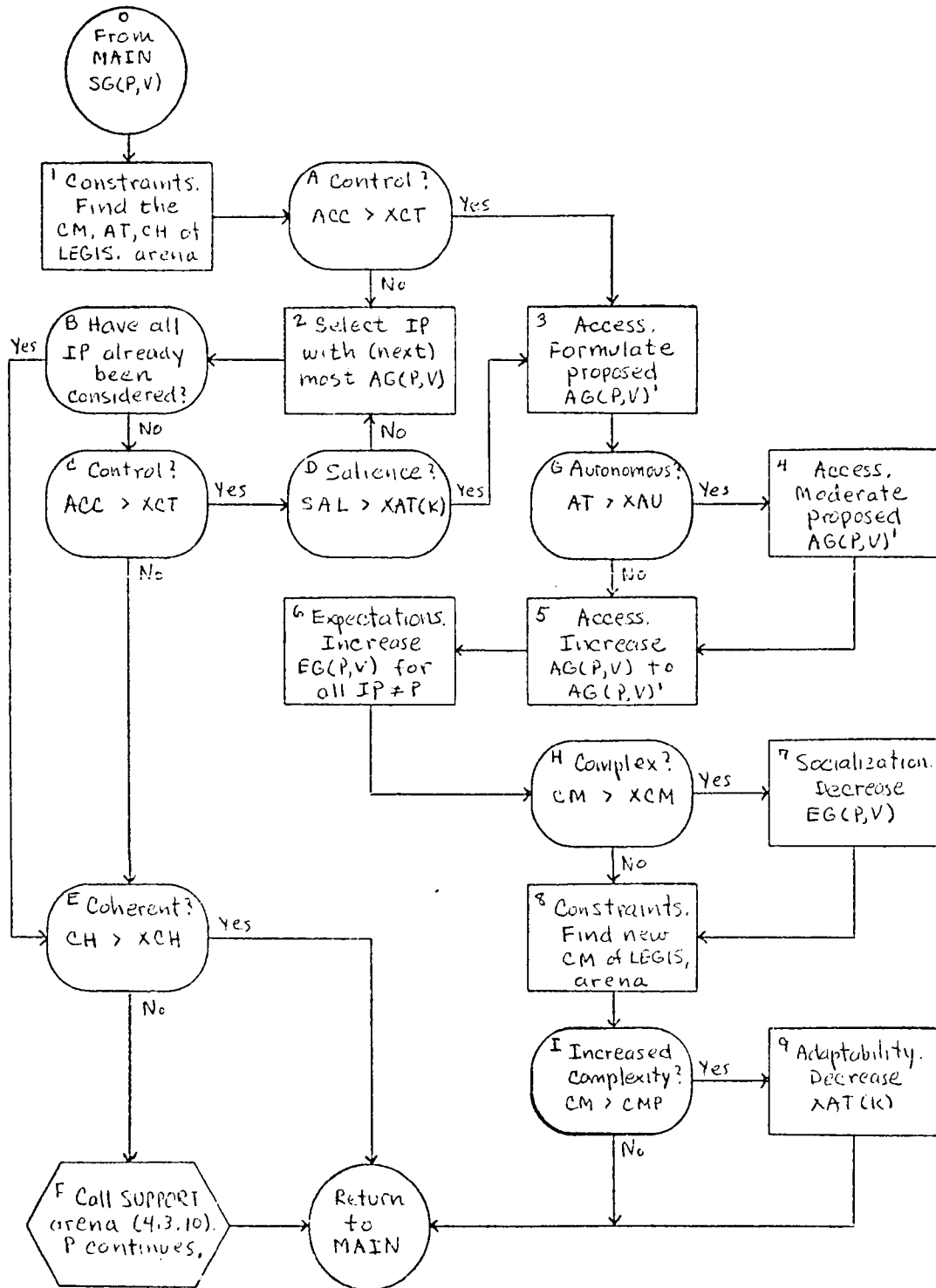
Legislative Arena. Figure 4.2(H) specifies how a political party pursues its political interest in a legislative arena according to this interpretation of Huntington's theory.

¹Ibid.

²Ibid., pp. 402-3.

³Ibid., p. 403.

Figure 4.2(H). Structure of Huntington's Theory: Processes in the Legislative Arena.



Political activity through these processes is motivated by a given party P's stress $SG(P,V)$ toward increased access to a given value V. As a result of possible changes in access and expectations, the level of institutionalization and the scope of the legislative arena may increase or decrease.

After the determination of the current complexity, autonomy, and coherence of the legislative arena (4.2.1), the sequence of events depends upon party P's relative access to or control over V (4.2.A). If ACC exceeds the control threshold XCT, P succeeds without the need for a temporary coalition with another party. If ACC is less than XCT, the search for a coalition with some other party IP begins (4.2.2). This search is unsuccessful if P and IP together have insufficient access to cause a redistribution of access (4.2.C) or if the relative salience SAL of V for IP is less than the adaptability threshold XAT(K) of the legislative arena (4.2.D). In these circumstances P temporarily terminates pursuit of the interest if the coherence of the legislative arena exceeds the coherence threshold XCH (4.2.E); if not, P continues the pursuit of the interest in the support arena (4.2.F).

The search is successful if P and IP have sufficient combined access and if V is sufficiently salient for IP. In these circumstances P formulates a proposed new level of access (4.2.3) which may be moderated (4.2.4) if the autonomy of the legislative arena exceeds the autonomy

threshold XAU (4.2.G). The other parties in the arena modify their expectations in the direction of V (4.2.6), and P's expectation is decreased through socialization (4.2.7) if the complexity of the legislative arena exceeds the complexity threshold XCM (4.2.H). If one consequence of these changes in access and expectations is an increase in the complexity of the arena (4.2.8 and 4.2.I) the adaptability threshold of the legislative arena is decreased (4.2.9).

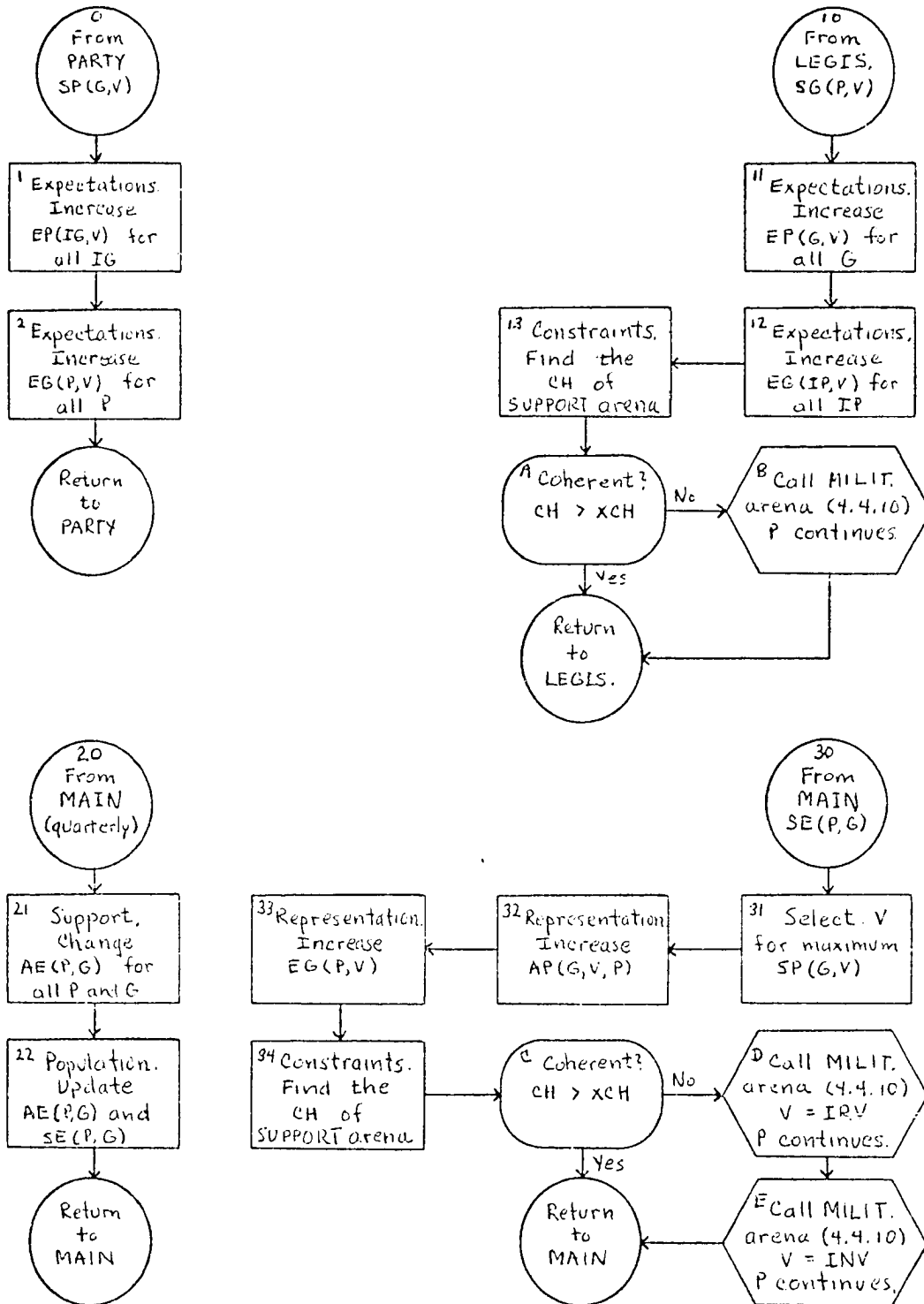
Most of the specifications in Figure 4.2(H) are based on Huntington's hypotheses and generalizations about the nature of institutional constraints on political activity, and these have been considered in detail in connection with the party arena. Coherence constrains political activity within the scope of the arena, but when coherence is insufficient political activity is escalated to the support arena. Adaptability permits the arena to respond to changes in the political environment and is increased (or rigidity reduced) after successful adaptations. Autonomy and complexity help preserve the pattern of access and the pattern of salient interests represented in the arena. The other specifications, as in the structure based on Lipset's theory, represent more or less formalized rules for determining legislative outcomes. Individual parties or a coalition of parties must have a minimum proportion of total access to redistribute access in the arena.

Support Arena. Figure 4.3(H) summarizes the support arena, which consists of four distinct sets of processes relatively specialized to the production of changes in support for political parties. The set of processes in the upper left beginning at 4.3.0 provide for the continuation of group G's activity in the party arena motivated by $SP(G,V)$. An attempt is made to increase the expected access of all groups (4.3.1) and parties (4.3.2) in the system. The set of processes in the upper right beginning at 4.3.10 provide for the continuation of party P's activity in the legislative arena motivated by $SG(P,V)$. After attempts to increase the salience of V for all groups (4.3.11) and parties (4.3.12), P takes the issue to the military arena (4.3.B) if the support arena is insufficiently coherent (4.3.A).

The set of processes in the lower right beginning at 4.3.30 trace the course of events when $SE(P,G)$ motivates party P to increase its support from group G. G's most salient value V is determined (4.3.31), and then P increases G's access to V (4.3.32) and modifies its own expectations in the direction of V (4.3.33). If the support arena is not sufficiently coherent (4.3.C), P increases its expected level of access to the media in the military arena (4.3.D and 4.3.E).

Huntington like Lipset does not explicitly consider the source of variation in support, even though support is obviously a variable in the theory. Consequently, here as

Figure 4.3(H). Structure of Huntington's Theory: Processes in the Support Arena.



in the structure based on Lipset's theory governmental effectiveness¹ is taken as the determinant of support. Thus, to the extent that appeals to the social groups through the media increase their expected access to any value or the performance of the economy increases expected access to income, support for the governing party decreases. Furthermore, other things being equal, a party that increases the access of a social group through the processes in either the party arena or the support arena receives an increase in support from the group.

The role of coherence in constraining political activity in Huntington's theory has already been considered. In the support arena coherence is the extent to which the parties' patterns of stress toward increased support are similar. Where all parties' patterns are weighted toward increased support from one group, coherence is high; where these patterns are weighted toward increased support from different groups, coherence is low.

As we have seen, the continuation of political activity from the party and legislative arenas is based on Huntington's assertion that when the elite consensus breaks down, its factions appeal to the masses for support. This not only produces mobilization, represented here as higher levels of stress, but also destroys whatever consensus may have existed

¹Governmental effectiveness $GEF(G)$ is defined exactly as it is in the structure based on Lipset's theory.

among the politically active segment of the masses.¹ In these specifications, the magnitude of the impact of the appeal is large to the extent that the actor making the appeal has unrestricted access to the media and the actors receiving the appeal are exposed to the media and already sensitive to the issue in question.² The latter condition in particular makes it likely that existing differences in the salience of the issue across actors are exacerbated as a result of the appeal. This, of course, reduces consensus and coherence.

The specifications for the military arena summarized in Figure 4.4 apply to both the Lipset and the Huntington models.

Summary and Comparisons.

The social system provides for changes in group media exposure, per capita income, and size as well as changes in expected access to income in the party arena. The processes specified for the arenas in the political system determine the circumstances under which changes in access, support and expectations occur, and also legitimacy and tolerance in the structure based on Lipset's theory and adaptability, complexity, autonomy, and coherence in the structure based on Huntington's

¹Huntington, op. cit., pp. 420-1.

²The role of media access variables $AP(G, IRV, P)$, $AP(G, INV, P)$, $AG(P, IRV)$, and $AG(P, INV)$; media exposure variables $ARF(G)$ and $ANF(G)$; and previous stresses $SP(G, V)$ and $SG(P, V)$ in this structure are exactly the same as their role in the structure based on Lipset's theory. However, there is no analog of the tolerance variable which appears in Lipset's theory.

theory. Furthermore, as a consequence of the organization of political activity into relatively specialized arenas, the specifications for each structure leave open the question of control: Political parties can influence social groups by giving or withholding access and modifying the groups' expectations, but social groups can influence political parties by giving or withholding support and by modifying the parties' expectations. In addition, changes in one political arena can affect subsequent changes in another. In short, these specifications in the political system define non-hierarchical, non-decomposable structures.¹ Who gets what, when and how depends upon the particular distribution of initial conditions and parameters representing each particular political context.

The two structures have identical social systems and military arenas, and many of the individual specifications determining outcomes (access, support, and expectations) in the party, legislative and support arenas are roughly similar. The structures and the theories on which they are based differ primarily with respect to the nature of the political effects constraining the conflict of values and interests that arise in the course of modernization.

¹On hierarchical and decomposable structures see Albert Ando, Franklin M. Fisher, and Herbert A. Simon, Essays on the Structure of Social Science Models (Cambridge: M.I.T. Press, 1963); and Christopher Alexander, "A City Is Not a Tree," Architectural Forum, 122 (April 1965), pp. 58-61 and (May 1965), pp. 58-62.

In Lipset's analysis, the pursuit of a political interest is constrained by legitimacy and tolerance. The legitimacy accorded to an institution by an actor determines whether the actor uses the institution as a means of achieving its political goal, even though alternative means such as a resort to raw power or military force may be more efficacious in the short run. With legitimacy there can be a "peaceful 'play' of power;" without it "democracy becomes chaotic."¹ Tolerance between one actor and another serves to insure that the differences between them with respect to one issue do not contribute to differences on others. With tolerance there can be moderate cleavage and consensus; without it patterns of cleavage are reinforced and the chances for compromise are reduced. Political development as stable democracy depends upon moderate cleavage and consensus in society and on the legitimacy of political institutions. The stresses generated by modernization may be alleviated through the operation of legitimate institutions and tolerance, or they may destroy whatever legitimacy and tolerance existed.

In Huntington's analysis, the pursuit of a political interest is constrained by strong institutions, in particular those which are adaptable, complex, autonomous, and coherent. "A society with weak political institutions lacks the ability to curb the excesses of personal and parochial desires...."

¹Lipset, Political Man, p. 27.

Without strong political institutions, society lacks the means of defining and realizing its common interests."¹

In such a society "Politics is a Hobbesian world of unrelenting competition among social forces...a competition unmediated by more comprehensive political organizations."² Political development is defined as the institutionalization of political activity, but the social forces unleashed by modernization tend to produce not political development but political decay.

¹Huntington, op. cit., p. 411.

²Ibid.

Chapter 5

Additional Specifications

In the specifications thus far we have contended with some relatively minor omissions and ambiguities in the theories of Lipset and Huntington. In this chapter we deal with some major gaps, providing specifications to fill two of them and commenting on a third. As stated in the Introduction, the location of gaps in the theories is one of the major substantive purposes of this study.

Timing: The Sequence and Rate of Activity.

The theories provide concepts such as legitimacy and effectiveness or mobilization and institutionalization for the classification and description of whole political systems such as Turkey. The theories also provide clues to the processes governing incremental changes in a system as a political actor pursues one of its interests. In order to bridge the gap between description at the level of the whole system and changes at the actor level, it is necessary to cumulate the outcomes and effects of individual actions over time. This requires specifications about the sequence of political actions and the rate of political activity. Neither Lipset, Huntington, nor the literature on political development and change provide sufficient information on the timing of political activity to bridge this gap.

Given these circumstances, the most we can do in a study of this scope is to provide some plausible specifications as a first approximation, make clear their implications for the behavior of the system, and reassess the specifications after the behavior of the models as applied to Turkey has been analyzed in detail. Beginning with stress as the motivation for political activity, the assumptions we shall use are the following:

1. The sequence of political actions defined in the system depends on the relative magnitude of stresses. If, for example, $SE(P,G)$ is greater than $SP(G,V)$, then party P acts to increase support from G before group G acts to increase its access to value V.
2. The number of actions that are nearly simultaneous and therefore independent of each other (in the sense that the consequences of one do not give rise to another) is a decreasing function of aggregate stress (the crisis level) in the system. Taken together, actions meeting this criteria are called a demand set.
3. The number of demand sets per quarter is an increasing function of aggregate stress in the system.

The first assumption states that activity in the system is based on the most intense stresses: The greater the motivation for an action, the sooner it occurs. For any set of approximately realistic inputs, this assumption produces neither a fixed nor a random sequence of actions, but one that displays both regularity and variation since the consequences of each action may or may not preserve the ranking of stresses. The second assumption implies that as the crisis level of the system increases, political activity is increas-

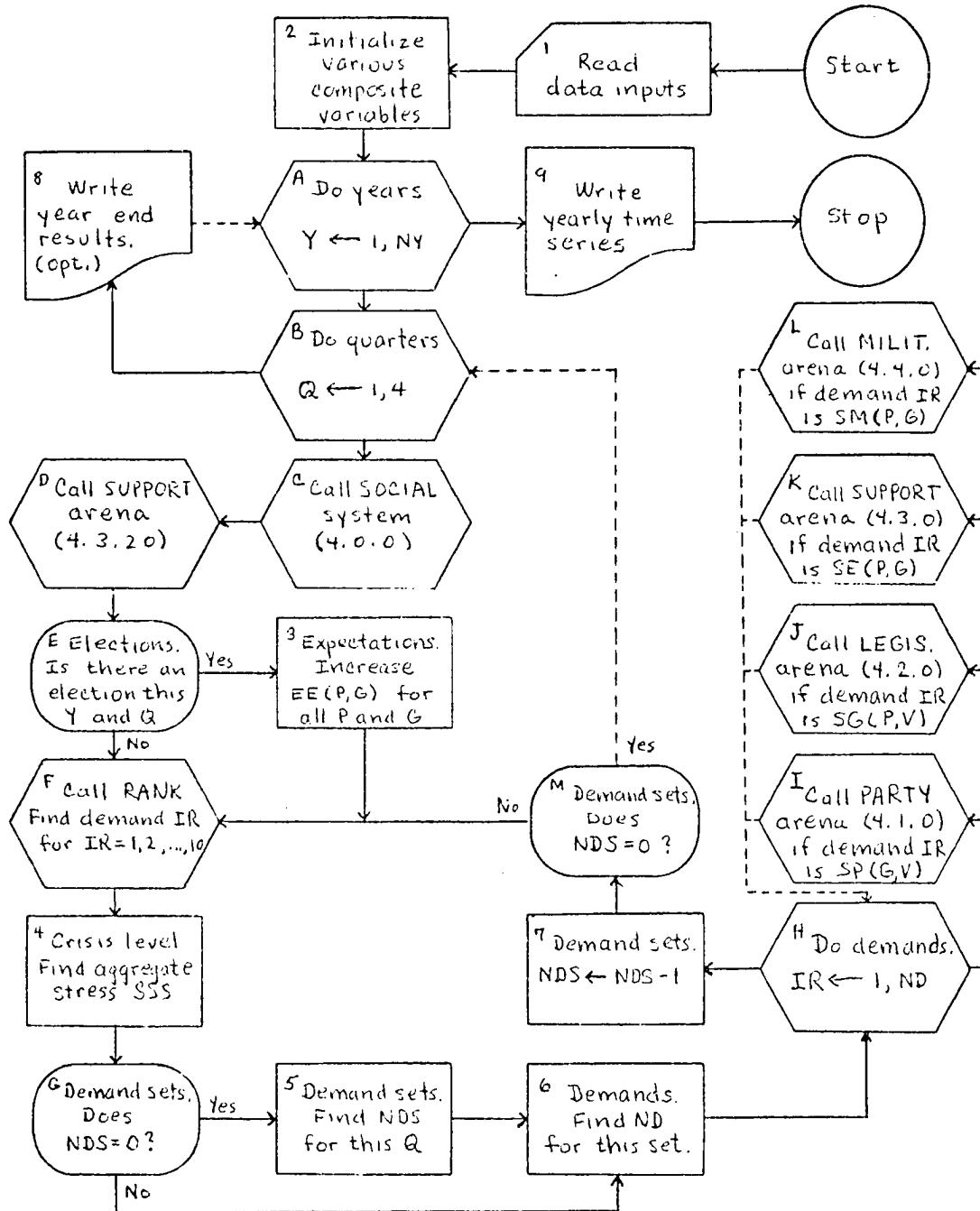
ingly based on a smaller number of key (high intensity) stresses. Taken together with the first assumption, this means that a relatively large number of relatively minor interests may be pursued at low levels of societal stress, but a relatively small number of key interests are pursued in crisis situations. Thus a stress of a given moderate magnitude may generate activity in non-crisis situations but not in crisis situations. The third assumption implies that the time scale of political activity becomes compressed in crisis situations. Even though only a relatively small number of key interests are pursued, they are pursued more often and the overall rate of activity may be high. Not only are potential actions motivated by moderate stresses held in abeyance (thus eliminating some extraneous changes confounding the link between one action as a stimulus and another as a response) but the time lag between one action as a stimulus and another as a response is decreased. In short, the pattern of stimulus-response becomes "streamlined" in crisis situations. Finally, a quarter of a year is the fixed unit of time defined in the structures. The number of demand sets is determined for each quarter. Furthermore, changes in the variables in the social system and in political support are updated quarterly rather than continuously or at larger or smaller discrete intervals of time. The quarter as a fixed interval of time is neither too small to be cumbersome technically nor too large to introduce significant distortions in these variables.

These assumptions are the bases of the most important specifications of the main program used in both the Lipset and Huntington models. A flow chart of this program is given in Figure 5.1. In the first several steps, it reads input data (5.1.1), initializes several variables (5.1.2), and sets the yearly subscript Y and the quarterly subscript Q at initial values (5.1.A and 5.1.B). After each simulated quarter, Q is increased by one until Q exceeds four, marking the end of the fourth quarter in a given year. At this point a yearly output summary may be written (5.1.8). After each simulated year, Y is increased by one until Y exceeds NY, the number of years specified in the input data, marking the end of the run. A time series summary of the run is written (5.1.9) and processing stops.

At the start of each quarter the social system is called in (5.1.C) to update the variables in the social system and the support arena is called in (5.1.D) to cumulate changes in political support. If the input data indicate an election for the particular year and quarter at hand (5.1.E), the levels of support expected by each party increase in order to bias pre-election activity toward attempts to increase support from social groups (5.1.3).¹ Then the ten most intense stresses

¹No provision is made to simulate electoral outcomes, but this is not a serious omission in the application of the structures to Turkey from 1950 to 1960. As we shall see in the next chapter, the Democratic Party won both elections after 1950 and in neither case was its relative access in the Grand National Assembly significantly affected. For

Figure 5.1. Main Program: Timing



or demands in the four arenas taken together are ranked according to magnitude with the subscript IR indicating the rank (5.1.F),¹ and the crisis level SSS, the degree of stress in the system as a whole, is determined (5.1.4). If there has not yet been any political activity in the current quarter (in which case NDS = 0; see 5.1.G), the number of demand sets per quarter NDS is computed as a function of the crisis level (5.1.5) according to the third assumption. Next, the number of demands ND ($ND \leq 10$) for the current set is computed as a function of the crisis level (5.1.6) according to the second assumption. Then, according to the first assumption, each of the ND demands is processed through the appropriate political arenas in the order of its intensity ranking (5.1.H, 5.1.I, 5.1.J, 5.1.K, and 5.1.L). After each of the ND demands in the set has been processed, exhausting the set, the number of demand sets NDS for the quarter is decreased by one (5.1.7). If there are additional sets remaining for the current quarter (5.1.M), stresses are ranked again and political activity in the quarter continues. If there are no additional sets to be processed a new quarter begins.

As a consequence of these specifications, the system continually redefines the "agenda" for political activity:

applications to other contexts it would be a simple matter to change access in the legislative arena as a function of levels of support determined in the election.

¹These operations are undertaken in subroutine RANK.

The outcomes of one set of nearly simultaneous and independent actions may give rise to a different set of actions at a subsequent point in time. Each individual action to some extent modifies the state of the system, and the cumulative outcomes of all actions produce over time a trace of the system's behavior as a whole.

Stimulus-Response Relationships.

The theories of Lipset and Huntington indicate the qualitative contexts or circumstances in which a variable is increased or decreased, as we have seen in the flow charts in the previous chapter. But in many cases they do not indicate the stimulus for a particular change or response, nor in any case do they suggest the form of the relationship between the stimulus and the response. As an example, consider the circumstance in the interpretation of Lipset's theory [4.1.3(L)] in which a social group has found the party arena to be both ineffective and illegitimate. This interpretation of the theory specifies that tolerance decreases, but the theory does not indicate the stimulus for this response, nor does it indicate the form of the relationship producing the response. By default, the implicit assumption can only be that each time this circumstance occurs (or the flow of activity reaches this point in the chart), tolerance decreases by a fixed, determined amount, independent of the stress motivating the action or any variable in the system. This is extremely unlikely, and additional specifications are required.

To specify the necessary functional forms we can adapt the general notion of elasticity, a relative response generated by a relative stimulus.¹ The definition of the elasticity E, a parameter, is

$$E = \frac{(Y' - Y)/Y}{(X' - X)/X}$$

where $(Y' - Y)/Y$ is the difference between the level of the response variable Y' after the stimulus has operated and a threshold Y (which may be a previous level of Y'), expressed relative to Y ; and $(X' - X)/X$ is the difference between the stimulus variable X' and a threshold X (which may be a previous level of X'), expressed relative to the threshold X . Because the differences are expressed relative to Y and X , this formulation has the desirable property that E is a dimensionless number and therefore not dependent on the units of measurement of either Y or X . Thus comparisons between elasticities relating different variables are meaningful, and we can use this property to constrain the magnitudes of the elasticity parameters. For example, in Lipset's theory legitimacy is a slowly changing variable compared to other variables such as expectations. Consequently, assuming equal stimuli the elasticity relating a stimulus to legitimacy should be smaller in magnitude than the elasticity relating a stimulus to expectations.

¹The following discussion draws heavily on Richard F. Barton, "A Generalized Responsiveness (Elasticity) Function for Simulations," Behavioral Science, 12 (1967), pp. 337-43.

Expressed as a linear responsiveness mechanism, the definition of the elasticity E produces changes about the point $(0,0)$. That is to say, if $(X' - X)/X$ is equal to 0 (indicating no stimulus) then $(Y' - Y)/Y$ is equal to zero. However, if the mechanism is modified such that

$$1 + (Y' - Y)/Y = 1 + E[(X' - X)/X]$$

then the mechanism produces differences around the point $(1,1)$ and the left side of the equation defines a response index RI . RI has the property that it gives the new value of the response Y' when multiplied by the old value Y . Thus

$$Y' = Y + (Y' - Y) = [1 + (Y' - Y)/Y] \cdot Y = RI \cdot Y$$

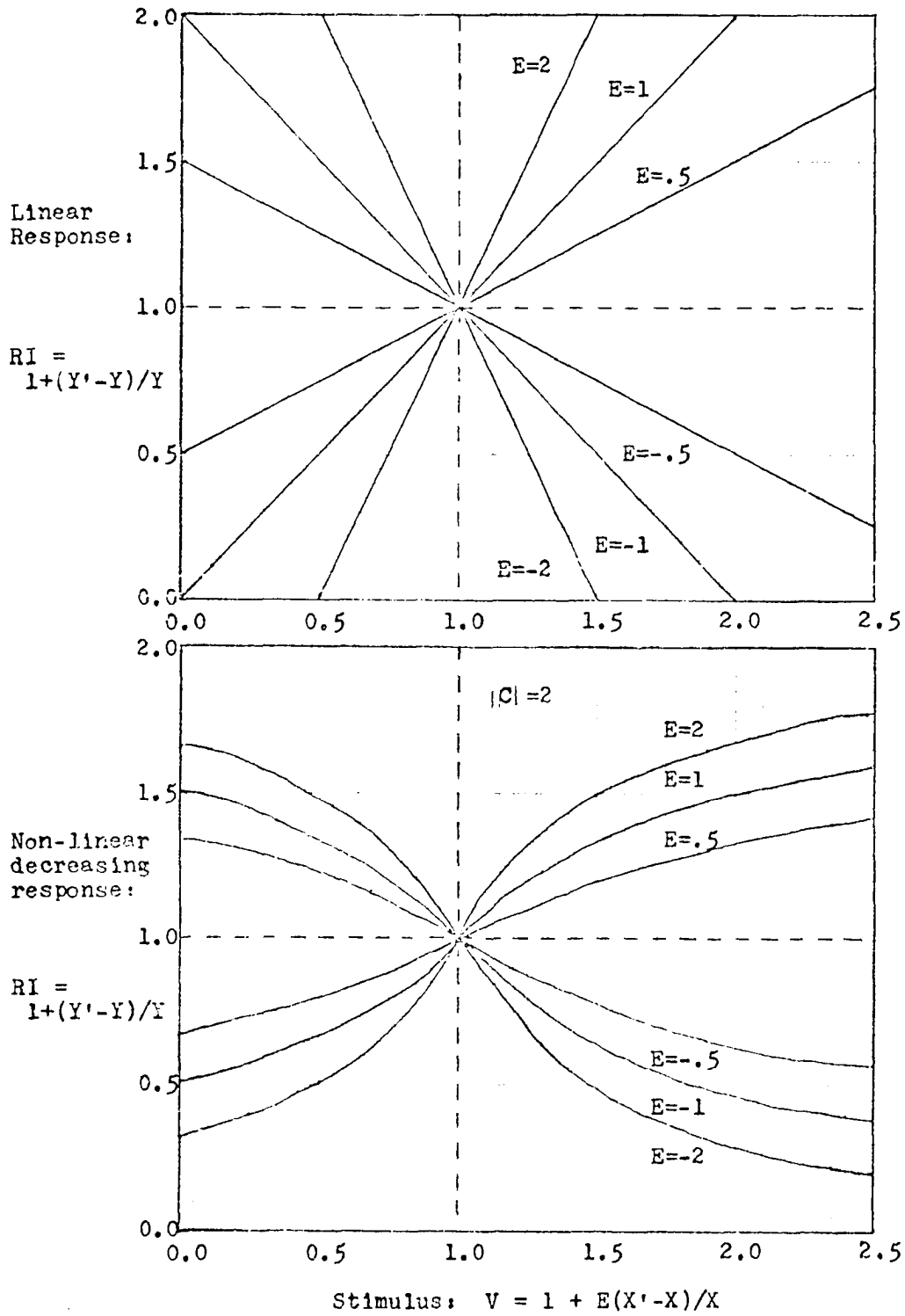
If $(X' - X)/X$ equals 0, $1 + (X' - X)/X$ equals 1, and RI equals 1. For decreasing non-linear responsiveness, where equal relative stimuli generate increasingly smaller relative responses, the function is more complicated:

$$RI = 1 + (Y' - Y)/Y = \frac{V |C| - |C| + 1}{V}$$

where $|C|$ is a measure of the degree of non-linearity and $V = 1 + E[(X' - X)/X]$, the relative stimulus. Both linear and decreasing non-linear responsiveness functions for various values of E are graphed in Figure 5.2. E is the slope of the function at all values of V in the linear case and for $V = 1$ in the non-linear case. All functions pass through the point $(1,1)$.

As a first approximation, the most parsimonious yet plausible means of dealing with the omission of stimuli in

Figure 5.2. Stimulus-Response Functions.



the theories is to assume that each relative response (unless otherwise suggested in the theories) is a function of stress. Thus the greater the stress motivating a political action, the greater is the absolute value of the relative response in each circumstance in the course of action. To use our previous example from Lipset's theory, the magnitude of the decrease in tolerance depends upon the magnitude of the stress motivating the particular action.

The uses of these general responsiveness mechanisms in the two structures are summarized in Table 5.1. The non-linear decreasing mechanism is used only at 5.1.5 and 5.1.6 in the main program to determine the number of demand sets NDS per quarter and the number of demands ND per set. Thus for NDS,

$$V = 1 + E1 \left(\frac{SSS - X1}{X1} \right)$$

$$RI = \frac{V |2| - |2| + 1}{V} \quad \text{and}$$

$$NDS = RI \left(\frac{R1}{2} \right)$$

When aggregate stress SSS equals the threshold $X1$, $RI = 1$ and $NDS = R1/2$. Because $|C| = |2|$, RI is always less than 2 and more than 0. Consequently, for $E1 > 0$, as SSS increases above $X1$, NDS increases above $R1/2$ but gradually levels off to approach the maximum level $R1$. Similarly, as SSS decreases below $X1$, NDS decreases below $R1/2$ until SSS approaches 0. Substantively, this formulation implies both a minimum and

Table 5.1. Stimulus-Response Relationships
in the Two Structures.

a. Both Models

Location	Components of Relative Response			Components of Relative Stimulus	
	Y'	Y	E	X'	X
Main					
5.1.3	EE(P,G)'	EE(P,G)	ESS(P)	EE(P,G)	AE(P,G)
5.1.5	NDS	R1/2*	E1	SSS	X1
5.1.6	ND	R2/2*	E2	SSS	X2
Social System					
4.0.2	EP(G,IYV)'	EP(G,IYV)	-ESS(G)	AY(G)	AYP(G)

*This is a scale factor rather than a threshold. See text.

b. Lipset Model

Location	Components of Relative Response			Components of Relative Stimulus	
	Y'	Y	E	X'	X
Party Arena					
4.1.1	LEG1(G,1)'	-LEG1(G,1)	ELG(G)	EP(G,V)	AP(G,V,NPP)
4.1.2	EP(G,V)	AP(G,V,NPP)	ESS(G)	EP(G,V)	AP(G,V,NPP)
4.1.3	TLF(G,I)'	TLF(G,I)	-ETL(G)	EP(G,V)	AP(G,V,NPP)
4.1.4	LEG1(G,1)'	LEG1(G,1)	-ELG(G)	EP(G,V)	AP(G,V,NPP)
4.1.6	AP(G,V,P)'	AP(G,V,P)	ESA(G)	EP(G,V)	AP(G,V,NPP)
4.1.8	TLF(G,P)'	TLF(G,P)	ETL(G)	EP(G,V)	AP(G,V,NPP)
4.1.8	TLF(P,G)'	TLF(P,G)'	ETL(P)	EG(P,V)	AG(P,V)
4.1.9	LEG1(G,1)'	LEG1(G,1)	ELG(G)	EP(G,V)	AP(G,V,NPP)
4.1.10	EG(P,V)	AG(P,V)	SG(P,V)	AP(G,V,NPP)'	AP(G,V,NPP)
4.1.11	TLF(G,P)'	TLF(G,P)	-ETL(G)	EP(G,V)	AP(G,V,NPP)
4.1.11	TLF(P,G)'	TLF(P,G)'	-ETL(P)	EG(P,V)	AG(P,V)
4.1.12	LEG1(G,1)'	LEG1(G,1)	-ELG(G)	EP(G,V)	AP(G,V,NPP)

Legislative Arena

4.2.1	EG(P,V)	AG(P,V)	ESS(P)	EG(P,V)	AG(P,V)
4.2.2	TLF(P,I)'	TLF(P,I)	-ETL(P)	EG(P,V)	AG(P,V)
4.2.3	AG(P,V)'	AG(P,V)	ESA(P)	EG(P,V)	AG(P,V)
4.2.5	TLF(P,IP)'	TLF(P,IP)	-ETL(P)	EG(P,V)	AG(P,V)
4.2.5	TLF(IP,P)'	TLF(IP,P)	-ETL(IP)	EG(IP,V)	AG(IP,V)
4.2.6	LEG2(P,1)'	LEG2(P,1)	-ELG(P)	EG(P,V)	AG(P,V)
4.2.7	TLF(P,IP)'	TLF(P,IP)	ETL(P)	EG(P,V)	AG(P,V)
4.2.7	TLF(IP,P)'	TLF(IP,P)	ETL(IP)	EG(IP,V)	AG(IP,V)
4.2.8	LEG2(P,1)'	LEG2(P,1)	ELG(P)	EG(P,V)	AG(P,V)
4.2.9	AG(P,V)'	AG(P,V)	ESA(P)	EG(P,V)	AG(P,V)
4.2.10	EG(IP,V)	AG(IP,V)	SG(IP,V)	AG(P,V)'	AG(P,V)

Support Arena

4.3.1	EP(IG,V)	AP(IG,V,NPP)	SP(IG,V)	EP(G,V)	AP(G,V,NPP)
4.3.2	EG(P,V)	AG(P,V)	SG(P,V)	EP(G,V)	AP(G,V,NPP)
4.3.3	LEG1(G,2)'	LEG1(G,2)	-ELG(G)	EP(G,V)	AP(G,V,NPP)
4.3.4	LEG1(G,2)'	LEG1(G,2)	ELG(G)	EP(G,V)	AP(G,V,NPP)
4.3.11	EP(G,V)	AP(G,V,NPP)	SP(G,V)	EG(P,V)	AG(P,V)
4.3.12	EG(IP,V)	AG(IP,V)	SG(IP,V)	EG(P,V)	AG(P,V)
4.3.13	LEG2(P,2)'	LEG2(P,2)	-ELG(P)	EG(P,V)	AG(P,V)
4.3.14	LEG2(P,2)'	LEG2(P,2)	ELG(P)	EG(P,V)	AG(P,V)
4.3.21	AE(P,G)'	AE(P,G)	-ESA(G)	GEF(G)	GEP(G)
4.3.32	AP(G,V,P)'	AP(G,V,P)	ESA(P)	EE(P,G)	AE(P,G)
4.3.33	EG(P,V)	AG(P,V)	SG(P,V)	EE(P,G)	AE(P,G)

Military Arena

4.4.11	EM(P,V)	AM(P,V)	ESS(P)	EG(P,V)	AG(P,V)
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c. Huntington Model

Location	Components of Relative Response			Components of Relative Stimulus	
	Y'	Y	E	X'	X
Party Arena					
4.1.3	AP(G,V,P)'	AP(G,V,P)	ESA(G)	EP(G,V)	AP(G,V,NPP)
4.1.4	AP(G,V,P)'	AP(G,V,P)	-EAU	AT	XAU
4.1.6	EG(P,V)	AG(P,V)	SG(P,V)	AP(G,V,P)'	AP(G,V,P)
4.1.7	EP(G,V)	AP(G,V,NPP)	-ECM	CM	XCM
4.1.9	XAT(P)'	XAT(P)	-EAD	CM	CMP

Legislative Arena

4.2.3	AG(P,V)'	AG(P,V)	ESA(P)	EG(P,V)	AG(P,V)
4.2.4	AG(P,V)'	AG(P,V)	-EAU	AT	XAU
4.2.6	EG(IP,V)	AG(IP,V)	SG(P,V)	AG(P,V)'	AG(P,V)
4.2.7	EG(P,V)	AG(P,V)	-ECM	CM	XCM
4.2.9	XAT(K)'	XAT(K)	-EAD	CM	CMP

Support Arena

4.3.1	EP(IG,V)	AP(IG,V,NPP)	SP(IG,V)	EP(G,V)	AP(G,V,NPP)
4.3.2	EG(P,V)	AG(P,V)	SG(P,V)	EP(G,V)	AP(G,V,NPP)
4.3.11	EP(G,V)	AP(G,V,NPP)	SP(G,V)	EG(P,V)	AG(P,V)
4.3.12	EG(IP,V)	AG(IP,V)	SG(IP,V)	EG(P,V)	AG(P,V)
4.3.21	AE(P,G)'	AE(P,G)	-ESA(G)	GEF(G)	GEP(G)
4.3.32	AP(G,V,P)'	AP(G,V,P)	ESA(P)	EE(P,G)	AE(P,G)
4.3.33	EG(P,V)	AG(P,V)	SG(P,V)	EE(P,G)	AE(P,G)

Military Arena

4.4.11	EM(P,V)'	AM(P,V)	ESS(P)	EG(P,V)	AG(P,V)
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maximum number of demand sets per quarter. At low levels of aggregate stress there is a minimal rate of political activity, and at high levels of aggregate stress there is a maximum rate of activity, suggesting a physical limit to the capacity of the system to respond to stress by increasing the rate of activity.

The linear mechanism is used at every other point in the models, primarily because the relative stimuli in these instances tends to stay within the range of approximately $1 \pm .20$. Over this range the simpler linear mechanism is a good approximation of the non-linear mechanism as can be seen in Figure 5.2.

To illustrate the use of the mechanism, consider 4.1.4 in the party arena in the structure based on Lipset's theory.

$$RI = 1 + ELG(G) [SP(G,V)] = 1 + ELG(G) \frac{EP(G,V) - AP(G,V,NPP)}{AP(G,V,NPP)}$$

$$LEGL(G,1)' = LEG1(G,1) + [LEGL(G,1)' - LEG1(G,1)] = RI \cdot LEG1(G,1)$$

Stress multiplied by the legitimacy elasticity $ELG(G)$ forms the basis of the response index RI , and the response index times the given level of legitimacy $LEGL(G,1)$ gives the new level of legitimacy $LEGL(G,1)'$.

Although Table 5.1 appears to be formidable, it does contain a good deal of redundancy. First, in nearly all locations the stress motivating action is the basis of the relative stimulus. The exceptions occur where changes in per capita income, changes in the access of another actor, or changes in governmental effectiveness give rise to certain responses. Exceptions also occur in the structure based on Huntington's theory where properties of institutions cause changes in the proposed level of access or expectations of an actor or in the adaptability of an institution. Second, the elasticities are few in number because each tends to be used several times. For example, all unilateral changes in expectations are governed by the elasticity $ESS(I)$, all changes in access and support are governed by the elasticity $ESA(I)$, and so forth. In those cases where one actor attempts to increase the expectations of another, the stress of the latter is the elasticity governing the response. This, as we have seen, makes it possible to reinforce existing patterns of stress and thereby exacerbate patterns of cleavage in the

operation of the models. In short, excluding stress, there are only four conceptually distinct elasticities in the linear mechanisms of the structure based on Lipset's theory,¹ and five in the linear mechanisms of the structure based on Huntington's theory.² Finally, in each case the threshold Y is either the previous or given value of Y' or, where Y' is an expectation, the corresponding level of access or support. While Figure 5.2 summarizes the applications of the mechanisms at every appropriate point in the flow charts, it tends to underestimate the degree of parsimony in the specification of these mechanisms.

Linkages Between the Political and Social Systems.

Careful consideration of the structures and the theories on which they are based reveals that the impact of the political system on the variables defined in the social system is largely ignored.³ Several questions indicate the kind of process specifications needed to close the gap. First, how are policy

¹ESA(I), ESS(I), ELG(I), and ETL(I) governing changes in access and support, expectations, legitimacy, and tolerance, respectively. A complete list of parameters, including elasticities and thresholds, can be found in Chapter 7 together with the numerical values used in the application to Turkey.

²ESA(I), ESS(I), EAD, EAU, and ECM. The first three govern changes in access and support, expectations, and adaptability. The last two govern changes in access and expectations resulting from the autonomy and complexity of institutions.

³Huntington, *op. cit.*, pp. 419-21, discusses the policy of slowing mobilization as a means of preserving and strengthening political institutions. It should be apparent, however, that this discussion does not answer the questions posed here.

positions concerning, for example, the amount and distribution of governmental expenditures determined by each actor? Second, given these positions and the distribution of political access to income, how are the various positions aggregated into a public policy? Finally, given that such a policy has been implemented, what are the consequences for the size and distribution of per capita income? Some answers to these questions have been formalized into at least one model incorporating demographic and economic processes as well as political processes.¹ The point is that appropriate theory exists but does not appear in the theories of Lipset and Huntington.

Instead of incorporating other theories into the models, we have dealt with this gap in one sense by substituting data for theory. That is to say, for any particular application of the models, time series data on per capita income reflect with varying degrees of accuracy the impact of both public and private action on the economy and on demographic trends. Even though trends in per capita income are not produced by the operation of the political system in the models, the operation of the political system is influenced by these trends. Consequently, we can focus on political change and development in the course of modernization, just as Lipset and Huntington have; but we need not introduce additional specifications

¹See Ronald D. Brunner and Garry D. Brewer, Organized Complexity: Empirical Theories of Political Development (New York: The Free Press, forthcoming).

nor do we forego the possibility of meaningful comparisons between historical and simulated trends in the political system.

In another sense this gap has not been adequately dealt with either in the theories or in the models. Conflict in policies (such as differences regarding the appropriate size and distribution of government expenditures) and conflict in values (such as differences in the salience of income relative to a free press) both seem to have had some impact on institutionalization in the case of Turkey, as we shall see. Only value conflict, however, is represented in this analysis.

Summary: A Feedback Interpretation of the Structures.

The size of the state description specified in Chapter 3 and the number of qualitatively and quantitatively distinct changes that can be produced by the processes specified in this chapter and in Chapter 4 make it difficult to comprehend the structure of each model as a whole. Fortunately, the models are multiple feedback systems,¹ and a feedback interpretation can be used to comprehend the component variables and processes, as well as their behavior in specific applications, as aspects of whole systems. The basic ideas can be introduced here, but a more detailed consideration of the models must be postponed to Part III.

¹For an introduction to the notion of feedback, see K. W. Deutsch, The Nerves of Government: Models of Political Communication and Control (New York: The Free Press, 1963). See also J. R. Platt, "Limits, Balance and Guidance in Society" and "The

Every feedback system has at least one set of components which sense some disequilibrium, produce a response to it, and provide a circuit by which the consequences of the response feed back to change the magnitude of the disequilibrium. The disequilibrium-sensing component is a comparator in which some variable to be controlled is compared with some goal or criterion. In the political structure of these models, the variable controlled in most comparators is either access or support, the goal or criterion is the corresponding expectation, and the disequilibrium is the corresponding stress. The number of stresses or disequilibrium points is potentially large. For example, if there are five social groups, four access values, and three political parties in a particular context, then there are twenty stresses in the party arena, twelve in the legislative arena, and twenty in the support arena (of which five are indices of governmental effectiveness).

The components effecting a response to disequilibrium and providing a circuit by which the consequences of the response feed back to change the disequilibrium are of course the processes. An actor may respond to a given stress by initiating political activity in an attempt to reduce it. The course of activity depends on the outcome at each branch point. An actor may also respond to stress through the

Federalists and the Design of Stabilization," in his book, The Step to Man (New York: Wiley, 1966), pp. 87-131.

stimulus-response mechanisms: The magnitude of the response varies with the magnitude of the stress. Since many of these responses involve changes in access, support, or expectations for one or more actors, and these changes affect the magnitude of stress, the processes provide for the completion of the feedback circuit. An increase in expectations increases stress, the case of positive or amplifying feedback. An increase in access or support decreases stress, the case of negative feedback which tends toward the elimination of disequilibrium.

This feedback interpretation is quite consistent with Huntington's emphasis on the interaction of mobilization and institutionalization as the determinant of institutional development and decay, and Lipset's emphasis on the adjustment of institutions to changes in values. Lipset's comments are sufficiently appropriate to warrant repeating here:

...I have tried to think in terms of a dynamic (that is, moving or unstable) equilibrium model, which posits that a complex society is under constant pressure to adjust its institutions to its central value system in order to alleviate strains created by changes in social relations; and which asserts that the failure to do so results in political disturbance.¹

Mobilization is represented as the degree of stress and value conflict as differences in the distribution of stress. Changes in the strength of political institutions or their legitimacy are second-order feedbacks, resulting from attempts by actors

¹Seymour Martin Lipset, The First New Nation: The United States in Comparative and Historical Perspective (New York: Basic Books, 1963), pp. 7-8.

to achieve their political goals and reduce their stress, and affecting the processes used to modify the amount and distribution of stress.

The efficiency of each model in reducing stress, moderating conflict, and achieving strong institutions depends on its structure as well as the particular context (data inputs) represented in it. Rapid growth in the social system may or may not generate so much stress that the system fails to redistribute access fast enough and the institutional constraints on political activity are destroyed. There may or may not be sufficient incompatibility among the stress patterns of actors to generate similar political outcomes and effects. Furthermore, the elasticities governing changes in expectations, access, and support may lead to system overload and crisis even in the absence of rapid social change or initially extreme value conflict. In short, as we saw in the multiplier-accelerator example in the Introduction, a structure may exhibit very different behavior in different contexts. In order to understand, appraise, and modify the structure of the systems and the theories on which they are based, we must examine the outcomes and effects they produce in one or more contexts. For these purposes we turn to the case of Turkey in the decade of the 1950s.

PART II

Chapter 6

Major Events and Gross Trends in Turkey, 1950-1960

According to scholars of Turkish history, the period from 1946-1960 in Turkey encompasses the most recent in a series of swings between relative freedom and relative repression.¹ In the months following World War II, agitation to establish a multi-party system led to the formation of the Democratic Party in 1946, ending a quarter century of one-party rule by the Republican People's Party, the party of Mustapha Kemal. The Democrats won control of the government in the free election of 1950 but became increasingly repressive after about 1953. In May, 1960 the military intervened to end the decade of Democratic rule. In this chapter we shall summarize the major events and gross trends during the Democrat's decade in office, considering the formation of the multi-party system up to 1950 as background. In the next chapter we shall consider the Turkish experience as data.

Background: Formation of the Multi-party System.

The decision to permit the formation of the Democratic Party on January 7, 1946 has been attributed to several

¹See A.T. Payaslioglu, "Political Leadership and Political Parties: Turkey," in R. E. Ward and D. A. Rustow, eds., Political Modernization in Japan and Turkey (Princeton: Princeton University Press, 1964), pp. 427-8; B. Lewis, "Democracy in Turkey," Middle Eastern Affairs, 10 (February 1959), pp. 56-9; and D. A. Rustow, "The Development of Parties in Turkey," in

factors converging at the end of World War II. One was an increasingly favorable reaction to political liberalization encouraged in part by international developments. The United States had replaced Germany as the traditional bulwark against Russian expansion and became, in a sense, a new model for Turkey. There was also "the inevitable attraction of a victorious cause and the resulting prestige attached to its institutions and habits"¹ as well as the prospect of improving chances for aid from the West through domestic liberalization. Another factor was increasing discontent, particularly within the growing commercial sector of the population, over the government's intervention in the economy under the principle of etatism. Finally, within the Republican People's Party, traditional liberal ideals buttressed by the younger party members who took them seriously contributed to the felt need for an adjustment in the political system. Bernard Lewis' weighting of these factors seems to be sound:

The Democrats claim that by 1945 the strains of discontent had become so serious in Turkey that the C.H.P. (Cumhuriyet Halk Partisi or Republican People's Party) was forced to open a safety-valve to prevent a general upheaval. But the opposition, once started, went beyond the minor role assigned to it in C.H.P. plans, and forced radical changes. This last explanation is probably nearest to the truth--though full

J. LaPalombara and M. Weiner, eds., Political Parties and Political Development (Princeton: Princeton University Press, 1966), pp. 107-33.

¹B. Lewis, "Recent Developments in Turkey," International Affairs, 27 (July 1951), p. 323.

allowance should be made for the change in the climate of opinion generally in Turkey, and not least within the C.H.P. itself.¹

Relatively friendly relations between the two major parties quickly decayed as the new Democratic Party expanded rapidly and gained popular support. In April 1946 the Republicans responded by advancing the date of the next general election from 1947 to July 21, 1946 with the obvious purpose of engaging the new party before it was fully ready to compete at the polls. (At the time of the election the Democratic organization was only half completed.)²

The election campaign revealed the increased political interest and influence of the mass of the electorate under the multi-party system. Republican deputies to the Grand National Assembly who had seldom visited their constituencies under the old system were now forced to campaign actively in them. The leadership of the Democratic Party, at first opposed to participation in the election, was forced to agree to participate by its local organizations.³

The election campaign was marked by Democratic charges of political harassment by the government and fear of government interference with the electoral results. The Republi-

¹Ibid. Lewis maintains this interpretation in "Democracy in Turkey," pp. 61-2, and K. H. Karpat subscribes to it in his book, Turkey's Politics: The Transition to a Multi-Party System (Princeton: Princeton University Press, 1959), p. 141.

²Karpat, ibid., p. 160.

³Ibid., p. 160-8.

cans accused the opposition of talking about reprisals and of injecting religious propaganda into the campaign.

The specific issues brought by the Democratic Party in general involved the high cost of living, lack of freedom, the existence of undemocratic laws, and some abuses by the administration. The Democrats failed to present a systematic election program or detailed views on economic or social problems. Their basic theme was to blame the Republican Party for all the shortcomings, discontent, and feelings of hardship accumulated during the war years and the reform period, regardless of the actual value of the criticism.¹

To the specific questions and grievances of voters, candidates for the opposition often gave the same general answer: "Let us get freedom first and the rest will come by itself."²

Eighty-five per cent of the electorate turned out to vote on election day. Nationwide, the Republicans won 395 of the 465 seats in the National Assembly. The Democrats, who contested only 273 seats, won 64 and independents won 6.³

Democratic candidates had won considerable successes in the big towns, and would certainly have won many more elsewhere, had party and government officials in various parts of the country been able to resist the temptation to intimidate the voters and adjust the votes.⁴

The main opposition groups in Turkey voted for the Democratic Party despite differences of opinion and interest and with only a vague understanding of the Democratic Party's program

¹Ibid., p. 166.

²Quoted in ibid., p. 167.

³Ibid., pp. 164-5. Different sources give slightly different figures.

⁴B. Lewis, The Emergence of Modern Turkey (London: Oxford University Press, 1961), p. 301.

and views. This indiscriminant support suggests that "A vote for the opposition meant simply a vote against the Republican Party."¹

Basic changes in the Turkish social structure are reflected in the social characteristics of the deputies returned in this election. "Especially significant was the growth of the professional and commercial components of the elite. To this growth the dominant party had adjusted only minimally and reluctantly. An alternative elite had developed."² Of the Democrats who were elected to the Eighth Assembly (1946-1950) and remained Democrats during the entire Assembly, not one was a bureaucrat or military man, while in the Republican group 15% were bureaucrats and 13% were military men. Conversely, 33% of the Democratic group at the end of the Eighth Assembly were lawyers, as opposed to only 18% of the Republican group. In short, these figures on specific occupations suggest that in terms of broad occupational groupings, "The Democrats were notably more professional and economic and less official in occupation."³

Following the general election of 1946 the National Assembly re-elected Ismet Inonu President of the Republic, and on August 7 a new R.P.P. cabinet was formed with Recep Peker

¹Karpat, op. cit., p. 166.

²F. W. Frey, The Turkish Political Elite (Cambridge: M.I.T. Press, 1965), p. 349.

³Ibid., pp. 351-2.

to head it. These two members of the R.P.P. were in effect the leaders and symbols of two factions within the party.

The first group, composed mainly of veteran members of the party, clung to authoritarian methods of government and was likely to interpret any sharp criticism as the beginning of a reaction against the regime. The second group, composed of younger and more liberal Republicans, was in favor of the multi-party system; of free discussion, and in general of a democratic government. Recep Peker was considered the leader of the first group and an advocate of a slow, 'procrastinated' transition to the multi-party system.¹

The appointment of a "strong man" to head the government, felt to be the best way of dealing with growing opposition to the R.P.P., aroused some suspicion within Democratic circles of the intentions of the Republicans.

The conflict between government and opposition grew in intensity. Opposition accusations of fraud in the elections, denunciations of the government, and criticism of the government's economic policies were met with government orders under martial law in Istanbul forbidding criticism of the elections, the closing of opposition newspapers, more restrictive press and penal laws, and speeches bitterly attacking opposition leaders in personal terms. At one point the Democrats walked out of the National Assembly in protest and continued their opposition among the people.²

¹Karpat, op. cit., p. 170.

²See Lewis, The Emergence of Modern Turkey, p. 301; Karpat, op. cit., pp. 164-5, 175-7; R. D. Robinson, The First Turkish Republic: A Case Study in National Development (Cambridge: Harvard University Press, 1963), p. 309; and K. H. Karpat, "The Turkish Left," Journal of Contemporary History, 1 (1966), p. 175.

The evolving political priorities of the Democratic Party came out in the first party convention in early January, 1947.

The discussions in the convention centered mainly around the issue of freedom and the restrictions upon it imposed by the government, either by law or in practice by officials. The poverty of the peasants, the dire condition of the villages, was also one of the favorite topics.¹

The convention delegates criticized the government and its policies but appeared unconcerned with defining its own ideology and policies. "The entire purpose of the convention seemed [to be] to find ways for enabling the Democratic Party to come into office..."²

A Freedom Charter, formulated by Celal Bayar (a founder of the party) in his opening speech and unanimously accepted at the close of the convention, provoked new exchanges between the government and the opposition. It listed three conditions for democracy, and was in effect a set of demands directed to the government: amendment of the anti-Constitutional laws, an election law controlled by the judiciary and separation of the President from the Chairmanship of the Republican Party. The Charter gave the Central Committee of the party the power to instruct all Democrats to retire from the Assembly if the requests were rejected. Because the threatened walkout was intended to force the National Assembly to accept measures favorable to the Democrats, the Republicans considered the

¹Karpat, Turkey's Politics, p. 181.

²Ibid.

Charter essentially undemocratic. "After the Democratic Party Convention, liberalization in Turkey came to a standstill and political tension continued to mount."¹

Threats by the Republicans had little effect on the Democrats. They decided to boycott the forthcoming Istanbul by-elections (even though there were indications the elections would be fair) and they organized an extensive tour of the country with mammoth rallies wherever they went. The Democrats were enthusiastically received by people from all social groups--the political apathy that seemed to have overtaken the people dissipated. In the Republican People's Party these events were interpreted as the Democrats' preparations to withdraw from the Assembly. The Republicans responded by declaring that if the withdrawal took place, it would be communist inspired and would mean the end of the Democratic Party.²

The political situation became critical, and the need for a radical change was evident. Suggestions for compromise and mediation were made, but the ground for the eventual relief of mounting political tension was prepared by the discussion and eventual approval of the Truman doctrine by the U.S. Congress. Strongly expressed views about the mix of democracy and dictatorship in Turkey and the need for closer

¹Ibid., p. 184.

²Ibid., p. 187.

relations with the West apparently increased the importance of compromise to the point that in June Inonu had a series of private talks with Celal Bayar, Premier Peker, and with Republican People's Party members and government officials. In the midst of growing conflict between Bayar and Peker, Inonu issued a long, formal statement known as the July 12 Multi-Party Declaration. In it Inonu accepted the Democrats' demand that the President should be a nonpartisan head of state, and found that charges against the Democrats of sedition and against the Republicans of oppression were groundless. Inonu also made some suggestions for the establishment of basic political security.

The opposition will work in a security without fearing [dissolution by] the party in power. The Administration will consider that the opposition demands only the rights legally conferred upon it, while the citizen at large will view with confidence and tranquility the possibility of having the government powers in the hands of one or the other party. The obstacles to this end are mainly psychological and in order to overcome them I should like to ask the genuine cooperation of the leaders of the opposition and the government [parties] who are guiding the course of political life of the country.¹

The July Declaration was a turning point in Turkish politics, establishing peace and normal relationships between the parties.

Within each party, however, the declaration precipitated and exacerbated latent dissension. In August in a meeting of the Republican assembly group Recep Peker was opposed by thirty-five young, liberal deputies in a vote of confidence.

¹Quoted in ibid., p. 192.

Subsequently, six cabinet ministers resigned, and in attempts to reform the cabinet the number of dissenters rose. Peker's second cabinet lasted only a few days, and was succeeded by Hasan Saka's cabinet in September. In Saka's two governments, and even more in the government of Semseddin Gunaltay which followed Saka's, the younger and more pragmatic wing of the party held important positions. The R.P.P. became less revolutionary, intellectual, and idealistic and more evolutionary, empirical, and utilitarian. A major consequence was that the Republican hierarchy "became used to asking for the advice of the local branches instead of informing them of the decisions reached at the top level."¹ In December 1948 the party hierarchy even authorized provincial branches to select 70% of the party's candidates for the National Assembly by secret ballot.²

Relatively good relations between the two major parties following the July Declaration forced into the open a conflict within the Democratic Party. Although this conflict "originated primarily in the differences of personalities amalgamated in a single organization...",³ the dissident group accused the Democratic leadership of relenting in its fight against the Republicans. In July 1948 this group founded the National

¹Ibid., p. 209. See also Lewis, The Emergence of Modern Turkey, p. 302.

²Robinson, op. cit., p. 311.

³Karpat, Turkey's Politics, p. 217.

Party and persuaded Marshal Ferzi Cakmak, former Chief of the General Staff, to lead the party and give it the prestige of his name. "The new party rapidly became a focus of more conservative and sometimes even anti-secularist opinion."¹ The National Party vehemently opposed the two major parties, and was in turn opposed by the Republicans and Democrats who feared that its inclinations against official secularism and its support among conservative and religious elements would give rise to religious reaction.²

After the July Declaration, the pace of liberalization accelerated. In December 1947 martial law was at last ended after seven years, and the press began to enjoy unprecedented freedom of expression and criticism. As the political situation further stabilized in mid-1948, the R.P.P. continued its reforms in compliance with popular wishes in order to secure popular support. "The major laws considered undemocratic were abolished or amended, and thus the demands of the Freedom Charter formulated by the Democratic Convention in 1947 were granted or promised."³ In addition, in November 1948 the government issued a directive permitting voluntary religious instruction in primary schools. Eventually, the Republican government abolished the repressive Independence courts

¹Lewis, The Emergence of Modern Turkey, p. 302.

²Karpat, Turkey's Politics, p. 219.

³Ibid., p. 223.

(which had been inactive), adopted a more progressive income tax, enacted an old age pension law, and accepted the impartial use of the state radio by political parties before the election of 1950. After some renewed controversy involving mass rallies and speaking tours, the government in February 1950 enacted a new Electoral Law which provided for judicial supervision of elections.¹

Because of the responsiveness of the Republican cabinets after the fall of Peker, most of the inflammatory political topics had been eliminated toward the end of 1948. At that time

...the Democratic Party shifted to a discussion of economic issues, particularly the high cost of living, which, indeed had increased sharply....The economic malaise, felt at all social levels, was described in an editorial in Cumhuriyet: "the peasant suffered, the city dweller worried, the businessman hesitated, and the worker grieved."²

The government adjusted its economic priorities toward bettering the lot of the peasant majority, balancing the growth of the economy with more emphasis on public overheads and agriculture, and increasing the role of the private entrepreneur while reducing government intervention and ownership. The Republicans made some progress toward the first two objectives by shifting financial burdens and capital outlays. Agricultural credit, for example, increased over 70% from 1948 to 1949.

¹Ibid., pp. 233-5; and Robinson, op. cit., p. 311.

²Karpat, Turkey's Politics, pp. 227-8.

The third objective conflicted with the principle of etatism, but the government did promise to encourage private initiative in the economy. Toward the end of 1949 an economic revitalization had begun and the Democrats were unable to find any real issues for discussion or to stir widespread popular reaction. They returned again and again to events preceding the July Declaration in order to sustain anti-government feeling.¹

"As the general elections approached, the activity of all three political parties increased, and along with it new political tension developed."² Then in April, 1950 a series of events stemming from the death of Marshal Cakmak presented a common danger to the Democrats and Republicans and served to moderate the growing tension between them. The Marshal had attracted religious conservatives to the National Party, and these people so objected to a modern funeral for him that they formed a mob that could have easily taken control of Istanbul. Under the threat of religious reaction, the two major parties adopted more reasonable propaganda for the elections.³

The election campaign brought out the positions evolved in the turbulent four years since 1946.

¹E. Stern, The Role of the Government in the Economic Development of Turkey, 1948-1960 (Ph.D. Thesis, Tufts University, 1964), p. 45; Z. Y. Hershlag, Turkey: An Economy in Transition (The Hague: VanKeulen, 1958), p. 184; and Karpas, Turkey's Politics, pp. 229, 236.

²Karpas, Turkey's Politics, p. 237.

³Ibid., p. 238.

The [Republican] People's Party spoke of agrarian reform and opportunities for private enterprise, and promised more democracy; the Democrats attacked them for their slowness, and demanded greater freedom, both political and economic--the relaxation of etatism, more private enterprise, and, for the workers, the right to strike. The National Party was more concerned with a relaxation of secularism and a revival of Islam.¹

On election day, May 14, 1950, 89.3% of the eligible voters turned out. The result was an overwhelming victory for the Democrats. They received 4.27 million votes or 53.5% of the total (excluding independents). The Republicans received 3.20 million or 40.0%, while the National Party won only 3.0% of the votes. The Democrats won 416 seats in the National Assembly, the Republicans won 67, and the National Party won one. Three independents were also elected.² "Only rather atypical, deeply entrenched, locally oriented politicians in the virtually impregnable eastern bastions of the People's Party managed to withstand the electoral onslaughts of 1950... and gain election on the R.P.P. ticket."³

According to Karpas, the Democrats

...won as a result of the accumulated discontent with the Republican Party. This discontent had not disappeared but had only substantially decreased. If the elections had been held in 1947 or 1948 the Republicans

¹Lewis, The Emergence of Modern Turkey, p. 306. See also Karpas, Turkey's Politics, pp. 239-41.

²K. H. Karpas, "The Turkish Elections of 1957," Western Political Quarterly, 14 (June 1961), p. 459. Percentages have been computed from the figures given in this article. Different sources give slightly different election results.

³Frey, op. cit., pp. 357-8.

would have obtained probably half the votes they received in 1950 when, thanks to a wise and liberal policy, the party's prestige had increased. But regardless of what it did or what it promised to do, the Republican Party was doomed to lose, as the symbol of the one-party system. Had it won the elections the feeling would have subsisted that the one-party rule still continued.¹

Among those who had grievances against the R.P.P. at the time of the election several important elements can be identified. The new commercial and industrial middle class resented the etatism and more or less benevolent paternalism of the R.P.P. As one contemporary observer put it, "The revolt against etatisme in Turkey today is a measure of its success."² The country magnates saw in the defeat of the R.P.P. a power vacuum in the countryside to which they rapidly returned, and had a hand in directing the accumulated resentments of the peasants toward the R.P.P. bosses. The religious leaders had never forgiven the secularism officially enforced in preceding decades. "Popular rumour includes even the army and the bureaucracy among those who transferred their allegiance to the Democrats..."³ the latter group being hurt particularly by inflation.

In a broader perspective the election of 1950 reflected the political emergence of the new and growing entrepreneurial groups, which in the past had occupied a subordinate position

¹Karpat, Turkey's Politics, p. 242.

²Lewis, "Recent Developments in Turkey," p. 324.

³Ibid., p. 325.

to the ruling bureaucratic order.

But the growth in their size, power, and function within the national economy made them potential candidates for political power. Eventually, after the introduction of a multi-party system in 1945-6, they assumed their own political role and achieved power under the Democratic Party in 1950. This was followed by a marked diminution in the power of the bureaucrats who ruled the country since the nineteenth century, while important sections of the intelligentsia were attracted to the side of the ruling bourgeoisie.¹

And in addition, the rival elites were appealing to the mass of the population for votes and listening to the demands of the people in order to win their support.

1950-1954: Modernization Accelerates.

When the new Ninth Assembly met shortly after the general elections, Celal Bayar was elected President and Adnan Menderes became Prime Minister. From the very beginning of their period in office the Democrats emphasized economic development. Shortly after taking office Bayar told the National Assembly that

"The aim and essence of our economic and financial views is, on the one hand, to reduce to a minimum state interference and, on the other, to restrict the state sector in the field of economy as much as possible, and, by inspiring confidence, to encourage the development of private enterprise to the utmost.... We shall also keep in mind that agriculture constitutes the foundation of our economy."²

However, progress in ameliorating etatism, the "aim and essence" of the economic and financial views of the Democrats,

¹Karpat, "The Turkish Left," pp. 173-4.

²Quoted in Robinson, op. cit., pp. 144-5.

was slight. There were important exceptions, especially in the shipping and oil industries, but in general

No serious transfer of public enterprises to private hands took place, owing either to a lack of sufficient private capital, or to a lack of confidence in the future plans of the Government and its attitude toward private initiative; or, as stated by some private entrepreneurs [during the summer of 1956], owing to a growing disinclination on the part of the Government to dispose of an important source of economic power.¹

While etatism continued to exist under the Democrats, even though officially denied and in fact condemned at election times, what did change was the degree of recognition of private enterprise. It was not only tolerated along with state enterprise, but supported and stimulated as well.²

The emphasis of governmental intervention in the economy was shifted toward stimulating agricultural production and raising the income level of the peasants. As we shall see, this policy paid large political dividends to the Democratic Party. As steps in this direction the Democrats twice amended the Agrarian Reform Act of 1945 in order to increase the size of plots allotted to families, and they also stepped up the rate of land reform, which had been negligible up to 1950. State and communal lands were distributed to peasant families, but large landowners were allowed to keep their fields.

¹Hershlag, op. cit., p. 189.

²Ibid., pp. 191-2; Karpat, Turkey's Politics, pp. 305-6; and K. M. Smogorzewski, "Democracy in Turkey," Contemporary Review, August 1954, p. 83.

Furthermore, the government promoted farm mechanization and extended credit to farmers. In 1952 and 1953, when world agricultural prices declined and Turkish farmers had difficulty avoiding losses, the government intervened with subsidies to maintain a high level of prices paid to producers.¹

These measures stimulated the cultivation of marginal land and increased agricultural production. "Although principal progress in the national economy up to 1953 was achieved in agriculture, industry also benefitted from larger investments after 1948, from the Korean War boom, and from the more liberal legislation and government attitude toward private industry."² The relative gains of the agricultural and non-agricultural sectors in this period are reflected in their contribution to gross national product, as shown in Table 6.1. From 1950 to 1953, agricultural product increased about 1.85 billion T.L. and non-agricultural product about 1.72 billion T.L. Politically, the gains in agriculture were much more significant. Between two-thirds and three-quarters of the population aged 15 years and older was employed in agriculture, and even though most of the benefits of increased agricultural production accrued to a small minority of large landowners, the benefits were sufficiently widespread³ to generate a large

¹Hershlag, op. cit., pp. 216-7, 224-5.

²Ibid., p. 236.

³Ibid., pp. 224-6, 264. See also Karpas, Turkey's Politics, pp. 306-7.

Table 6.1. Turkish Gross National Product, 1950-54.
(In Billions of Turkish Lira at 1948 Factor Prices.)

Sector	1950	1951	1952	1953	1954
Agricultural	4.55	5.49	5.85	6.40	5.14
Non-agricultural	4.57	5.03	5.57	6.29	6.35
Total	9.12	10.52	11.42	12.69	11.49

Source: State Institute of Statistics, National Income of Turkey, 1948, 1950-1959, p. 8.

number of votes for the Democrats among the peasant minority. By 1954, however, dry weather and several problems resulting from the government's agricultural policies decreased production drastically, and had begun to reduce the welfare of the peasantry and their support for the government.

While stimulating the expansion of the economy, "the Democratic Party over-looked consolidation of the multi-party system and democracy in general, which had been its goal when it came to power and which indirectly made possible the economic development."¹ However, life in Turkey during the Democrats' first term in office has been considered relatively free and democratic, a judgment generally accepted among the opposition parties.² Indeed, the Democrats began their term in office by continuing the trend toward liberalization begun during the last few years of rule by the R.P.P.

¹Karpat, Turkey's Politics, p. 420.

²Ibid., p. 417.

In June, 1950, the Democrats passed their first law, a reform which authorized the call to prayer to be said in Arabic rather than Turkish as previously required. The following month they lifted the ban on religious radio programs, thus allowing the Koran to be read on the air. In addition, the period of military service was reduced, travel within Turkey and for Turks abroad was greatly liberalized, a new press law was enacted, and a committee was established to list undemocratic laws.¹

The Democrats and Republicans could on occasion cooperate, as they did when religious reaction flared up in late 1952. Indeed, according to one observer, there "came a period when there seemed to be a real danger to the Republican order--not from either of the main parties but from a number of more or less clandestine religious and reactionary groups."² Finding that the Democratic Party could not be manipulated in accordance with their interests, these groups embarked on a program which threatened many of the reforms of the Turkish Revolution. Events culminated in November 1952 with an attempt on the life of a well-known liberal editor, which led to subsequent investigation of and governmental action against the 'Forces of Clericalism and Reaction.' "In this the government had the support of the R.P.P., and it seemed that

¹Ibid., p. 419. See also Robinson, op. cit., p. 312.

²Lewis, "Democracy in Turkey," p. 66.

the two parties were drawing together in the face of a common danger."¹

Despite these periods of courtesy and even cooperation, relations between the Democrats and the Republicans were not very good. "The opposition accused the government of dictatorship; the government accused the opposition of irresponsibility and sedition."² As the sensitivity to criticism of the leaders of the Democratic Party increased, so did the severity of their response.

From 1953 on, a series of laws was passed which eventually placed severe restrictions on the press, the universities, and the opposition parties. None of these laws were, of course, overtly against freedom for these sources of criticism. Most of them were framed in a way that could be rationalized within the framework of the Ataturk Revolution. It was the interpretation of enforcement of the laws which was the real rub.³

As we shall see, the volume of criticism of the government increased with these restrictions throughout the remainder of the period of Democratic rule.

In June, 1953, a law was enacted to ban political activity by university faculty members. This, presumably, was the government's response to growing disaffection in this segment of the intellectual community. In December, 1953,

¹Ibid.

²Ibid., pp. 65-6.

³W. F. Weiker, The Turkish Revolution, 1960-1961: Aspects of Military Politics (Washington, D. C.: Brookings Institution, 1963), p. 10.

most of the property of the R.P.P., including the party's newspaper presses in Ankara, was confiscated by the government on the grounds that it had been illegally acquired with public funds during the period of single-party rule.¹

Meanwhile the problem of religious reaction began to reappear, this time in connection with the National Party. Despite a professed political liberalism, the National Party took a clerical and conservative stand in cultural matters, and, as we have seen, attracted religious extremists. In the disorderly party convention of July 1953 these extremists gained control of the party and a number of party leaders resigned.

The government began to prosecute the party for its definitely anti-Constitutional clericalism and eventually [in January, 1954] dissolved it amid protests of undemocratic action along with the periodical Millet which had become its religious reactionary supporter.²

When the Republicans chose to condemn the action as an infringement of democratic liberty, the period of cooperation between Republicans and Democrats on religious matters came to an end. "Since then relations between the Democrats and the R.P.P.... deteriorated almost continuously."³ In early February the National Party was reestablished without the religious reac-

¹ Ibid. See also Robinson, op. cit., p. 314.

² Karpas, Turkey's Politics, p. 434.

³ Lewis, "Democracy in Turkey," p. 66.

tionaries under the name of the Republican National Party.¹

Shortly before the general election of May 2, 1954, the Democrats enacted a restrictive Press Law.

[It provided] severe penalties for libel, especially against official persons, and for the publication of "false news or information or documents of such a nature as adversely to affect the State's political or financial prestige or cause a disturbance of the public order." It was no defense to a charge brought under this law to prove that the allegedly libelous statements were true.²

In 1954 some saw a "preoccupation with political maneuvering on the part of the top Turkish leaders--a preoccupation which was leading very rapidly, it seemed to many, toward a personal authoritarian government."³

In the campaign preceding the election of 1954 both the Democratic Party and the Republican People's Party directed the major part of their propaganda to the peasants, who at this time constituted about four-fifths of the electorate.⁴ Neither party had much in the way of a positive program⁵ and there were few if any key differences between the positions

¹Robinson, op. cit., p. 314; and Karpas, Turkey's Politics, p. 434.

²Lewis, "Democracy in Turkey," p. 66.

³Robinson, op. cit., p. 150.

⁴A. H. Hanson, "Democracy Transplanted: Reflections on a Turkish Election," Parliamentary Affairs, 9 (1955-56), p. 69; and Smogorzewski, op. cit., p. 81.

⁵Hanson, op. cit., p. 71.

of the parties. A. H. Hanson noted at the time that "The Republicans and Democrats are entirely at one on questions of foreign policy, and their quarrels about domestic affairs seem to concentrate on matters of detail rather than of principle."¹ The R.P.P. had softened its traditional commitment to etatism, reflecting perhaps the more commercial and less official (military, bureaucratic) complexion of its representation in the National Assembly. Similarly, the Democratic Party had moderated its opposition to etatism in practice by accepting, as we have seen, the need for a considerable amount of state enterprise. Furthermore, there was some convergence of position on religious liberalization. The R.P.P., toward the end of its period in office, had restored religious instruction in state schools. The Democratic Party, in addition to permitting the call to prayer in Arabic and religious programs on the air, had subsidized the building of mosques. Despite the lack of real differences, the Democrats found it convenient to cast their opponents as atheists, particularly in rural areas.

Broadly speaking, therefore, the two parties can be regarded as little more than unprincipled, if highly organized, electoral agencies grouped around the rival personalities of Adnan Menderes and Ismet Inonu. The elector's choice is between Tweedledum and Tweedledee, and he makes it, as far as one can judge, on the basis of record rather than of policy--which is sound enough.²

¹A. H. Hanson, "Turkey Today," Political Quarterly, October-December 1955, pp. 328-9. See also Smogorzewski, op. cit., p. 81.

²Hanson, "Turkey Today," pp. 328-9.

In the election of 1954 the Democrats not only defeated their rivals but even increased their majority. The Democratic vote was about 5.15 million and the Republican vote about 3.21 million. These figures represent 56% and 35% of the votes cast, a gain of about 3% for the Democrats over their percentage of the total vote in 1950, and a loss of about 5% for the Republicans. The National Party, now reconstituted as the Republican National Party, increased its total from about 265,000 votes in 1950 to about 426,000 in 1954. About 9.10 million or 89% of those eligible voted in this election.¹ As usual the number of deputies elected exaggerated the margin of the Democrats' victory. They returned 504 deputies, compared with 31 for the Republicans, 5 for the National Party, and one independent.

These election results basically reflect the economic boom of 1951-1953 and the resulting advances in social and economic well-being, particularly among the peasants. The Democratic Party won "primarily on the basis of its achievements in the economic field."² In addition, the religious issue helped the Democrats to some extent in rural areas, where the influence of the village Imans over the peasants was still considerable. According to Hanson

¹Electoral results are taken from Karpat, "The Turkish Elections of 1957," p. 459.

²Ibid., p. 420. See also Smogorzewski, op. cit., p. 81; and Hanson, "Democracy Transplanted," p. 69.

In the countryside, the "soft" policy of the Democrats toward religion has proved acceptable....I came to the conclusion that the religious question was much more one of election slogan-making than of serious political policy....Damning the Republican dogs as atheist was an effective Democratic line; but agricultural prosperity was an even better one.¹

Changes in the composition of the Democratic and Republican Assembly Groups from the Ninth to the newly-elected Tenth Assembly suggest some structural changes in the parties and in their relations with social and regional groups. In terms of broad occupational groupings, the percentage of officials in the R.P.P. Assembly Group decreased 10% from the Ninth to the Tenth Assembly, and stood at only 25%. The professional and economic contingents each increased 6% to 41% and 31% respectively. The Democratic Assembly Group changed little in these respects. The result was that in the Tenth Assembly the assembly groups of the two major parties were nearly identical in occupational background: The Republican group was 5% more official and 4% less professional, but otherwise virtually the same as the Democratic group. In terms of local orientation, the percentage of deputies representing the province in which they were born increased from 63% to 91% for the Republican group, which came overwhelmingly (94%) from the eastern regions. Local orientation increased from 59% to 63% for the Democratic group.² These

¹Hanson, "Democracy Transplanted," pp. 70-1.

²Frey, op. cit., pp. 356-9.

increases in local orientation may reflect in part decentralizing rulings made by each party. In July 1950, the R.P.P. authorized provincial branches to name all candidates to the National Assembly, whereas formerly the Central Party Council named 30%. In October, 1950, the Democratic Party authorized the provincial branches to name 80% of the party's candidates, with the General Executive Committee selecting the rest.¹

Rapid changes of a broader scope were afoot in the social structure of the country as well, and these changes were to have an increasing effect on the course of politics through the remainder of the decade. As the population, social mobility, and the rate of modernization increased, the social groups which had relatively distinct roles in Turkish politics grew unevenly. The entrepreneurial and commercial middle class which had already been on the rise grew rapidly as the Democrats accelerated economic growth after 1950.

Moreover, the intelligentsia, in the past strongly represented in the bureaucracy, saw the rise from its own ranks of professional groups either associated with the entrepreneurs as engineers and technicians, or finding lucrative employment in the service of private commercial and business enterprises.²

At the same time, "The bureaucracy, already affected by inflation, surrendered its political and social power to a new economic elite drawn from landed and business groups and

¹Robinson, op. cit., pp. 312-3.

²Karpat, "The Turkish Left," p. 178.

their associates."¹ Among the peasants political awareness was increasing as farm mechanization, road-building, and mass communications expanded. Many of the peasants were driven by farm mechanization to find industrial employment in the cities, and others sought industrial employment in the cities on a temporary basis in order to supplement their incomes. Accompanying the rise of the commercial and business class and the economically-motivated lower strata was a change in the values of the society. "Earlier social values, based on education and dedication to state ideals, were undermined by an order based essentially on economic power."²

1954-1957: Economic and Political Problems Grow.

The nascent economic problems visible before the elections of May 1954 grew in intensity and exacerbated the opposition's criticism of the government. During the boom of 1951 to 1953, sufficient capital had been obtained through foreign credit and American economic aid to finance farm mechanization and industrial expansion. As landowners became more and more dependent on mechanization, tenants and sharecroppers were deprived of their living and forced to migrate to cities where they were absorbed by the expanding industrial sector. But the boom slowed down as difficulties of repayment abroad mounted, the droughts of 1954 and 1955 drastically

¹Ibid.

²Ibid.

reduced the volume of agricultural products available for export, American economic aid failed to reach sufficient volume, and the United States refused a \$300 million dollar credit requested by the Turkish government. Farm income, which seemed to be concentrated in the hands of a few large landowners, was spent on luxuries rather than invested, and it remained untaxed. The lack of imported raw materials and spare parts for farm equipment cut into production.¹ In short, "1954 marked the end of a series of bumper crops and of a relatively easy foreign credit market."² "Nonetheless, the government refused to slow down; the investment program had to be maintained or Turkey's economic--and hence, political--future would be imperiled."³

One result was accelerated inflation, which

set in with the growing gap between the aggregate of the demand for private consumption, current public expenditure and total investment outlay--and the supply of goods out of domestic production and of capital and other transfers from abroad. The Government's current expenditure and its share in total investment played a decisive role in that development...⁴

One indicator of this inflationary trend was the Istanbul cost of living index. Its yearly average stood at 97 in 1952 and 100 in 1953 (the base year), but rose to 110 in 1954,

¹Karpat, Turkey's Politics, p. 421.

²Robinson, op. cit., p. 151.

³Ibid.

⁴Hershlag, op. cit., p. 195.

118 in 1955, and 136 in 1956. Similarly, the growing cleavage between monetary and real expansion was reflected in the tripling of the supply of money from 1950 to 1955 while the index of national income in constant prices increased from 100 to about 138 over the same period.¹

Another result was growing unemployment. While rural folk continued to migrate to the cities in search of work, they could no longer be absorbed by the industrial sector where the rate of growth had declined. Although it is difficult to measure precisely the number of migrants and the extent of urban unemployment, it is clear that the rate of urbanization increased dramatically from 1950 to 1955. In 1950 the urban population stood at 116% of the urban population in 1945, while in 1955 the urban population was 142% of the urban population in 1950. By comparison, the rural population, in which birth rates were higher, increased only 111% and 110% over the same two periods. In absolute figures, the urban population grew by 430,000 in the five years preceding 1950, and by 1,300,000 in the five years preceding 1955, when the urban population stood at 4,379,000. The corresponding increases in the rural population were 1,787,000 and 1,819,000, with rural population in 1955 at 19,686,000.²

These economic problems and the social and political effects have been summarized by Karpat.

¹Ibid., pp. 194-5.

²United Nations, Demographic Yearbook, 1960, p. 363.

On the one hand the necessity of maintaining a high rate of industrialization to provide employment for the newcomers into the city, and on the other hand the need to sustain farm mechanization and increase production in agriculture to pay for industrialization, produced a vicious circle which, because of lack of capital and foreign currency, resulted in some deterioration of living and caused dissatisfaction with the government.¹

By 1955 real discontent was most widespread among the salaried urban middle classes, who not only bore a larger personal tax burden than people in rural areas, but also saw their standard of living undermined by the government's inflationary and unplanned economic policies. At the same time capital accumulated in the hands of rival groups. To this decline was added the accompanying decline of social status and more directly political reasons for discontent which will be discussed below. As a result many army officers resigned their commissions, and among the bureaucrats and intellectuals there was a large-scale but gradual conversion to the left after 1954. The younger and more socially-minded wing of the R.P.P.

...put forward proposals for a planned economy and a new type of welfare State in which the cultural doctrinaire approach of the past was to be replaced by ideas of political liberalism and social justice. The need became acute for an impartial state apparatus, reformed to suit the practical needs of society...²

¹Karpat, "The Turkish Elections of 1957," pp. 437-8.

²K. H. Karpat, "Recent Political Developments in Turkey and their Social Background," International Affairs, 38 (July 1962), pp. 312-3. See also Karpat, "The Turkish Left," p. 179 and Hanson, "Turkey Today," p. 332.

By the winter of 1954-1955 the villagers, in anticipation of further dry weather, were hiding part of their crops. But it was still true that the lot of the peasant had been greatly improved and that they were now better off than they ever had been before. A very large proportion of the industrial workers were in fact peasants who had accepted temporary employment in order to earn some extra money. By the summer of 1955 the peasantry still benefitted from the lack of agricultural taxes, but there was some evidence that inflation had reached the point where it was beginning to affect their standard of living.¹ In 1956 and 1957, "the peasantry, politically awakened by all these [primarily economic] developments and at the same time aware of the temporary nature of their prosperity, began to turn away from the Democrats and to look more sympathetically towards the Republicans."²

Bernard Lewis summarized his thoughts on the government's economic policies and their political consequences in this period:

...whatever long-term gains these policies may bring to Turkey, in the short run they have been causing growing distress to growing sections of the Turkish population. And in a period of economic strain, political controversy inevitably becomes more tense, more acrimonious--and more dangerous.³

¹Hanson, "Turkey Today," pp. 331, 333-5.

²Karpat, "Recent Political Developments," p. 312.

³Lewis, "Democracy in Turkey," p. 69.

As we saw in the last section, the Democratic Party shortly after taking office in 1950 gradually became more concerned with economic problems and less concerned with the establishment of democracy on a firm and continuing basis. This trend continued, encouraged in part by the need for improving living conditions in the country and by the need for popular support in the general election of 1954. Criticism before the election and the growing volume of criticism after it was deemed by the party "unjustified, and on the whole utterly harmful to the country's economic and social development, which it considered a national mission placed above all party considerations."¹ "Democracy, with all its intricate aspects, especially freedom, became a matter of secondary importance."² Experience had shown that the Democratic Party could politically afford this set of priorities as long as it maintained the support of the peasant masses, and, despite growing discontent among the peasants, this condition still was being met.³

One of the government's responses to its critics was an attempt to stimulate support for its economic priorities as a diversion from political topics.

Appeals for unconditional support of the party, heard in the period prior to 1950, were reiterated.

¹Karpat, "The Turkish Elections of 1957," p. 438.

²Karpat, Turkey's Politics, pp. 422-3.

³Hanson, "Turkey Today," p. 333.

In the past the support had been requested in order to establish democracy. Now the support was requested to help the party carry out economic development.¹

Another response was the continuation of the series of restrictions on the opposition begun prior to the general elections of May, 1954.

In June 1954 a Civil Service law was enacted. It gave the government the power to retire all government employees including university professors and judges after twenty-five years of service. This was the government's first real weapon against the judiciary, and particularly against the judges of highest rank who sat in Ankara. In the same month an amendment to the Electoral law prohibited printed mixed (or coalition) lists of candidates in an election. Since voters could not be expected to write out several dozen names on a coalition ticket, he could only deposit the printed list of the party of his choice in the ballot box. Thus the practical effect of the law was to make very difficult the formation of electoral coalitions among the opposition parties. In July a second Civil Service law was enacted, giving the government the power to discharge most government officials after a period of suspension, and with no right of appeal. During the final few months of 1954 political strife became increasingly bitter as a number of arrests were made for alleged

¹Karpat, Turkey's Politics, pp. 422-3.

slander of high government officials and for writing or speaking that would undermine the financial stability of the country.¹

In 1955 the government acted against the opposition under existing legislation. Kasim Gulek, the Secretary-General of the R.P.P., was arrested for insulting the government while on a speaking tour. Metin Toker, a journalist and son-in-law of Inonu, was arrested under the Press Law. In addition, five newspapers including the R.P.P.'s Ulus were suspended for violating censorship on the Cyprus problem. In October 1955 nineteen Democratic deputies demanded that "proof of the accuracy of a published statement be made relevant to defense in prosecutions under the Press Law."² When the party rejected their demand, ten of the nineteen resigned and the others were expelled. In late December, after Menderes' cabinet had fallen and a new one formed, the Freedom Party was established by these rebels from the Democratic Assembly Group, many of whom were ex-Ministers and active in the struggle to establish the Democratic Party from 1946 to 1950.

Since, according to the Freedom Party leaders, the Democratic Party no longer believed in democracy, they established their own party to pursue the initial democratic goals with which the Democratic Party was founded.³

¹Lewis, "Democracy in Turkey," pp. 67-8, and Robinson, op. cit., p. 315.

²Robinson, op. cit., p. 317.

³Karpat, Turkey's Politics, p. 436. See also Weiker,

Turkey now had three main opposition parties, the R.P.P., the National Party, and the Freedom Party.

The next stage of legislation to curtail the activities of the opposition arose in June, 1956, after a period of tension associated with the growing economic crisis as well as the Cyprus issue and riots against the Greek minority in September 1955. The first measure was an amendment to the Press Law which increased the penalties set in the earlier law and extended its jurisdiction from press and radio to speeches made at meetings. The second was an amendment to the law of Meetings and Associations which provided that political meetings and demonstrations could be held only by permission of the relevant authority after all of the particulars of the event had been presented in a formal request. "Illegal meetings, unauthorized meetings, or meetings which deviated from the terms laid down could be dissolved by the armed forces."¹ These measures were violently opposed by the opposition deputies, who decided to boycott the Assembly. Before the year was out there had been arrests under these laws and the government interfered directly in university affairs for the first time by suspending the Dean of the Ankara University Faculty of Political Sciences for criticizing the government.²

op. cit., p. 10, Lewis, "Democracy in Turkey," p. 68, and Robinson, op. cit., p. 317.

¹Lewis, "Democracy in Turkey," pp. 68-9.

²Weiker, op. cit., p. 11.

The political situation of the Democrats in the summer of 1957 resembled the situation of the Republicans in the spring of 1946, and the response was the same.

The effects of the various social, economic, and political developments...intensified in 1954-57; the government tried to carry out its policy amidst all kinds of difficulties while the opposition, encouraged by the turn in public opinion, stiffened its criticism. The Democratic party leaders finally became convinced that the tide was turning against them. With no visible relief in sight for several years until the economic development program was supposed to reach full fruition, these leaders decided to hold elections on October 27, 1957, instead of in the summer of 1958 as originally scheduled.¹

By the summer of 1957 the three opposition parties had taken some tentative steps toward a united opposition. The first was a joint declaration on July 8, 1956 protesting the laws of the previous month. Another was a proposal of the Freedom Party to form a united opposition with the Republican People's Party. The R.P.P. rejected the proposal in October 1956. In August of 1957, however, the three opposition parties began a series of discussions which led, in the following month, to a decision to enter the forthcoming elections as a coalition with a program of constitutional reform aimed at curbing the power of the governing party. They hoped to create a system with two legislative chambers instead of one, a court to judge the constitutionality of laws, and proportional representation. The Democrats responded with a law, enacted

¹Karpat, "The Turkish Elections of 1957," p. 438.

September 11, 1957, which made such a coalition not only difficult but impossible.¹ Each of the opposition parties entered the electoral campaign on its own.

The Republican election platform in this campaign is worth considering in some detail since it illustrates the degree to which several years in opposition and a changed situation had combined to modify the positions of the R.P.P. According to Karpaz

[It] stressed heavily the failure of the government to consolidate democracy and criticized the restrictions imposed on the freedoms of press, association, and election. The platform included promises to adopt [the three constitutional reforms proposed by the abortive opposition coalition]. It promised reinstatement and consolidation of all the basic freedoms, including autonomy of universities, the freedom of trade-unions, and the right to strike. The platform also promised to harmonize economic development with the country's needs and resources, to end inflation, to reorganize imports and exports, to offer equal treatment to private and state enterprises, to help the peasants pay their debts, and to adopt a series of social measures.²

Of the specific issues debated in the campaign, the question of religion and secularism came up most frequently. The differences between the two major parties on this question had become minimal by this time, but each party assumed that promises of liberalization of religion would win votes among the masses. The parties also debated the issue of economic development. The Republicans charged that the Democrats'

¹Lewis, "Democracy in Turkey," pp. 69-71, Robinson, op. cit., pp. 318-9, and Karpaz, "The Turkish Elections of 1957," p. 438.

²Karpaz, "The Turkish Elections of 1957," p. 440.

policy had annihilated the middle class, depressed the living standard of the low income group and benefitted only the rich social groups. The unemployed people in urban slums, driven from agriculture by farm mechanization, lived in dire conditions and the Democrats were not really concerned with the workers' welfare and right to organize and strike. The Republicans were in favor of industrialization, but it should be planned, adjusted to the needs of each locality, and internally financed. The Democrats countered that they had improved living standards and created an economic and social revolution in the villages. Workers' living standards, they claimed, were approaching those of the West, but the workers were not yet educationally advanced enough to use properly the right to strike. The Democrats reemphasized their policy of strengthening agriculture and the need for foreign capital, without which industrialization and the modernization of agriculture could not be carried on. To emphasize some of these claims, "the Democrats plunged into a series of spectacular dedication ceremonies on the eve of election by opening new factories, roads, housing projects, etc., all of which were greatly publicized."¹ They also enacted a ten-month moratorium on all farmers' debts just a month before the election.²

¹Ibid., p. 442.

²Ibid., pp. 438-9.

The election results suggest that the popularity of the Democratic Party had passed its peak and was declining by late 1957. The Democrats received 4.39 million votes, down 756,000 from 1954, while the Republican People's Party received 3.76 million, up 549,000 from 1954. The National Party and the Freedom Party received 660,000 and 347,000 respectively. In percentage terms, the Democratic vote dropped 9.5% to 47.1% of the total vote, while the Republican's increased 5% to 40.3% of the total vote. The three opposition parties together collected 51.1% of the total vote. The Democrats returned 424 deputies, the Republicans 178, and the Freedom and National parties 4 each. Voter turnout was low, with only 77% of the eligible electors voting compared with 89% in 1950 and 1954.¹

While religious liberalization may have been a prominent issue in the campaign, it seemed to have little effect on the outcome.

The deciding issue was economic development with all the social and political implications it entailed.

Turning to the economic factors affecting the election of 1957, one may say that the election results reflect the manner in which economic development affected various parts of the country. The western part, which had received economic aid and utilized it by diffusing it to large numbers of people, tended to support the government. The eastern part, which had not received substantial economic assistance, or was unable because of its economic structure to spread whatever assistance it received to large numbers of people, voted for the opposition.²

¹Ibid., p. 459.

²Ibid., pp. 444, 450.

All except one of the Republican victories came from the provinces east of Ankara, including the capital itself.

The industrial workers generally supported the Democratic Party, even though there was dissatisfaction with the high cost of living and the Democrats' refusal to grant them freedom to organize and strike. One explanation is the expansion of workers' benefits under the Democrats; "but above all, [the Democratic Party] has maintained a day-to-day contact with trade-unions by receiving their delegations and by talking directly to them, and thus has given them a sense of power and status."¹ The old middle class of craftsmen, artisans, and shopkeepers in towns generally backed the Democrats, but with some defections to the opposition and particularly the National and Freedom parties.

The intellectuals and the younger generation, especially the university students, have usually supported the Republican party chiefly because they believed that the Democrats had compromised on the reforms of Ataturk. They also reject the pragmatic and expedient approach adopted by the Democrats in state affairs and its restriction of freedoms.²

In three years the rump of the R.P.P. had regained the traditional support of the bureaucracy, intelligentsia, and military which had been shaken before 1954. At the same time it had made gains in popular support, particularly among the part of the urban middle class which resented political

¹Ibid., p. 451.

²Ibid., pp. 451-2.

restrictions. As in the period 1946-1950, there were once again two strong elite groups in competition with each other. But unlike the earlier situation, the governing elite was relatively insulated by the continuing support of the mass of the population, for whom economic gains were more important than political restrictions.

1957-1960: Toward Military Take-Over.

Riots broke out in several provinces when the results of the 1957 elections were announced. They were caused in part by local rivalries and accumulated tensions, and in part by outrage that the government had interfered or was suspected of interfering with the elections. Some disturbances were so violent that several lives were lost. In order to prevent further outbreaks the government was forced to take drastic measures including the use of armed forces.¹

The Republicans contested the results in sixty provinces, "accusing the government of mishandling the voters' registers, allowing its own party members to vote several times, placing pressure on the opposition, 'buying' votes, etc."² Some credence was given to these charges by the government's failure ever to publish official results. But even for those provinces where evidence of irregularities was overwhelming,

¹Ibid., pp. 454-5.

²Ibid., p. 454.

the Supreme Board of Elections rejected requests to invalidate the elections.¹

Another consequence of the election was a unification drive among the opposition parties, since it was apparent that the division of the opposition was responsible for keeping the Democrats in office. In October, 1958 the Republican Nation's Party (successor of the National Party) absorbed the Villager's Party to form the Republican Villager's Nations Party. (However, the Villager's Party leaders left the new party in January 1960, charging that the merger agreement had been violated.) In November 1958 the Freedom Party dissolved itself to merge with the R.P.P. Talks were held between Inonu and the leader of the Republican Villager's Nations Party on the question of unity, but with no definite results.²

The Democrats responded with a membership drive called Vatan Cephesi or Homeland Front, described as a patriotic movement designed to support the Democrats' ambitious program for economic development. Opposition members were invited to join, and the success of the Front was widely advertised through Democratic Party newspapers and the official state radio. When the Front created friction with the older Democratic Party organization, its membership drive eased off.³

¹Ibid. See also Weiker, op. cit., p. 11.

²Robinson, op. cit., p. 320, and Karpat, "The Turkish Elections of 1957," p. 455.

³Karpat, "The Turkish Elections of 1957," p. 456. For a somewhat different view see Robinson, op. cit., p. 193.

The Democratic government was criticized for the growing financial crisis as well as its handling of the election. Menderes overextended his economic activities in relation to available resources, with the result that the public debt and inflation were increasing rapidly. Policies to increase the efficiency of production, the only long range solution, and to curb chronic inflation were blocked by the economic, social, and political structure of the situation. Land reform had reduced the size of the average plot and farm income below that which would sustain mechanization and therefore more efficient production. Furthermore, because of artificial stimulants to agricultural production such as easy credit, tax exemption, public investment and crop subsidies, the land was overexploited. The proportion of Turkish farm labor inefficiently employed on these marginal lands, as well as peasants temporarily unemployed due to the seasonal nature of Anatolian agriculture, could be efficiently and profitably employed in industries in the cities. To encourage this migration the government could remove the artificial stimulants to agriculture, but this would be political suicide; and in any case, the funds available to expand necessary urban services for migrants were already insufficient, and slum belts had already developed around the large cities. Inflation could be checked to some extent by restricting agricultural credit, cutting farm subsidies and public investment, and by taxing agricultural incomes. But this would undermine

political support for the Democrats among the peasantry. Consequently, the government continued to subsidize relatively inefficient agriculture with a disproportionate share of public resources, and inflation continued unchecked.

In short, as an OEEC mission to Turkey observed in 1959, "The difficulties in which the Turkish economy finds itself today stem basically from an attempt to do too much too quickly."¹ But the government of Turkey was in no position to moderate the pace.

The choice of whether to improve the nation's standard of living or not was no longer in the hands of Turkey's leaders, thanks to 25 years of grass roots education and social reform, vast improvements in communications..., and a deliberate channeling of an undue share of the national income into the pockets of village farmers.... Long dormant in Turkish society, economic incentives now threatened to move well ahead of the available tools with which its targets could be achieved. The masters of Turkey were, in reality, the political slaves of the village farming masses and the new lower class urban groups.²

In 1958 the situation almost reached a breaking point. Shortages of consumer goods were felt by all sectors of the population, and the standard of living of people in urban areas was undermined by inflation. Finally, in that year Menderes promised financial reforms of an anti-inflationary nature in return for a loan totaling \$359 million from the United States, OEEC countries, and the International Monetary Fund. This

¹Quoted in Robinson, op. cit., p. 209.

²Ibid., pp. 208-9.

eased the economic pressure somewhat, but it was only a temporary measure and did nothing to solve the structural problems of the economy. By 1960 the implementation of the reforms had been sluggish and Menderes had already used up the entire amount of the loan.¹

These political and economic problems provided fuel for the opposition, which "had maintained an unremitting campaign at pre-election intensity against the government since the 1957 election...Every act of the Menderes government--other than foreign policy--was condemned."² The opposition criticized the government's willingness to sacrifice the social and cultural goals on which the Republic was founded to the demands of political expediency, the unplanned consequences of the government's economic policy, the reliance on foreign capital, and restrictions on political freedoms, especially freedom of the press.³

The volume and intensity of opposition criticism increased. Maintaining the policies to which it was committed,

The government party, whose attachment to power has grown in equal proportion to its dislike of criticism and legislative controls, instead of answering these charges, chose to silence them by imposing additional

¹Ibid., pp. 209, 319, and Weiker, op. cit., pp. 12-3.

²D. Lerner and R. Robinson, "Swords Into Plowshares: The Turkish Army as a Modernizing Force," World Politics, 13 (October 1960), p. 42.

³Karpat, "The Turkish Elections of 1957," p. 456, and M. Perlmann, "Upheaval in Turkey," Middle Eastern Affairs, 11 (June-July 1960), p. 175.

restrictions on the press, and by utilizing the state radio to defame the opposition and publicize its own achievements.¹

The number of journalists jailed and newspapers ordered to stop publishing grew steadily. In 1959 there were two attacks on Inonu, apparently with the intent to kill him. Publication of news about these two incidents, the first examples of serious violence, was banned by the government.²

The sequence of events that led to the military intervention in May 1960 began about six months earlier. A rumor began circulating in Ankara that elections would be held in the spring rather than in 1961, the legal deadline. Menderes did nothing to dispel the rumors, and in May of 1960 he announced that elections would be held when the riots and disturbances ended. Thus the turmoil of pre-election politics was added to the already unstable situation.³

In February 1960 the R.P.P. brought to the floor of the Assembly charges that certain cabinet ministers had engaged in large-scale profiteering. In the debates that followed the R.P.P. aired other grievances including charges of rigging the 1957 elections. By March, when the Assembly recessed, these debates had given way to fist-fighting on the Assembly floor.⁴

¹Karpat, "The Turkish Elections of 1957," p. 456.

²Robinson, op. cit., pp. 191-3, and Weiker, op. cit., p. 11.

³Weiker, op. cit., p. 14, and Karpat, "The Turkish Elections of 1957," p. 457.

⁴Weiker, op. cit., p. 14.

Also in March the government announced that it had intercepted orders from R.P.P. headquarters to local party branches directing the latter to prepare to go underground, to designate secret couriers and to set up an "ear newspaper." The evidence for the accuracy of the announcement is circumstantial: "These reports were not refuted and, given the tenor of the times, were plausible."¹

Both Menderes and Inonu travelled around the country to make speeches at this time. In early April the government attempted to prevent Inonu from speaking in the city of Kayseri. According to one source, the governor of the province informed Inonu that the planned speech would endanger public order since the people were very excited.² According to another the authorities charged that his activities in Kayseri would break the law on associations, passed by the Menderes-dominated Assembly, which "forbade outdoor, public political meetings or demonstrations except during a 90-day period prior to elections."³ In any case the authorities had army units to back up their orders, but the officers and soldiers were obviously sympathetic to Inonu. Inonu after some delay proceeded to Kayseri where he addressed a public gathering from the balcony

¹Robinson, op. cit., p. 262. However, Robinson does not include this event in his chronology, ibid., p. 320. See also Lerner and Robinson, op. cit., pp. 42-3.

²Weiker, op. cit., p. 14.

³Robinson, op. cit., p. 262.

of the party's headquarters. This was the government's first use of the army for political purposes.

In mid-April fourteen retired generals and admirals visited Inonu in his home. It was reported that "he had told the group that retired military officers composed an able group who could protect the idea of national progress."¹ Again, the evidence seems circumstantial, based on the fact that the statement was publicly reported but not refuted.²

Whether this was real or manufactured evidence of a conspiracy, it was sufficient evidence for the government to implement an attack on the opposition. On April 18 in a session of the National Assembly Democratic deputies moved to establish a committee to investigate the R.P.P. and the press. Inonu scathingly denounced the proposal as dictatorial. The Democrats proceeded to denounce the opposition, including an hour-long speech detailing Inonu's "crimes." Fist-fighting broke out on the floor and a Republican deputy was expelled. Inonu then led the rest of the Republican delegation out of the Assembly.³ In a well-planned action, the National Assembly quickly proceeded to adopt

a resolution establishing a 15-member committee to investigate the activities of the opposition party and the press. The resolution [charged] the Republican People's Party with "destructive and illegal

¹Ibid., p. 263.

²Ibid.

³Weiker, op. cit., p. 15.

activities, arming partisan supporters and attempting to bring the army into politics." The committee [was] granted powers to suspend all political activity during its three-month investigation.¹

On the 19th the investigating committee banned all political party activities for three months pending its investigation of the R.P.P. It also forbade "publication of all news stories, statements, communiques, comments, documents, pictures and articles, including reports of Assembly debates pertaining to matters relating to the committee's investigations."²

On the same day a large crowd gathered to cheer Inonu as he passed through the main square of Ankara.³

On the 27th the National Assembly passed a law conferring broad authority on the Investigating Committee. Inonu vehemently protested and was then suspended from twelve Assembly sessions and bodily removed from the Assembly hall. Several other Republican deputies who protested this action against Inonu were also suspended and bodily removed. These events touched off student demonstrations in Ankara and Istanbul on the 28th and 29th against the government of Premier Adnan Menderes. The military was brought in to quell the disturbances. Rumors of several deaths circulated, but only one life was lost. The press was forbidden to print news of the

¹"Chronology," Middle Eastern Affairs, 11 (June-July 1960), p. 212.

²Ibid.

³Weiker, op. cit., p. 15.

incident, but gave large headlines to the order forbidding the publication of news about it. Martial law was declared in Istanbul and Ankara for three months, and the universities were closed for a month. "From then on there were riots almost every night on the main boulevard of Ankara."¹

The pace of significant events accelerated. On May 3 Lt. Gen. Cemal Gursel, Commander of the Land Forces, demanded political reforms in a letter to Menderes which was published later. Gursel resigned on the 5th. Amid further demonstrations in Istanbul and Ankara, Menderes set out in mid-May on a tour of one of the centers of his greatest strength, the Aegean region. In a speech at Izmir he promised that elections were very near, and, made confident by demonstrations of support on this tour, he repeated the statement in Istanbul. On the 21st cadets from the Turkish War College marched in protest through Ankara, which prompted the government to extend the closing of universities until the next fall. On the 25th Menderes began a four-day tour of the rural provinces. On the 26th he announced that the Investigating Committee had completed its investigations in one month instead of three and was preparing a report. On the 27th the armed forces under General Gursel seized power.²

¹Ibid., pp. 16-7.

²Ibid., pp. 19-20; "Chronology," pp. 213-4; and Robinson, op. cit., p. 321.

It was observed that the revolution "was greeted with passivity and resentment in the rural areas, and it was apparent that the military's support was derived solely from urban elements."¹ This observation seems to be essentially correct. By the fall of 1959 the Democrats seemed to have improved upon their reasonably strong showing in the rural areas in the election of 1957, and local R.P.P. workers reportedly agreed that they had. Some of the factors behind this trend were good crops, higher crop subsidies, easy farm credit, an easing of shortages of consumer commodities due to foreign credit, village development projects, and liberalized policies on religious activities.² But at the same time "the Democratic Party failed to win over the urban areas, the intellectuals, and especially the press..."³ Indeed, "Menderes' support among the urban intelligentsia dwindled to virtually none."⁴

Some Comments on Causes.

The revolution and various key events leading up to it have been attributed to a number of factors. Although it is impossible to weight these factors with any precision, a review

¹J. S. Szyliowicz, "Political Participation and Modernization in Turkey," Western Political Quarterly, 19 (June 1966), p. 280.

²Robinson, op. cit., p. 257. See also Karpas, "The Turkish Elections of 1957," p. 456.

³Karpas, "The Turkish Elections of 1957," p. 456.

⁴Weiker, op. cit., p. 11.

is worthwhile because they provide an overview of many of the important developments in the last three years of the First Turkish Republic, and indeed of the period from 1946 through 1960. Personalities and private motivations apparently played a role. "Most explanations of [the] startling decision [to repress the opposition] concentrate upon purely personal factors such as Bayar's hatred of Inonu and Menderes' sensitivity to criticism..."¹ In the context of an incident in May 1960 when Menderes confronted a crowd that demanded he resign, Weiker reports that

There has been much discussion of whether Menderes was mentally unbalanced. Probably the most that could be said is that he had strong psychological pre-dispositions for and against certain ideas like economic planning. Many observers also contend, however, that personal pride was such a large factor in his make-up that it is unlikely he could ever have brought himself voluntarily to resign.²

Similarly, "The General [Gursel] apparently became disaffected with the Menderes regime shortly after he had been passed over for the top post in the army..."³ suggesting that private motivations may have been a factor in the military as well.

At a somewhat broader level, other explanations focus on the relations between government and opposition. Thus according to Karpat, "The military intervention was precipitated by the dictatorial measures undertaken by the Democrats in 1959-1960."⁴

¹Szyliowicz, op. cit., p. 279.

²Weiker, op. cit., p. 18n.

³Lerner and Robinson, op. cit., p. 42.

⁴Karpat, "Society, Economics, and Politics," p. 62.

Similarly,

It is possible to argue that [the Republicans'] hopes of overthrowing the DP by peaceful means had been frustrated in 1957 by restrictions on free speech and campaigning which had limited the opposition's opportunities of gaining public support. [With the relief of economic pressure and the resulting political gains for the Democrats] it is plausible that personal advantage and national interest merged in the conclusion that since no other alternatives existed, direct action was necessary.¹

In the spring of 1960, with opposition members suspended from the Assembly and increasing restrictions on editors and newspapers, "parliamentary opposition was futile, and opposition outside of parliament most difficult."² The opposition's range of alternatives were restricted to illegal actions.

Conversely, it has been argued that the restrictions themselves were the result of overzealous opposition. Thus

Admittedly, the law [forbidding political meetings except during the 90 days preceding an election] was enacted to harass the Opposition, but not until the Opposition had demonstrated every intent of keeping the country in a constant turmoil by continuing an uninterrupted antigovernment campaign at pre-election intensity. In doing so, every government policy and program was vigorously condemned, and respect for the authority of government was in fact being undermined...³

As action and reaction escalated the situation toward the legal boundaries of the political system, the armed forces became involved in politics.

¹Szyliowicz, op. cit., p. 279.

²Perlmann, op. cit., p. 176.

³Robinson, op. cit., p. 262.

At a still broader level it is possible to find causes of the military take-over in economic and social problems as well as in personalities and the political system.

With or without Menderes, the crisis of Turkey remained, for it was bedded in structural defects of an economic and social nature. This last was what Opposition leaders in Turkey, and many foreign observers, failed to recognize as they condemned all governmental moves--good, bad, and indifferent. They were by no means all bad. This fanaticism on the part of the Opposition drove the Menderes' administration to further extremes in its attempt to prevent the Opposition from exploiting unpopular moves and dislodging the Democrats from power.¹

And as we have seen the political effects of the \$359 million loan helped convince the opposition that there was no recourse except direct action.²

Finally, in a longer time perspective the military take-over of May 1960 must be considered in terms of the changing structure of relations between social groups in Turkey.

Put in the barest possible terms, what we have witnessed in Turkey in the past two decades is the resurrection of severe intraelite conflict....That elite unity [under Ataturk] which permitted mobilization of the society for rapid reform has degenerated into the war of each against all...³

But modernization had brought the lower strata into more active social and political participation.

[Conflict] was no longer solely intraelite. It was transferred, sometimes in violent fashion, to the villages. More significantly, it was now true that

¹Ibid., p. 194.

²Szyliowicz, op. cit., p. 279.

³Frey, op. cit., p. 391.

a party well ensconced in the affections of a majority of the villagers, as was the Democratic Party, was under very few restraints in its dealings with its elite and party rivals. An insulating power base had been found. Newly enfranchised peasants cared little about the niceties of electoral and parliamentary freedom so long as the wheat subsidies and debt moratoria were forthcoming...¹

By a variety of means, the system generated stresses and strains which apparently could not be resolved within the framework of its political institutions. When the military stepped in, the institutions were rendered inoperative as effective constraints on political activity and were subsequently modified or destroyed.

¹Ibid.

Chapter 7

The Turkish Experience as Data

In Part III we shall examine the behavior of the models with respect to the Turkish experience. In this chapter we shall utilize the Turkish experience to make the choices and specify the inputs required to deduce the behavior of the models. It should be apparent that much of the information from the Turkish experience is "soft" data gleaned from political histories or quantitative estimates of various degrees of inaccuracy. Yet for purposes of exploring and comparing the models and the theories on which they are based,¹ the use of these data has at least two distinct advantages over the use of data from a hypothetical case. First, the historical data, though ambiguous, are rich in detail and therefore should provide more insight into the empirical assumptions of the models. In particular, it should be easier to locate important omissions in the models and to distinguish between plausible and implausible outputs at a gross level. Second, we confront rather than ignore the technical problems of applying the models to historical cases, and develop some experience in dealing with these problems. If the models appear to be sufficiently promising using the historical data readily available, then subsequent development can profitably empha-

¹As opposed to explaining the behavior of the Turkish political system.

size improvements in the quality of the data and utilize the experience gained here.

Structural Choices.

The theories suggest in the abstract that political actors, political values, and political institutions are important components of the structure of the system. However, in each individual application of the models it is necessary to determine which actors, values, and institutions are important enough to include explicitly.

Groups. There are at least three attempts to define the major divisions within Turkish society. D. A. Rustow has suggested that

Turkish social structure today can best be understood as being divided into three groups or classes--the urban educated class, the rural lower class, and urban lower class--and each of the three has its distinct political sub-culture.¹

Kemal Karpat's analysis of the class structure of Turkey² is very similar to Rustow's. The first and largest social group in Karpat's analysis is the peasantry; the second and most recent is the industrial working class, which was formed almost entirely under the one-party rule of the Republican People's Party. These are approximately equivalent to the rural and urban lower classes in Rustow's analysis. The

¹D. A. Rustow, "Turkey: The Modernity of Tradition," in L. W. Pye and S. Verba, eds., Political Culture and Political Development (Princeton: Princeton University Press, 1965), p. 180.

²K. H. Karpat, Turkey's Politics: Transition to a Multi-Party System (Princeton: Princeton University Press, 1959), pp. 99f.

urban educated class is somewhat more refined in Karpát's analysis.

Turkey does not have a class of capitalists who control the country's economy, but it does possess a fairly large middle class composed of landowners, businessmen, industrialists, and the intelligentsia, including government officials, all of whom are influential in politics and as a whole direct the country's life.¹

Karpát attributes the following characteristics to the Turkish middle classes:

semi-manual or non-manual occupation, incomes above the average, a relatively comfortable living, a certain degree of education and refinement, and consciousness of their special status in society as an actual or potential factor in politics and culture.²

As suggested in the preceding chapter, Frederick Frey has another analysis of the political divisions in Turkey based on his study of the Turkish political elite. The "hallmark" of the elite, the most common shared characteristic, is education in excess of the levels attained in the population as a whole. But important divisions within the elite are occupational.

In clear contrast to the consistency in educational background over the ten Assemblies, the altered occupational composition of the parliaments is probably the most notable discovery of this part of the analysis. Much of the political history of the era [covering the first ten Assemblies] is wrapped up in the decline of the officials and the rise of the professional and economic contingents in the Grand National Assembly. The "new man in Turkish politics"

¹Ibid., pp. 111-2.

²Ibid., p. 112n.

is the lawyer and the merchant, replacing the soldier and the bureaucrat at the pinnacle of formal power.¹

Frey classifies the occupations of Turkish deputies as professional (including law, medicine, dentistry, pharmacy, and veterinary medicine), official (government, military, education) and economic (trade, agriculture, and banking), and a residual category (religion, journalism, other, and unknown).²

The underlying divisions in these three analyses taken together are rural-urban, class and occupational divisions. To be sure, these divisions overlap considerably. However, following Frey, the occupational divisions within the elite and the society as a whole are used in this study to distinguish the politically salient social groups in Turkey. In particular this study focuses on Frey's professional, official, and economic classification. In addition, in order to distinguish the peasantry from the economic elite, the agricultural group is disaggregated from the economic classification, and in order to distinguish those relatively specialized to the defense of religion, the religious profession is disaggregated from the residual classification.

These choices are made for several reasons. First, while the rural-urban division adequately distinguishes the peasantry from the elite, it fails to distinguish the basis of conflict

¹F. W. Frey, The Turkish Political Elite (Cambridge: M.I.T. Press, 1965), p. 195.

²Ibid., p. 77.

within the elite which Frey has shown to be important. Second, there seems to have been more conflict and more distinct distributions of interests between occupational groups than between class groups. For example, the working class challenge to the economic elite within the economic group is much less important in the decade of the 1950's than the economic and professional group's challenge to the official group. The relatively low salience of class may be in part a result of official policy enforced during the one-party era. The Program of the R.P.P. in 1935 stated that

It is one of our main principles to consider the people of the Turkish Republic, not as composed of different classes, but as a community divided into various professions according to the requirements of the division of labor for the individual and social life of the Turkish people. The farmers, handicraftsmen, laborers and workmen, people exercising free professions, industrialists, merchants, and public servants are the main groups of [workers] constituting the Turkish community.¹

In 1946 the Law on Societies was amended to permit the establishment of organizations based on class interests, but the Democrats as late as 1958 had not fulfilled promises to legalize the right to strike.² A third reason for choosing the occupational division is that this is the only division for which we have data on group representation in political parties in addition to census data on the size of the groups.

¹Quoted in ibid., p. 76.

²See Karpas, op. cit., pp. 308-18; and R. D. Robinson, The First Turkish Republic: A Case Study in National Development (Cambridge: Harvard University Press, 1963), p. 309.

Access Values. The most consistently important issues in Turkish politics in the period 1950 to 1960 seem to have been economic issues. These issues obviously had a lot to do with the outcome of the 1954 general election. As A. H. Hanson noted,

The decisive factor was the peasant, to whom both parties directed a major part of their propaganda. Usually illiterate, but shrewd in his judgments of economic self-interest, he had evidently come to the conclusion that another dose of Democratic rule was the medicine that he needed.¹

As a general conclusion from his study of the 1957 election, Karpaz found that

The issues and ideas which seem to animate the people appear to be of a social and economic nature.... the cultural reforms introduced by the Republican regime seem now, after certain compromises and adjustments in 1947-54, to be generally accepted and propaganda based on them alone does not suffice to secure victory for one party. Even secularism and religious liberalization has lost a great part of the dynamic impact it had on politics in 1946-50.²

Similarly, Robinson has written that in the late 1950's

The single most important issue in Turkey became the availability of such key consumer goods as coffee, tea, sugar, kerosene, radios, batteries, lamps, glass, textiles and shoes. This massive popular demand for rapid improvement in the standard of living existed in part because the ordinary folk were now conscious of the vast difference between their own standard of material well-being and that of Western Europe and North America. The demand for economic improvement,

¹A. H. Hanson, "Democracy Transplanted: Reflections on a Turkish Election," Parliamentary Affairs, 9 (1955-56), p. 69.

²K. H. Karpaz, "The Turkish Elections of 1957," Western Political Quarterly, 14 (June 1961), p. 458.

it was safe to say, took easy precedence over interest in maintaining democratic political institutions.¹

Karpat, as we have seen above, considers the issue of state control over the practice of religion to be of diminishing if not negligible importance at the time of the 1957 election. On the other hand, Weiker, writing in the 1960's, feels that "After Ataturk's death and especially since the rise of opposition parties in 1946, the role of religion in Turkish life has become one of the most important public issues."² In any case, it is clear that the religious issues dominated the issue orientation of the National Party.

While it seems rather certain that economic issues took precedence over the maintenance of democratic institutions among the lower classes, as Robinson suggests, the issues of freedom of the press and impartial use of the state radio seem to have been of some importance within the official and professional groups and of considerable importance within the political parties. This is hardly surprising since "the press played a major role in stimulating interest in politics and brought about active popular participation in the political struggle of the 1946-1960 period and thereafter."³ Indeed, before the 1950 election the Republicans accused the Democrats

¹Robinson, op. cit., pp. 208-9.

²W. F. Weiker, The Turkish Revolution, 1960-1961: Aspects of Military Politics (Washington, D. C.: Brookings Institution, 1963), p. 4.

³Karpat, Turkey's Politics, p. 333.

of violating accepted political procedure by appealing to the masses through the media: "[I]nstead of proposing political changes through the National Assembly, [the Democrats] tried to force such changes upon the government through mass pressure."¹ The tables were turned when the role of opposition changed hands after the 1950 election.

The Democrats' economic policy, abuses in handling public funds, favoritism in giving contracts, and other derelections began to be criticized, in 1953, whereupon the government adopted a series of amendments abridging the freedom of the press and leaving journalists at the mercy of the authorities.²

As the repression continued in the following years, the control of the press itself became an issue. Similarly, the use of the state radio, which had become non-partisan somewhat like the BBC, also became an issue

[A]fter 1955, the Democrats claimed that the radio belonged to the government, Menderes declaring that the government needed it to "address directly our beloved nation....We see," he said, "that almost all newspapers are working on behalf of the opposition....They use every available means to interpret events in favor of the opposition...Our speaking on the radio from time to time, may be considered an answer to them. This means that we have taken a step to establish a balance."³

The government's use of the state radio was an issue as early as the 1954 election.⁴

¹Ibid., p. 334.

²K. H. Karpat, "The Mass Media: Turkey," in R. E. Ward and D. A. Rustow, eds., Political Modernization in Japan and Turkey (Princeton: Princeton University Press, 1964), p. 280.

³Ibid., p. 281.

⁴Hanson, op. cit., p. 67.

Foreign policy issues seem not to have been very salient in Turkey. Throughout the period from 1950 up to the coup of 1960, all major political parties supported the government's pro-Western foreign policy and the mass of voters were not very concerned with foreign issues.¹ There were, however, some minor exceptions. By 1959 some nationalist and anti-American sentiments were being heard, in part as a result of American economic assistance to Turkey which had the domestic political effect of propping up the Democratic administration. The Cyprus conflict, in the opinion of one observer "was more in the nature of a convenient diversion of attention from pressing domestic problems for both [the Greek and Turkish] governments."²

In short, a large proportion of political activity in Turkey in the decade 1950 to 1960 focused on access to decisions affecting the economy, the practice of religion, the press, and the state radio. These are the access values incorporated in these models.

Institutions. Perhaps the most important political institutions in Turkey are political parties. Frey, for example, has gone so far as to say that

Turkish politics are party politics....the political party in Turkey during the period studied had at

¹K. H. Karpat, "Society, Economics, and Politics in Contemporary Turkey," World Politics, 17 (October 1964), p. 71; and Robinson, op. cit., pp. 162-3.

²Robinson, op. cit., p. 188.

least two vital integrative effects: It was the primary agency for providing the requisite intra-governmental coordination at the highest level, and it was the basic institution mediating between government and the extragovernmental systems in the society.¹

By intragovernmental coordination Frey means the coordination of the activities of the Grand National Assembly and the Cabinet formed from its members. By extragovernmental mediation he refers to the role of the political party as "the main unofficial link between the government and the larger, extragovernmental groups of people on whose support the government depends and whose activities it must mobilize--voters, interest groups, local communities, social strata, and the like."²

Frey's assertions about the prominence of political parties in the latter role are consistent with Rustow's rather blunt observation that "Pressure groups are notably absent from the Turkish political scene."³ Given that we must choose to incorporate into our analysis only a few of the institutions performing these and similar functions, it makes sense to choose political parties and not, for example, alternatives such as the bureaucracy or interest groups.

Since 1946 Turkey has had a multi-party system, but not all of these parties are worth incorporating explicitly for our purposes. In addition to the Republican People's Party,

¹Frey, op. cit., pp. 301-2. The emphasis is Frey's.

²Ibid., p. 301.

³Rustow, op. cit., p. 196.

the Democratic Party, and the National Party, there were at least twenty-one other parties formed in the period 1946-1950, and at least twelve of these still existed in 1950.¹ In the 1950 and 1954 elections, however, most observers agree that the Republican, Democratic, and National parties were the only significant parties, and these are the three that we shall include in these applications. The most serious omission in this choice is the Freedom Party, a short-lived party formed early in 1956 by the former liberal wing of the Democratic Party. It was the fourth-largest party in Turkey until it merged with the Republican Party in November 1959.

Under the Constitution of 1924, which was replaced in 1961, the Grand National Assembly became the focal institution in the Turkish government. We shall include it in these models as the legislative arena. According to the Constitution of 1924 only the Grand National Assembly represented the Turkish nation, and only it exercised the right of sovereignty in the name of the nation. The Constitution specified that "legislative authority and executive power are manifested and concentrated in the Grand National Assembly."² The judiciary was made independent in the discharge of its daily functions, but there was no constitutional court empowered to review the constitutionality of legislation passed by the

¹Karpat, Turkey's Politics, pp. 440-1.

²Quoted in Frey, op. cit., p. 9.

National Assembly. With only very minor exceptions, the authority of the National Assembly was made absolute under the Constitution, not as a matter of political theory but of practical necessity in carrying out the regime's program of modernization.¹ "The virtually unlimited possibilities of dictatorship over the legislative process through control of the majority party in the single chamber," in the opinion of one observer, "had been exploited to the fullest extent by Menderes, and one of the major aims of the 1961 constitution makers was to reduce the scope of these possibilities."² Under the Constitution of 1961 Turkey has a bicameral legislature, and the representatives in the two chambers are elected by different means and for different terms of office.

In addition to the three major political parties and the Grand National Assembly, we shall include in these applications two more or less informal institutions specialized to communications, the radio network and the press. We have already seen how political activity which was blocked or became ineffective in the party and legislative arenas tended to be channeled through the mass communications media. Issues were in effect taken to the people by the Democrats when they could not achieve their ends in the Assembly before 1950, and by the Republicans after 1950. In addition, much of the

¹See ibid., pp. 6-11 and Karpas, Turkey's Politics, pp. 137-8.

²Weiker, op. cit., p. 77.

electoral activity focused on the utilization of the mass media to obtain partisan support. In broader terms, increases in communications facilities have been considered one of the major factors in the relative redistribution of power from the elites to the masses in Turkey.¹

The military, as we have seen, was largely neutral in politics until a few months before the revolution. According to Lerner and Robinson

The government made policy; the army served it. So it was for thirty-seven years. But when civilian leadership seemed to falter...the situation changed.... When the tightly closed regime tried to use the army for its own partisan political purpose--thereby violating the basic Kemalist doctrine of an apolitical army--it subverted the principle of civilian authority. The only way to save civilian supremacy under these conditions was, paradoxically, a military coup to install a caretaker regime that would reestablish the conditions of democratic civil government.²

In these applications we shall include the military as a political institution or arena to which political parties may appeal for partisan purposes; we shall not, however, simulate the interactions between the parties on the one hand or the military on the other, but focus instead on the political process in which issues were escalated from the legislative

¹F. W. Frey, "Political Development, Power, and Communications in Turkey," in L. W. Pye, ed., Communications and Political Development (Princeton: Princeton University Press, 1963), pp. 324-6.

²D. Lerner and R. D. Robinson, "Swords and Plowshares: The Turkish Army as a Modernizing Force," World Politics, 13 (October 1960), pp. 19-44.

and mass media arenas into the military arena in the few months preceding the coup.

These structural choices are summarized in Table 7.1.

Table 7.1. Structural Choices in the Application of the Models to the Case of Turkey.

Political Groups, by Occupation.

1. Agriculture.
2. Trade, Commerce, and Industry.
3. Professions.
4. Official (Government).
5. Religious.

Political Values: Access to Decisions Affecting

1. Income (the economy).
2. Religion.
3. The Press.
4. Radio.

Political Institutions or Arenas.

1. Party Arena.
 - a. Republican People's Party.
 - b. Democratic Party.
 - c. National Party.
2. Legislative Arena: The Grand National Assembly.
3. Political Support Arena.
 - a. Radio network.
 - b. Press.
4. Military Arena.

Socio-Economic Trends.

To represent the social and economic background of politics, the models based on the theories of Lipset and Huntington require time series data on the size of each group,

the aggregate income of each group, and each group's exposure to the mass media. The data available for this purpose are, in various degrees, incomplete and of questionable reliability.

Given the problem and the data available, two things can be done. First, data on changes through time, data on differences between groups at a cross-section in time, and a set of assumptions can be used to generate the necessary time series. In effect, we utilize the data available to build variance between groups and across time into the estimates. While the estimates derived are to some extent inevitably an inaccurate reflection of the historical period they purport to describe because unmeasured variance is left out, they are at least not inconsistent with the data available. Second, we can assess the impact of real or suspected errors in certain inputs through sensitivity analysis. This involves making systematic variations in inputs, operating the models, and assessing the difference in outputs from one run to the next. If the difference in output attributed to an input is small, the input is not sensitive and the question of measurement error is of little concern. If the difference in output is large, the results of the initial experiment must be qualified and refined measures are needed for subsequent analyses. To re-emphasize, even such crude estimates as these are useful for purposes of probing the behavioral properties of the models and their underlying structures.

Population. The size or population of the agricultural, trade, professional, official and religious groups for the census years 1950, 1955, and 1960 can be estimated from census data on major groups of occupation of those aged 15 years and older.¹ Unfortunately, only one of the groups we have selected (agriculture) appears to be nearly identical with one of the census categories (Farmers, Lumbermen, Fishermen, Hunters and Allied Workers). For the other four groups it is necessary to aggregate some of the census groups and to disaggregate others. Aggregation presents no problem, but disaggregation requires rather detailed occupational breakdowns and these are available only for the census of 1955. (Comparable breakdowns for the 1960 census are not available, and comparable breakdowns for the 1950 census were published only for the population aged 5 years and older.) In 1955 those employed in religious professions constituted 13.6% of the category Professional, Technical and Allied Workers. The detailed breakdowns of the 1955 census also reveal several occupations which for our purposes should be classified governmental or official: Professors and teachers comprised 33.8% of the category Professional, Technical, and Allied Workers; public administrators comprised 5.53% of the category Businessmen, Managers, and Administrative Workers; and protective service

¹General Statistical Office, Census of Population, 22 October 1950, Table 38; General Statistical Office, Annuaire Statistique, 1963, p. 67.

Table 7.2. Redefining Census Groups

Agriculture Group

Farmers, Lumbermen, Fishermen, Hunters and Allied Workers.

Trade, Industrial, and Commercial Group

Businessmen, Managers, and Administrative Workers.

Salesmen and Related Workers.

Miners, Operatives in Mining and Quarrying.

Workers in Operating Transport Occupations.

Craftsmen and Production Process Workers.

Manual Workers.

Service Workers.

- Public Administrators (5.53% of the Businessmen, Managers and Administrative Workers).
- Public Protective Service Workers (22.8% of the Service Workers).

Professional Group

Professional, Technical, and Allied Workers.

- Religious Professionals (13.6% of the Professional, Technical, and Allied Workers).
- Professors and Teachers (33.8% of the Professional, Technical, and Allied Workers).

Official Group

- + Public Administrators.
- + Public Protective Service Workers.
- + Professors and Teachers.

Religious Group

- + Religious Professionals.

Others

Persons on interest, dividends, or rents.

Retired persons.

Students.

House Wives.

Prisoners.

Others.

workers employed by the government (such as policemen) compromised 22.8% of the category Service Workers. Assuming these percentages from the 1955 census to be approximately correct for 1950 and 1960 as well, we can isolate these subgroups and aggregate them with other census groups to estimate the size of the occupational groups in 1950 and 1960, as shown in Table 7.2.

Given these estimates of group size for 1950 and 1960 and the data for group size in 1955 it is a simple matter to calculate estimates of group size for the years between censuses. We assume that the growth through time of each group can be described by a smooth curve of the form

$$N_{i,t} = a_i + b_i t + c_i t^2$$

where $N_{i,t}$ is the size of the i -th occupational group at time t , and a_i , b_i , and c_i are constants to be calculated for each group. The three censuses occurred near the beginning of the third quarter at five year intervals starting in 1950. Consequently, we can write three equations of the above form (one for $t = 1.75$, $t = 6.75$, and $t = 11.75$) and solve the set of equations for the three unknowns, a_i , b_i , and c_i . We can then use these solutions to calculate the estimated mid-year size of each group at successive years by setting $t = 1.5, 2.5, 3.5, \dots, 11.5$. The results are presented in Table 7.3. These estimates are used as inputs to the simulation models.

Table 7.3. Estimated Mid-Year Size of Occupational Groups in Turkey, Population aged 15 Years and Older. (In millions of persons)

	Agricul- tural Group	Trade Group	Profes- sional Group	Offi- cial Group	Reli- gious Group	Others	Total
1950	8.909	1.560	.059	.095	.016	2.205	12.855
1951	9.139	1.636	.064	.105	.017	2.214	13.176
1952	9.340	1.716	.070	.114	.018	2.249	13.507
1953	9.513	1.800	.076	.120	.020	2.311	13.840
1954	9.658	1.887	.081	.125	.021	2.400	14.173
1955	9.775	1.978	.087	.128	.023	2.516	14.507
1956	9.864	2.072	.092	.130	.024	2.659	14.841
1957	9.924	2.170	.097	.130	.025	2.829	15.175
1958	9.956	2.272	.103	.128	.027	3.025	15.511
1959	9.960	2.377	.108	.124	.028	3.249	15.846
1960	9.936	2.486	.113	.119	.030	3.500	16.183

Income. Official Turkish sources provide two sets of information that can be used to estimate aggregate distribution of income between groups and through time. One set gives Turkish gross domestic product according to sectors of industrial origin at constant (1948) factor prices for the period 1950 to 1961.¹ Another gives economically active population

¹State Institute of Statistics, National Income of Turkey, 1948, 1950-1959, p. 8; and State Institute of Statistics, National Income: Total Expenditure and Investment of Turkey, 1948, 1958-1965, p. 2.

aged 15 years and older by industrial sector and by major groups of occupation for 1955.¹

A number of assumptions are required to estimate the time series we need. First, we assume that for 1955 the total contribution in Turkish Lira of an industrial sector to domestic product is distributed among the ten major occupational groups according to each group's proportion of total employment in the sector. Thus if 99.7% of the Farmers, Lumbermen, Fishermen, Hunters and Allied Workers are employed in the agricultural sector of the economy in 1955, then we assume that 99.7% of agriculture's contribution to national product in 1955 accrues to this group as income in 1955. Second, since data on employment by industrial sector and major occupational groups are not available for years other than 1955, we must assume that each group's proportion of employment in each sector remains constant over the period under consideration. Thus if the Farmers, Lumbermen, Fishermen, Hunters, and Allied Workers account for 99.7% of the total employment in the agricultural sector in 1955, we assume that they also account for 99.7% in 1950, 1951, . . . , 1960. Finally, we must assume, as before, that the income of major occupational groups in the census can be aggregated into the income of occupational groups selected for this study as shown in Table 7.2. These assumptions are sufficient to produce the

¹General Statistical Office, Census of Population, 23 October 1955, Table 48.

Table 7.4. Estimated Annual Income of Occupational Groups in Turkey, Population Aged 15 Years Old and Older. (In millions of Turkish Lira at 1948 factor prices)

	Agricul- tural Group	Trade Group	Profes- sional Group	Offi- cial Group	Reli- gious Group	Others	Total
1950	4552	3463	83	135	22	864	9119
1951	5493	3843	94	152	24	914	10519
1952	5849	4287	105	170	27	982	11419
1953	6404	4848	116	185	30	1110	12693
1954	5145	4810	117	190	30	1194	11487
1955	5612	5162	134	216	35	1204	12362
1956	6099	5440	139	225	36	1261	13199
1957	6254	5910	152	244	39	1421	14020
1958	7347	6349	164	264	42	1533	15699
1959	7323	6868	169	276	44	1668	16349
1960	7410	6994	176	287	46	1802	16715

estimates of group income by year presented in Table 7.4.

The same estimates are presented in per capita terms in Table 7.5.

It is difficult to check these results against independent sources because discussions of Turkish income distribution tend to be impressionistic and ambiguous: The groups referred to are sometimes not well-defined, the year under consideration is often not clear, and there is sometimes doubt concerning the use of constant or current T. L., or T. L.

Table 7.5. Estimated Annual Per Capita Income of Occupational Groups in Turkey, Population Aged 15 Years and Older. (In Turkish Lira at 1948 market prices)

	Agricul- tural Group	Trade Group	Profes- sional Group	Offi- cial Group	Reli- gious Group	Others	Total
1950	511	2220	1415	1422	1349	392	710
1951	601	2349	1462	1449	1423	413	798
1952	626	2498	1496	1487	1504	437	845
1953	673	2694	1521	1538	1495	481	917
1954	533	2549	1449	1520	1445	498	810
1955	574	2610	1535	1685	1501	479	852
1956	618	2625	1508	1732	1494	474	889
1957	630	2723	1566	1880	1571	502	924
1958	738	2795	1592	2064	1570	507	1012
1959	735	2890	1569	2223	1565	513	1032
1960	746	2813	1559	2415	1518	515	1033

expressed in market or factor prices.¹ One of the least ambiguous comments is Rivkin's statement, apparently referring to 1960, that per capita rural GNP was only slightly more than half the national figure.² In Table 7.5 the agricultural group's per capita income is about 72% of the national level, but the agricultural group includes a significant percentage

¹See Z. Y. Hershlag, Turkey: An Economy in Transition (The Hague: Van Keulen, second edition), pp. 287-9.

²M. D. Rivkin, Area Development for National Growth: The Turkish Precedent (New York: Praeger, 1965), p. 102.

(13% in 1950) of non-rural persons who are presumably rather wealthy compared to the mass of villagers in agriculture. The most that can be said is that our estimate of income inequality between the agricultural group and the nation as a whole is in the right ball park but perhaps somewhat underestimated. The least plausible result in Table 7.5 is the growing discrepancy between professional and official per capita income after about 1957. This is in large part a result of the increase in the number of professionals and the decrease in the number of officials.

Media Exposure. Compared to population and income data, the data needed to estimate the five group's exposure to radio and newspapers are the least reliable and most incomplete. Because radio receivers in Turkey must be licensed, data are available for the number of receivers in rural and urban areas from 1950 to 1960, although the definition of rural and urban is not clear.¹ Data are also available on the number of daily newspapers published from 1950 to 1961.² In addition we can use for these purposes data on the number of persons aged 15 years and over by major groups of occupations

¹F. W. Frey, "The Mass Media and Rural Development in Turkey," (Cambridge: Center for International Studies, 1966), p. 15; and State Institute of Statistics, Annuaire Statistique, 1963, p. 519.

²Frey, "The Mass Media and Rural Development in Turkey," p. 13; and Karpat, "The Mass Media: Turkey," p. 279.

who lived in settlements of more and less than 5,000 in 1950.¹

These data, however, are more directly relevant to media access than to media exposure. By access is meant the opportunity to listen to a radio or to read or hear read a newspaper in one's village, town, or city. By exposure is meant the frequency of utilization of these opportunities in a specified time period.² In 1963, the Population Council conducted a sample survey of Turkish married women under the age of 45 and their husbands. The survey results indicated that among respondents living in settlements of less than 2,000, 43% were exposed to radio at least once a week, and 21% were exposed to a newspaper at least once a week. Among respondents living in settlements of greater than 2,000, the weekly rate of exposure to radio was 82% and the weekly rate of exposure to newspapers was 64%.³

Several assumptions are required to construct the necessary time series from these data. First, we assume that the proportion of each group which resided in rural and urban areas in 1950 remains constant over the period of the analysis, and that the rural-urban distribution of newspapers in each year (for which we do not have data) is identical to the rural-urban

¹General Statistical Office, Census of Population, 22 October 1950, Table 32.

²This distinction is made in Frey, "The Mass Media and Rural Development in Turkey."

³Derived from data in ibid., p. 46.

distribution of radios (for which we do have data). Second, in order to build in variance among groups and across time, we assume that access will vary with the relative distribution of the media and group population among rural and urban sectors and through time. More precisely, for any year group access to radio is proportional to rural radios times the group's proportion of rural population plus urban radios times the group's proportion of urban population, all of which is divided by total group population. Group access to newspapers is calculated in the same way. This produces raw estimates of the number of radios and newspapers per capita for each group for each year. Third, in order to incorporate the distinction between availability of media and exposure to media, we assume that the proportion of the agricultural group exposed to each medium in 1961 should be approximately the same as the proportion of villagers exposed as determined by the Population Council survey. Similarly, we assume that the proportion of the non-agricultural population exposed to each medium in 1961 should be approximately the proportion of non-villagers exposed as determined by the Population Council survey. Using the raw estimates for 1961 and the proportions exposed as reported above, we can calculate for each group and each medium an adjustment factor giving exposure per radio or exposure per newspaper. Assuming these adjustment factors are stable over time, we can estimate the proportion of each group exposed to each medium in each year by multiplying the adjust-

Table 7.6. Estimates of the Proportion Exposed to Radio at Least Weekly by Groups and Years.

	Agricultural Group	Trade Group	Professional Group	Official Group	Religious Group
1950	.086	.370	.346	.393	.323
1951	.127	.450	.407	.453	.390
1952	.176	.572	.496	.556	.494
1953	.224	.686	.575	.664	.559
1954	.262	.738	.609	.719	.603
1955	.290	.738	.594	.737	.580
1956	.317	.724	.578	.745	.574
1957	.329	.727	.576	.783	.579
1958	.344	.741	.579	.849	.571
1959	.357	.742	.579	.918	.577
1960	.381	.790	.616	1.000	.598

ment factors (in units of number exposed per radio or newspaper) by the raw estimates (in terms of radios or newspapers per capita). The results are presented in Table 7.6 and 7.7.

The only reasonably direct estimate of exposure by occupation that can be used to check these results is the report by Stychos that of the village spiritual leaders (Imams) about 44% read a newspaper once a week or more in 1963.¹ This is reasonably close to our estimate that the newspaper exposure

¹J. M. Stychos, "The Potential Role of Turkish Village Opinion Leaders in a Program of Family Planning," Public Opinion Quarterly, 29 (Spring 1965), p. 126.

Table 7.7. Estimates of the Proportion Exposed to Newspapers at Least Weekly by Groups and Years.

	Agricultural Group	Trade Group	Professional Group	Official Group	Religious Group
1950	.048	.325	.303	.345	.283
1951	.062	.342	.309	.344	.297
1952	.141	.713	.618	.693	.615
1953	.134	.634	.532	.615	.518
1954	.130	.562	.464	.548	.460
1955	.125	.497	.400	.496	.391
1956	.124	.440	.351	.453	.349
1957	.195	.673	.534	.726	.536
1958	.206	.751	.587	.861	.576
1959	.217	.705	.550	.872	.548
1960	.223	.721	.562	.973	.546

of the religious group in 1961 was 49%. However, the village Imams and the religious professionals are not entirely the same group: The latter, for example, includes men living in towns and cities. Impressionistically, the least plausible aspect of the time series in Tables 7.6 and 7.7 is the relatively low exposure rates in the earlier years. This suggests that perhaps the adjustment factors are not constant, but that exposure per radio or newspaper declines as the number of radios and newspapers increases.

Initial Conditions and Parameters.

Access and Support. The access of social groups in political parties, and political parties in the legislative and military arenas can be estimated somewhat crudely from Frey's data¹ on the previous occupation and party affiliation of deputies in the Grand National Assembly in 1950. Lacking more direct behavioral data, it is necessary to infer access from representation in terms of seats in the National Assembly. Thus if twenty-seven professionals sit in the Grand National Assembly as deputies of the R.P.P., the access of the professionals in the R.P.P. is set at twenty-seven. Furthermore, if seventy-one R.P.P. deputies of any group sit in the assembly, the access of the R.P.P. in the Assembly is set at seventy-one. Finally, the access of parties in the military arena is taken to be the number of ex-military men in its parliamentary delegation.

Estimates of group support for political parties can be taken from results of the election of 1950, in which the Democratic Party received 53.5% of the vote, the R.P.P. 40.0% and the National Party and independents (which are aggregated) the remaining 6.5%. It should be noted that the total number of people over 15 years of age in mid-1950 is somewhat greater than the number of voters in the 1950 election. There is, however, no evidence available to indicate that the distribution

¹I am grateful to Professor Frey for giving me access to raw data from his Turkish elite study.

of support in this age group differs significantly from the distribution of votes.

For access and support inputs we do not have breakdowns in terms of specific issues and specific groups, respectively, even though an actor's access may differ from one issue to the next and a party's proportion of support may differ from one group to the next. Consequently, with one exception, the only non-arbitrary solution is to set access levels equal across issues and to set the support proportion equal across groups. The exception is the trend toward equal access to the media among parties, which must be taken into account: The opposition parties clearly had more access than the distribution of seats among parties suggests. Consequently, access to decisions affecting the press and radio was made more equitable by adding to the access of each opposition party half the difference between its equal share of 165 seats ($1/3$ of the total) and its actual share, and subtracting the same amount from the governing party. This modification represents the impact of the developing norm of equal access to the media on the "raw" distribution of voting power determined by the election.

The distribution of access and support determined by these data and assumptions are presented in Table 7.8.¹ Since we

¹Seventeen D.P. deputies defected to another party during the four years of the Ninth Grand National Assembly. Consequently, seventeen more D.P. deputies appear in this table than in Frey's published results.

Table 7.8. Estimated Access and Support Distributions, Mid-1950

a. Access in the Party Arena: AP(G,V,P)								
	R.P.P.				D.P.			
	Radio	Press	In-	Reli-	Radio	Press	In-	Reli-
			come	gion			come	gion
Agricultural	7	7	7	7	41	41	41	41
Trade	11	11	11	11	83	83	83	83
Professional	27	27	27	27	208	208	208	208
Official	25	25	25	25	78	78	78	78
Religious	1	1	1	1	3	3	3	3
Total	71	71	71	71	413	413	413	413
N.P. and Others								
	N.P. and Others				Total			
	Radio	Press	In-	Reli-	Radio	Press	In-	Reli-
			come	gion			come	gion
Agricultural	*	*	*	*	48	48	48	48
Trade	*	*	*	*	94	94	94	94
Professional	6	6	6	6	241	241	241	241
Official	4	4	4	4	107	107	107	107
Religious	*	*	*	*	4	4	4	4
Total	10	10	10	10	494	494	494	494

b. Access in the Legislative Arena: AG(P,V)

	Radio	Press	Income	Religion
R.P.P.	118	118	71	71
D.P.	289	289	413	413
N.P.	87	87	10	10
Total	494	494	494	494

c. Access in the Military Arena: AM(P,V)

	Radio	Press	Income	Religion
R.P.P.	7	7	7	7
D.P.	20	20	20	20
N.P.	1	1	1	1
Total	28	28	28	28

d. Support in the Support Arena: AE(P,G)
(Millions of persons aged 15 and over)

	Agric.	Trade	Prof.	Official	Religious
R.P.P.	3.564	.624	.024	.038	.006
D.P.	4.766	.835	.031	.051	.009
N.P.	.579	.101	.004	.095	.001
Total	8.909	1.560	.059	.095	.016

*Where there is no representation, a value of .01 is used in order to provide the models with the non-zero data they require.

have not defined processes within the military system, access in the military system is used only as a baseline to determine the extent to which stress and conflict are escalated into the military system. The absolute magnitudes of these estimates in the military system are irrelevant in the present version of the model.

Expectations and Stress. Initial expectation and stress levels for the arenas can only be set according to impressions of cleavage and consensus among actors just after the election of 1950. These levels are given in Table 7.9.¹ In the party arena, there seems to have been a good deal of consensus on the salience of the income issue for all five groups. For the professional and official groups, access to the radio and press were more important than access to religion. However, for the other groups access to religion was more important than access to the media. In the legislative arena, the most salient issues for the D.P. and N.P. seem to have been income and religion, while the most salient for the R.P.P. seem to have been the media issues. In the support arena there appeared to be some consensus among the three parties on the priority of support from the agricultural group but conflict on the relative priority of the other groups.

¹Expectation levels were set to produce the indicated levels of stress. After the runs in Part III were completed, a punching error was discovered. It had the effect of making SE(2,1), the D.P.'s stress toward increased support from the agricultural group, equal to about .102 rather than .100. Otherwise, differences between stresses in the party, legislative, and support arenas are in multiples of .02.

Table 7.9. Estimated Stress Levels, Mid-1950

a. Stress in the Party Arena: SP(G,V)

	Radio	Press	Income	Religion
Agricultural	.04	.04	.10	.06
Trade	.04	.04	.10	.06
Professional	.08	.08	.10	.04
Official	.08	.08	.10	.04
Religious	.04	.04	.08	.08

b. Stress in the Legislative Arena: SG(P,V)

	Radio	Press	Income	Religion
R.P.P.	.10	.10	.08	.06
D.P.	.08	.08	.10	.10
N.P.	.06	.06	.08	.10

c. Stress in the Military Arena: SM(P,V)

	Radio	Press	Income	Religion
R.P.P.	.01	.01	.01	.01
D.P.	.01	.01	.01	.01
N.P.	.01	.01	.01	.01

d. Stress in the Support Arena: SE(P,G)

	Agric.	Trade	Prof.	Official	Religious
R.P.P.	.08	.06	.08	.08	.06
D.P.	.10	.08	.06	.06	.06
N.P.	.08	.06	.06	.06	.08

Other Initial Conditions. The remaining initial conditions pertain to the distinct rather than the common features of the two models. Tolerance, as defined in the Lipset model, is a relative barrier to interaction between two actors such that a value of one implies indifference on the tolerance-intolerance dimension.¹ Values greater than one imply some degree of tolerance and increase the impact of communications from one actor to another; values less than one imply some degree of intolerance and decrease the impact of communication. Where data is lacking, these tolerance levels are set at one as shown in Table 7.10. However, some of these initial levels can be estimated crudely from Frey's data on the localism of deputies elected to the Ninth Assembly in 1950. Localism is measured as the number of deputies in each party who were born in the province they represent, and distinguishes the national elite from the local elite which has stronger ties to the grass roots. Since the data have been broken down by group and party, we can estimate the tolerance between each group and party as one plus the proportion of local deputies from a group in each party minus the proportion of localism in the party as a whole. In effect, this assumes that the greater the localism proportion of a group in a party compared to the localism proportion in the party as a whole, the stronger

¹Tolerance is not defined in the Huntington model, but implicitly the level of tolerance between all pairs of actors is one.

Table 7.10. Initial Conditions Unique to the Lipset Model

a. Tolerance: TLF(I,J)

	Agric.	Trade	Prof.	Offic.	Relig.	R.P.P.	D.P.	N.P.
Agric.	1.00	1.00	1.00	1.00	1.00	.96	1.05	1.00
Trade	1.00	1.00	1.00	1.00	1.00	1.03	1.10	1.00
Prof.	1.00	1.00	1.00	1.00	1.00	1.09	.92	1.00
Offic.	1.00	1.00	1.00	1.00	1.00	.95	.94	1.00
Relig.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
R.P.P.	.96	1.03	1.09	.95	1.00	1.00	1.00	1.00
D.P.	1.05	1.10	.92	.94	1.00	1.00	1.00	1.00
N.P.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

b. Groups' Legitimacy: LEG1(G,I)

	Party Arena	Support Arena
Agricultural	10	10
Trade	10	10
Professional	10	10
Official	10	10
Religious	10	10

c. Parties' Legitimacy: LEG2(P,I)

	Legislative Arena	Support Arena
R.P.P.	10	10
D.P.	10	10
N.P.	10	10

Table 7.11. Initial Values of Institutional Variables
in the Huntington Model

	Adaptability	Complexity	Autonomy	Coherence
R.P.P.	.260	.636	.111	.218
D.P.	.260	.636	.111	.218
N.P.	.260	.636	.111	.218
Legis.	.260	.740	.000	-.112
Support	*	*	*	.024
Milit.	*	*	*	*

*These variables do not influence the behavior of the model.

are the ties between the group and the party and the greater is their mutual tolerance.¹ Lacking data on legitimacy, the initial levels are set at 10. The scale, of course, is arbitrary.

For the Huntington model, the initial values of complexity, autonomy, and coherence are not independent inputs but calculated from access, expectation, and stress inputs as described in Chapter 2. These values, together with independent estimates of adaptability, are given in Table 7.11.

Parameters. Since data that can be used to set the parameters are lacking, the parameter values given in Table 7.12 have been derived by an iterative process of trial and error:

¹Where there are fewer than five deputies to use as a base in calculating the proportions, a value of one is assumed.

Table 7.12. Parameter Settings

a. Both Models

Basic Parameters

ESA =	.20	for all groups.	(Access elasticity)
ESA =	.10	for all parties.	(Access-support elasticity)
ESS =	.40	for all groups.	(Stress elasticity)
ESS =	.20	for all parties.	(Stress elasticity)
XCT =	.50	for legislative arena.	(Control threshold)
XAT =	.26	for all parties.	(Saliency or adaptability threshold)

Sequencing Parameters

E1 =	1.0	for entire system.	(Demand set elasticity)
X1 =	3.4	for entire system.	(Demand set threshold)
R1 =	4.0	for entire system.	(Demand set maximum)
E2 =	- 3.0	for entire system.	(Demands/set elasticity)
X2 =	3.6	for entire system.	(Demands/set threshold)
R2 =	14.0	for entire system.	(Demands/set maximum)

b. Lipset Model

ELG =	.01	for all institutions.	(Legitimacy elasticity)
ETL =	.02	for all actors.	(Tolerance elasticity)
XML =	9	for all institutions.	(Legitimacy threshold)
XMT =	.8	for all actors.	(Tolerance threshold)
XET =	1.01	for all groups.	(Effectiveness threshold)

c. Huntington Model

EAD =	.01	for all institutions.	(Adaptability elasticity)
ECM =	.01	for all institutions.	(Complexity elasticity)
EAU =	.01	for all institutions.	(Autonomy elasticity)
XCM =	.60	for all institutions.	(Complexity threshold)
XAU =	.50	for all institutions.	(Autonomy threshold)
XCH =	0.0	for all institutions.	(Coherence threshold)

A plausible set of parameter estimates together with the other inputs is used to generate the behavior of a model. Implausible or historically inaccurate behavior suggest parameter changes, a new set of parameters is used to generate the behavior of the model once more, and so on, until the remaining errors in behavior either are sufficiently insignificant or are significant but apparently can not be eliminated through further parameter changes. In the first case, the procedure indicates that the model may be one of a class of sufficiently accurate models, and further development requires more constraints in terms of more accurate and complete data. In the second case, the procedure indicates that the model is probably¹ not one of a possible class of appropriate models, and further development should emphasize the examination of errors of fit for clues to inadequacies in the structure. As we shall see, for these two models as for most first approximation models, this first weak test is a difficult one to pass, but nevertheless quite productive.²

¹One must say probably because for models such as these, it is not possible to determine behavior under all possible conditions: There is no discoverable solution as there is for the multiplier-accelerator model, and since the number of possible combinations of data inputs is infinite, all combinations cannot be tried.

²The procedure is discussed in greater detail in Ronald D. Brunner and Garry D. Brewer, Organized Complexity: Empirical Theories of Political Development (New York: The Free Press, forthcoming), Second Essay.

Most of these parameter settings have intuitively meaningful interpretations. The sequencing parameters provide for an increasing number of demand sets per quarter as stress increases because E_1 is positive, and a decreasing number of demands per set because E_2 is negative. All elasticities related to institutional effects (in particular ELG, EAD, ECM, and EAU) are set at the relatively low level of .01, suggesting small changes at each appropriate step in a run and small cumulative changes over time. In contrast, elasticities ESA and ESS governing changes in access, support, and expectation outcomes are set at significantly higher levels. For both models $XCT = .50$ implies a majority rule in the legislative arena and $XAT = .26$ implies that the priority of an issue for a party must exceed the average proportional salience (across four issues) of .25 before an increase in access is granted to another actor. For the Lipset model, legitimacy levels set at 10 must drop 10% before reaching the legitimacy threshold, $XML = 9$, and tolerance levels set at one must drop 20% to reach the tolerance threshold, $XMT = .8$. A quarterly increase of one percent in a group's aggregate stress constitutes ineffectiveness since the effectiveness threshold $XET = 1.01$. For the Huntington model, the three thresholds have percentage interpretations according to the definitions in Part I.

PART III

Chapter 8

Performance of the Lipset Model

Lipset's theory focuses on the interaction between value conflict and the legitimacy of political institutions. There can be a peaceful "play" of power with legitimate political institutions, but without them democracy becomes chaotic. Modernization and particularly mass communication enables new groups to organize around different values and perhaps destroy the legitimacy of institutions. Consequently, in examining the behavior of the model based on Lipset's theory, the focus is on trends in differences in the distribution of stress across actors (value conflict) and in the legitimacy of political institutions. First, how does the behavior of the model using Turkish inputs compare with the gross trends in Turkey considered in Chapter 6? Second, how do the realistic and unrealistic aspects of the behavior arise, and what do they suggest about the structure of the model? Finally, regardless of the fit between simulated and historical behavior, what are the general behavioral properties of the model as revealed in sensitivity analyses? The answers to these questions have an important bearing on appraising how far we have come in the development of these models and where we should go from here.

Qualitative and Quantitative Behavior.

The behavior of the Lipset model incorporating the inputs described in the preceding chapter is summarized in Table 8.1

Table 8.1. A Qualitative Summary of Activity

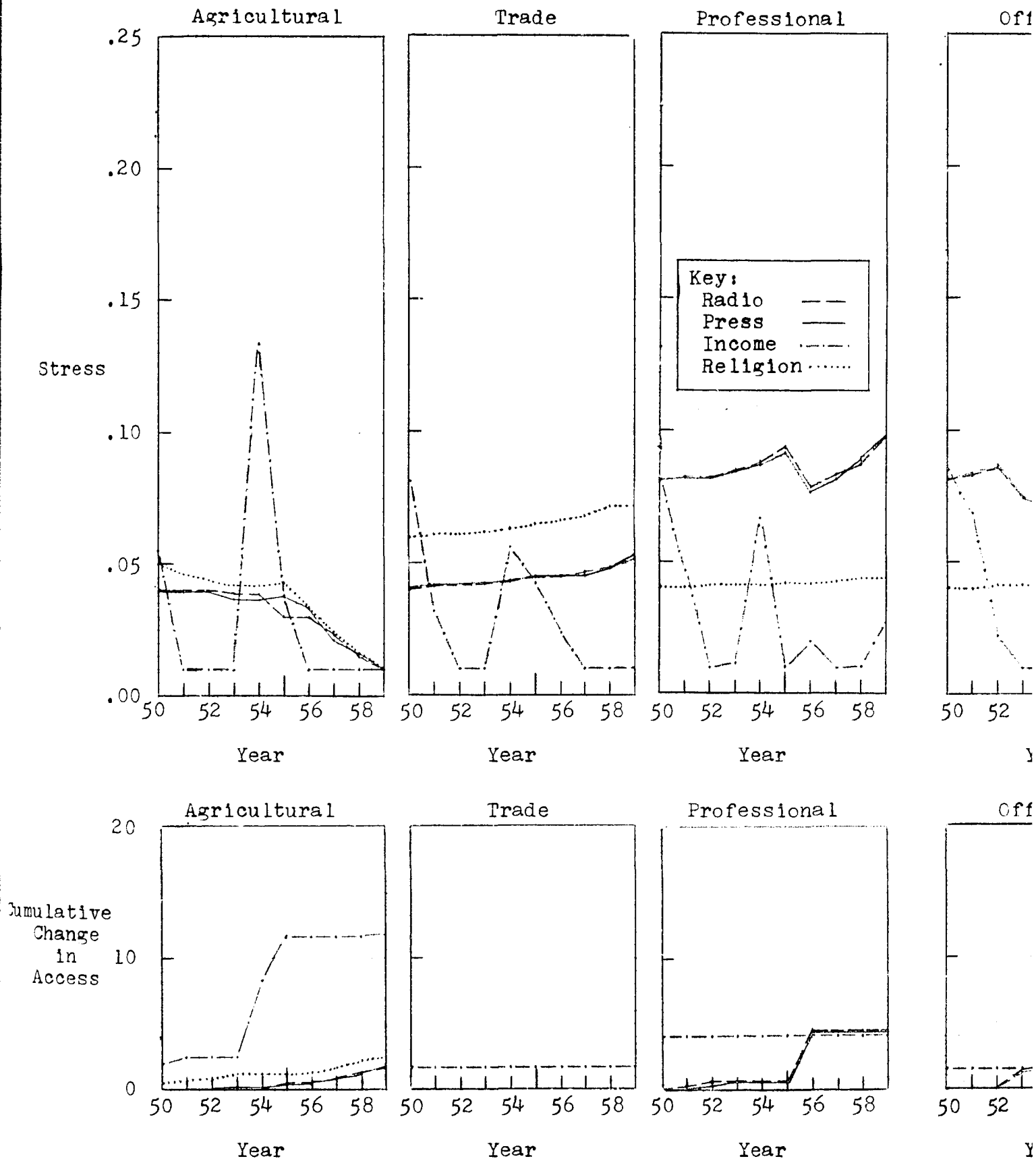
	R.P.P. Interactions					D.P. Interactions					Le A	
	Party and Support Arenas					Party and Support Arenas						
	Agr.	Tra.	Pro.	Off.	Rel.	D.P.	Agr.	Tra.	Pro.	Off.		Rel.	Un
1950						PWPW	<u>II</u>	<u>1</u>	<u>1</u>	<u>1</u>		<u>RI</u>
	<u>RI</u>		<u>I</u>			PWPW	<u>IR</u>			<u>1</u>		<u>I</u>
1951	<u>I</u>					PW	<u>I</u>			<u>1</u>		<u>P</u>
	<u>R</u>					PW				<u>1</u>		<u>IW</u>
	<u>R</u>					PWI						
	<u>R</u>					PWI						
1952	<u>R</u>					WPI						
	<u>R</u>					PWI						
	<u>R</u>					WPI						
	<u>R</u>					PWI						
	<u>R</u>					PWI						
1953	<u>W</u>					PWI						<u>R</u>
	<u>P</u>					WPI						<u>I</u>
	<u>R</u>					<u>PWI</u>						
	<u>P</u>					<u>PWI</u>						
1954	<u>I</u>					<u>PWI</u>						<u>WP</u>
						<u>PWI</u>	<u>II</u>					
						<u>PWI</u>	<u>II</u>					
						WP	<u>II</u>					
1955						WP	<u>II</u>					
						WP	<u>II</u>					
						WP	<u>II</u>					
	<u>I</u>					WP	<u>I</u>					
	<u>W</u>					WP	<u>W</u>					
1956	<u>P</u>					WP						<u>I</u>
	<u>R</u>					<u>PWI</u>						<u>W</u>
	<u>P</u>					WPI						<u>P</u>
	<u>R</u>					WPI						
1957	<u>P</u>					WPI						
	<u>R</u>					WPI						
	<u>PW</u>					WFWP	<u>RP</u>					
	<u>WW</u>					WFWP						
1958	<u>RW</u>					WPPW						
	<u>PR</u>					PWPW						
	<u>WP</u>					<u>PWPW</u>						
	<u>RW</u>					<u>PWPW</u>						
1959	<u>PR</u>					PWPW						<u>PW</u>
	<u>WP</u>					PWPW						
	<u>WR</u>					<u>PWPW</u>						
	<u>PI</u>					<u>PWPW</u>						<u>PWI</u>

and Figures 8.1 through 8.4. Table 8.1 is a qualitative summary of the activity that occurred in each simulated quarter. Figures 8.1 and 8.2 are quantitative summaries of trends in stress and access in the party and legislative arena, respectively, and Figure 8.3 is a summary of trends in stress and support in the support arena. Finally, selected trends in legitimacy and tolerance are graphed in Figure 8.4.¹

Each row of Table 8.1 gives the political acts occurring in a particular simulated quarter beginning with the third quarter of 1950 and ending with the fourth quarter of 1959. Each of the three blocks of columns summarizes the political interactions between one of the three major parties and the other actors in the system. Actions initiated by groups in the party arena are denoted by lower case letters, and actions initiated by political parties are denoted by upper case letters. If directed toward other parties, the actions of a party are initiated in the legislative arena. If directed toward social groups, they are initiated in the support arena. The letters themselves refer to the specific values at stake in each interaction: W and w refer to political access to radio; P and p refer to political access to the press; I and i refer to

¹Graphs of the quantitative trends are based on year end numerical results stored in the arrays of the /T1/ block in COMMON. The results are output as a time series summary at the end of each run. Because these storage and output routines as well as the input routines are rather cumbersome and of no conceptual or theoretical importance, they have been deleted from the listing of both programs in the Appendix.

Figure 8.1. Stress and Access Trends in the Party Arena

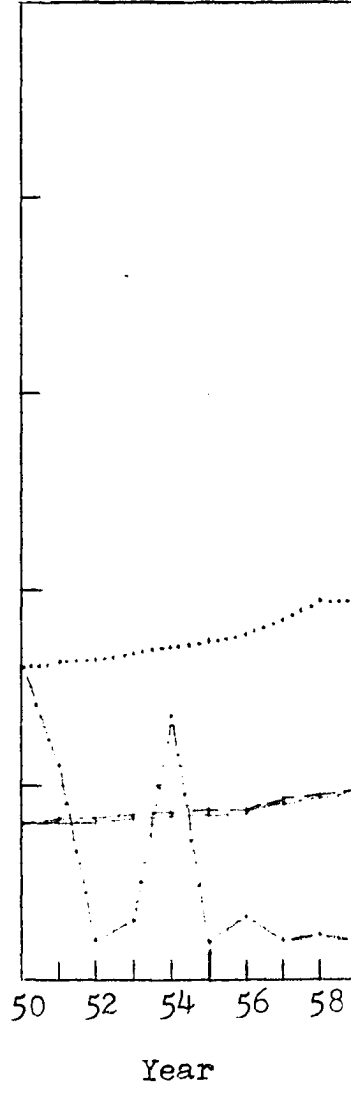
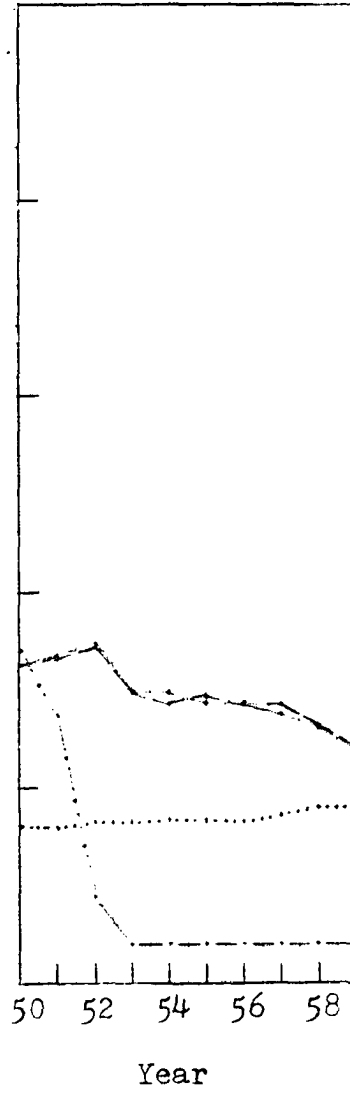
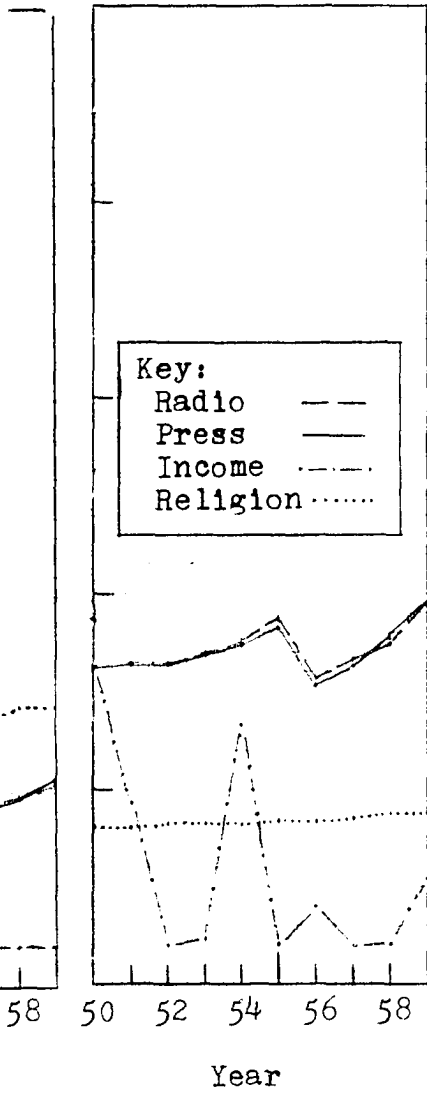


he Party Arena

Professional

Official

Religious



Professional

Official

Religious

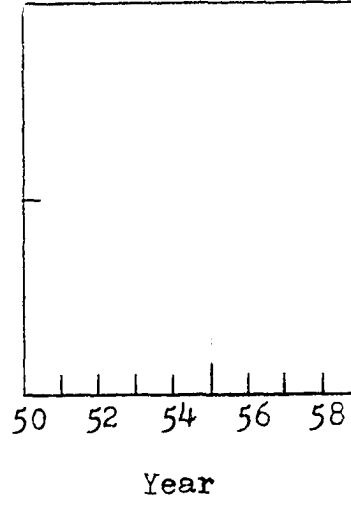
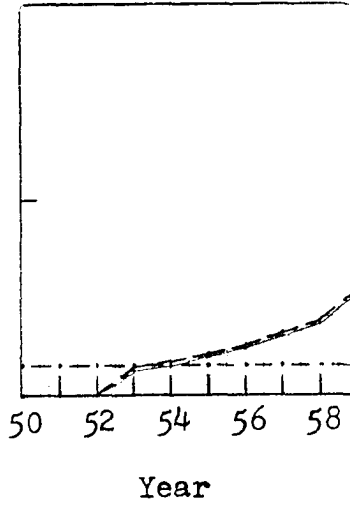
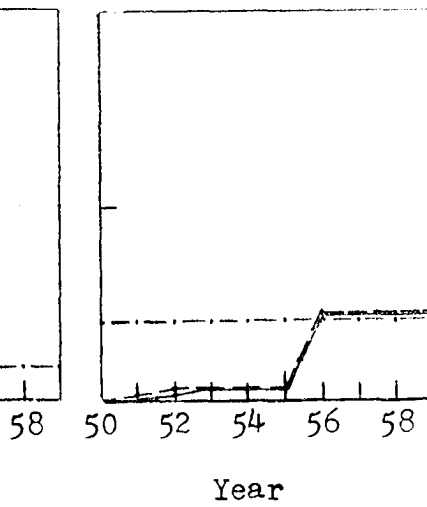


Figure 8.2. Stress and Access Trends in the Legislative Arena

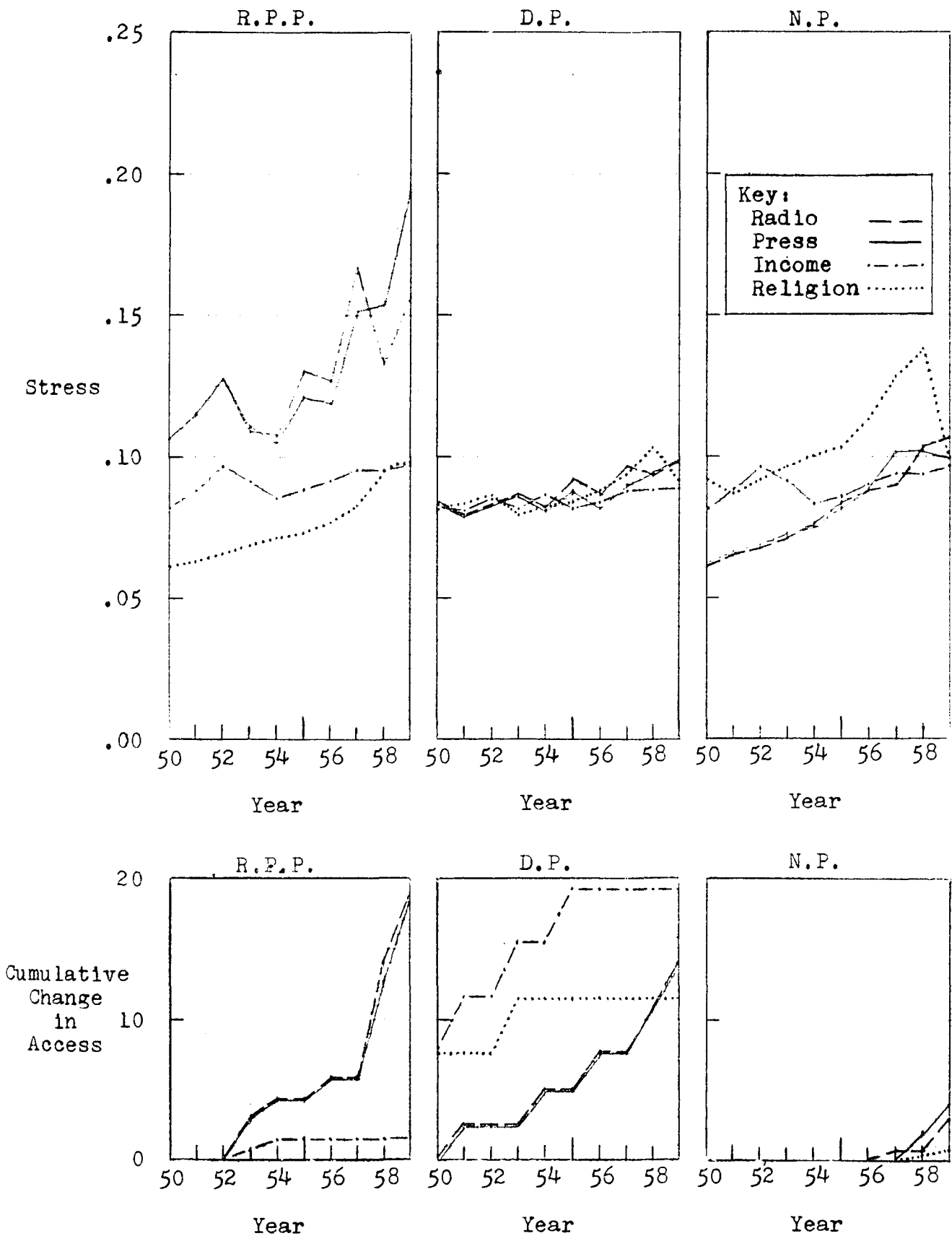


Figure 8.3. Stress and Support Trends in the Support Arena

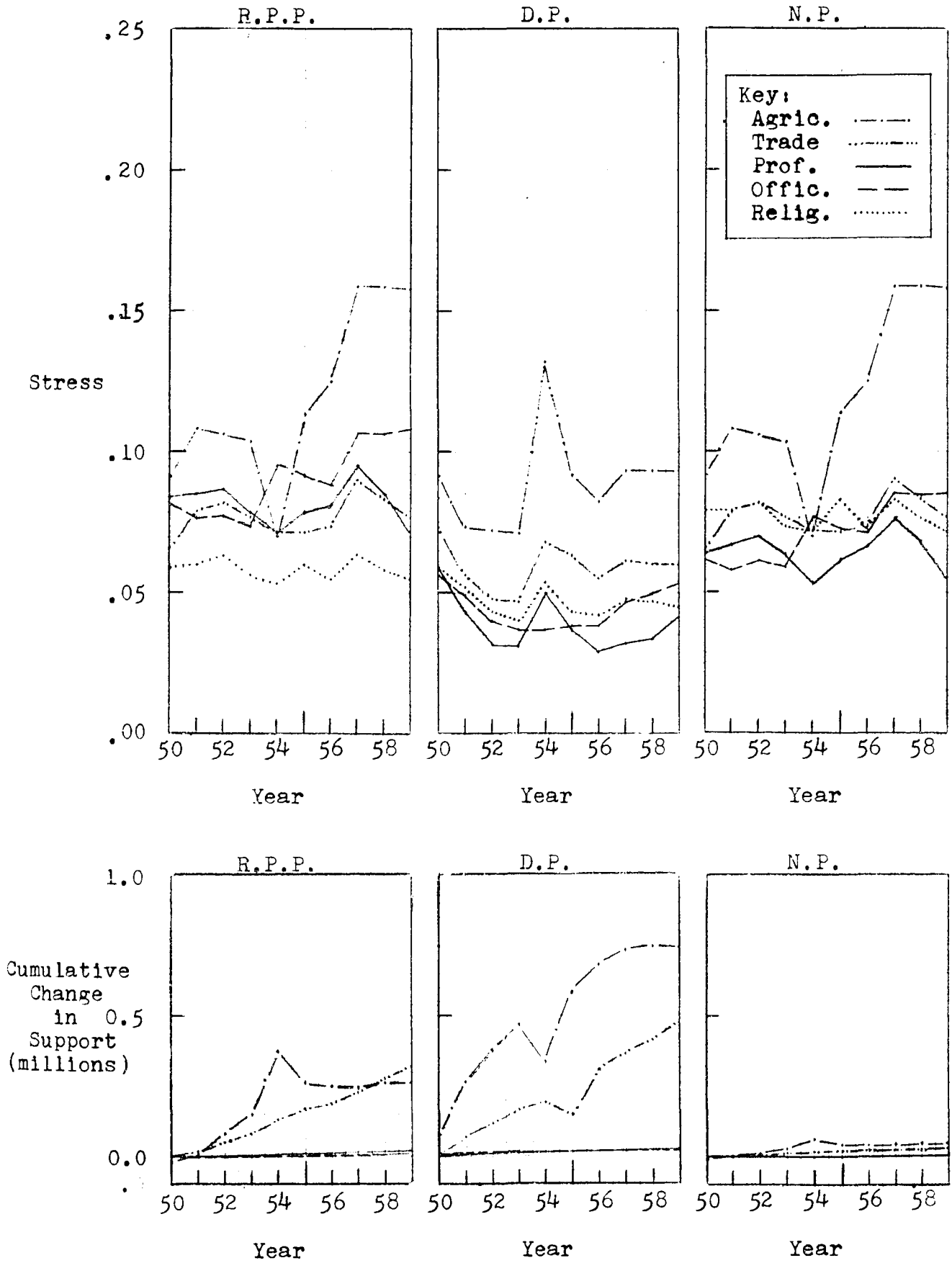
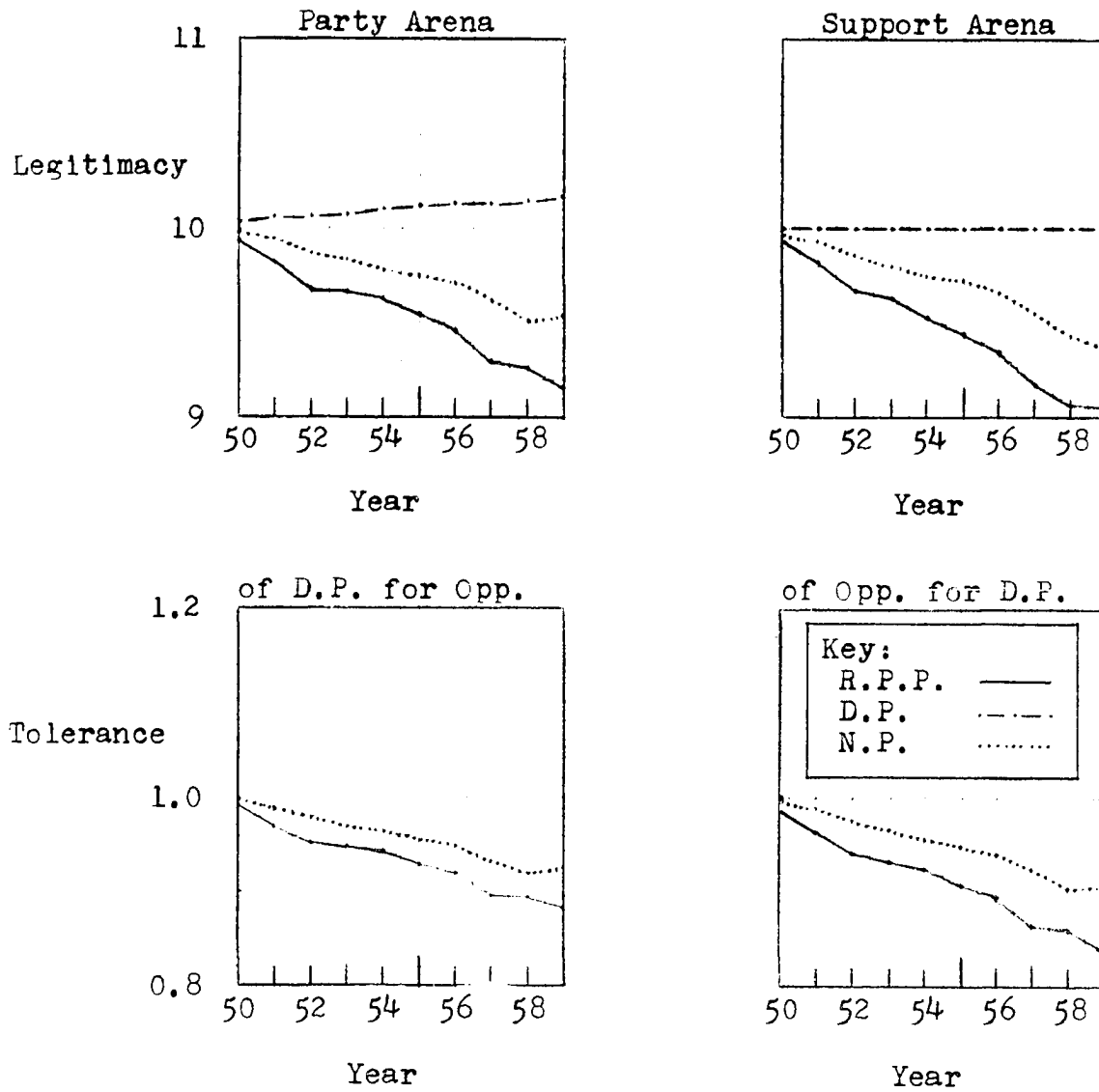


Figure 8.4. Legitimacy and Tolerance Trends



political access to income; and R and r refer to political access to religion. Actions initiated by a party in the support arena are of course motivated by the need for support, but involve concessions of access to specific values to the social groups in question. Actions contained in arenas where they are initiated are underlined; all other actions involve continuation of activity in other arenas.

Figures 8.1 through 8.4 are nearly self-explanatory. The horizontal axis in each case indicates the year. In the upper half of the first three figures, the vertical axis indicates stress and in the lower half the vertical axis indicates the cumulative change in access or support. The figures give year-end results: Thus the results for 1959 indicate the state of the system at the end of 1959. A distinctive line represents the trend for each particular issue in Figures 8.1 and 8.2, each particular social group in Figure 8.3, and each particular party in Figure 8.4.

At a gross level, the key aspects of the behavior of the model are consistent with the historical evidence we have considered: First, there is a distinct trend toward escalating conflict. As shown in Figure 8.2, differences between the R.P.P. and the D.P. in the salience of the media issues begin to accelerate after 1953 and 1954. By the end of 1959 the intensity of the R.P.P.'s interest in the press is nearly double its intensity in 1950, while the intensity of the D.P.'s interest over the same period increases only about 25%.

Second, coinciding with this escalation of conflict and representing in part its political effects is evidence of institutional breakdown. There is a steady decline in the legitimacy of the legislative arena on the part of the R.P.P., and a decline in tolerance between the R.P.P. and D.P., as shown in Figure 8.4. By the end of 1959, the legitimacy of the two arenas for the R.P.P. is close to the legitimacy threshold, and its tolerance for the D.P. is close to the tolerance threshold. In short, the breakdown of the system is imminent.

Apart from the key aspects of the behavior of the model, several other aspects are worth considering because they also point to strengths and weaknesses in the model's structure. First, the D.P. is able to control some important aspects of the system's behavior, as seen most clearly in Figure 8.2. The D.P. adjusts its priorities across issues over time despite changes in the current political environment, giving rise to trends in stress that lie within a narrow band. In contrast, the D.P. can impose its priorities on the opposition parties, causing large differences in stress from one issue to the next in each of the opposition parties. The opposition parties are compelled to endure unfulfilled interests, while the D.P. is not. Second, while the D.P. has considerable control over these outcomes, it is also forced to modify its expectations (and therefore its priorities) and to redistribute access to other parties and social groups. The forced changes in

expectations can be seen indirectly in the D.P.'s stress trends, which remain rather steady while the D.P. alters its degree of access to the four issues by different amounts. The redistribution of access can be seen in the cumulative changes in access graphed in the lower portions of Figures 8.1 and 8.2: A large part of the total change in access in the party arena and all of the change in the legislative arena are the result of concessions by the D.P. To be sure, there is little information about the details of control in Turkey in the decade of the 1950's, and we have considered the simulated patterns of control only in gross terms. Nevertheless in Turkey as in the model, the D.P.'s control of the system is preponderant but by no means complete.

Several other aspects of the model's behavior seem to depart from the historical events and trends in so far as they can be determined. First, as shown in Figure 8.2, the D.P. permitted the access of the R.P.P. to increase rapidly after 1957, although not rapidly enough to offset completely the trend toward increasing stress on these issues. We have no precise data on relative access to the media, but the historical evidence strongly suggests that the access of the opposition parties decreased relative to the access of the D.P. in this period. While the gross patterns of control in the model seem to be plausible, the model seems to over-estimate the degree of the opposition's control near the end of the run. Second, there is an absence of attempts by the D.P. in the model to

use the media to influence expectations. As shown in Table 8.1 none of the D.P.'s actions in the legislative arena are continued in the support arena. We have no precise data on the frequency of each strategy used by the D.P., but the historical evidence suggests that the D.P. used the mass media on several occasions to manipulate the salience of issues, particularly as a means of controlling the crisis precipitated by the economic depression after 1953. Third, attempts by the opposition parties to increase their support from the agricultural group during the early period of the economic crisis, a period when the D.P. was most vulnerable, are lacking in the behavior of the model. From the second quarter of 1954 to the third quarter of 1955, the R.P.P. and the N.P. redirected their activity away from the agricultural group as shown in Figure 8.1. For the opposition as for the D.P., we do not have data on the relative frequency of each strategy used, but it seems unreasonable to expect that the opposition parties failed to take advantage of this opportunity. Fourth, the trend in the salience of the religious issue for the religious group and the N.P. is upward sloping and rather steady from the start of the run to the end of 1955, as shown in Figures 8.1 and 8.2. If a crisis of religion occurs at all in the behavior of the model, it occurs for the N.P. at the end of 1958. Yet the historical evidence indicates at least minor crises over the religious issue in Turkey in 1952 and 1954. Finally, the timing of some of the political consequences of

the economic depression in the behavior of the model seems to be inadequate. Figure 8.1 indicates that the agricultural group's stress toward redistribution of income peaked at the end of 1954 and had dropped sharply by the end of 1955. Furthermore, as shown in Figure 8.3, agricultural support for the D.P. decreased from the end of 1953 to the end of 1954 but increased for the next three years. We do not know the precise form of the corresponding historical trends, but the indications are that the political effects were somewhat more delayed and extended in time: Significant withdrawals of support by the agricultural group seem to have begun in late 1954 or early 1955 and continued into 1957.

Explanations of Behavior.

Any aspect of the model's behavior is a result of the model's structure and the magnitudes of its variables and parameters. To explain those aspects of behavior mentioned above, it is useful to consider how each determinant contributes to the moderation or reinforcement of stress, the cases of negative and positive feedback, respectively.

Feedback Explanations: Important Components. Inherent in the structure are five types¹ of feedback distinguished

¹If in the model there were a series of mechanisms by which the redistribution of access to decisions affecting income had an impact on income itself, then we could distinguish a sixth feedback with the change through time in income, $AY(G) - AYP(G)$, as comparator. As it is, the mechanisms which might complete the loop are lacking in both Lipset's theory and the model based on Lipset's theory. See pp. 117-19.

according to their comparators. The first two types have as comparators¹ the stresses SP(G,V) in the party arena and SG(P,V) in the legislative arena. The stress is moderated if the action it generates achieves a redistribution of access [4.1.7(L) and 4.2.9(L)], and is reinforced if the action it generates fails to achieve a redistribution of access [4.3.1(L) and 4.3.12(L)]. Success entails an increase in the stress of the party agreeing to the increase, and failure may lead to an attempt to modify the expectations and therefore the stress of all actors through the use of the mass media [4.3.1(L), 4.3.2(L), 4.3.11(L), and 4.3.12(L)]. Thus the types of feedback interact. In short, the mechanisms in the model are capable of producing negative or positive feedback, and because of their interaction, the stress of one actor may reinforce the stress of another.

The next two types of feedback have as their comparators GEF(G) and SE(P,G) in the support arena. In response to a decrease through time in GEF(G), group G withdraws support from the opposition parties; and in response to an increase, group G withdraws support from the governing party [4.3.21(L)].²

¹The magnitude of the disequilibrium in a comparator is called load in communications and control terminology. For a discussion of this and other concepts in communication and control, see K.W. Deutsch, The Nerves of Government: Models of Political Communication and Control (New York: The Free Press, 1963), pp. 187 ff.

²Support withdrawn from the government is given to the opposition, and vice versa. In the electoral interpretation assumed here, total support increases over time with the size

Action by party P in response to $SE(P,G)$ increases the access of group G [4.3.32(L)] and tends to affect $GEF(G)$ in such a way that party P receives an increase in support [see the definition of $GEF(G)$ on p. 68 and 4.3.32(L)]. Taken together, then, the mechanisms associated with these two comparators produce negative feedback tending to moderate changes in governmental effectiveness and to reduce the gap between expected and actual support. The behavior of these two feedbacks interacts with the behavior of the first two: An increase in access in response to $SE(P,G)$ increases the stress of party P with respect to some value V [4.3.33(L)], and the changes in stress in response to $SP(G,V)$ and $SG(P,V)$ affect $GEF(G)$.¹ If either the party, legislative, or support arena becomes illegitimate, a different set of mechanisms is brought into play and the feedback behavior of the model changes.

The fifth type of feedback governs the distribution and rate of political activity as a result of a comparison between the total stress in the system SSS and the two thresholds, $X1$ and $X2$ [5.1.5 and 5.1.6]. As we have seen, stresses of relatively low intensity do not generate political action. As aggregate stress in the system increases, action is generated

of the relevant population, but at any point in time support is zero sum.

¹Changes in $SP(G,V)$ and $SG(P,V)$ occur immediately after the component expectation or access changes. However, $SE(P,G)$ and $GEF(G)$ are changed quarterly. In communications and control terminology, the lag in the first two types of feedbacks is less than the lag in the second two.

by an increasingly smaller number of key stresses and the stimulus-response pattern between one action and another becomes streamlined. Other things being equal, action in response to low intensity stresses tends to increase aggregate stress, and a streamlined pattern of action between high intensity stresses tends to reduce aggregate stress. Thus the tendency is toward negative feedback behavior with the system maintaining approximately a steady level of aggregate stress. Of course the load generated by the positive feedbacks may be so large that this and other negative feedbacks may be unable to control them.

While the feedback loops are inherent in the structure of the model, the particular path taken at each branch point and the magnitude of the change in a comparator as a result of the action it generates depend primarily upon parameter settings and the levels of the variables. Given the initially high levels of tolerance and the large differences in access among the actors, the key branch points determining whether the first two types of feedback moderate or reinforce stress are the salience branch points [4.1.F(L) and 4.2.G(L)]. Of course the particular outcome at any point in the sequence of events depends on the current state of the system. The magnitude of the change in stress across a feedback loop depends primarily on the (constant) settings of the elasticities and the levels of access and support.¹ Thus other

¹The magnitude of the change in stress across a feedback

things being equal, a party with advantageous access and support positions can effect greater changes: Quite literally, it has more power. Finally, the magnitude of the change in some cases is also affected by relative access to the media, media exposure, tolerance, and stress in its role as an elasticity. These factors function as variable screens or filters modifying the impact of one actor on another as they interact in certain ways.¹

Conflict and Breakdown.² By the end of the first quarter of 1954, levels of stress and the degree of conflict between the D.P. and R.P.P. with respect to the media issues are much the same as they were at the start of the run, and the R.P.P. has been partially successful in obtaining a more equal share of access to the media. During the first four quarters, the D.P. moderates a number of the stresses in the system by redistributing access to income and religion in favor of the N.P. and several social groups. This reinforces the D.P.'s priority on these issues, causing it to increase its own access

loop also depends in part on the form of the stimulus-response mechanisms in it. For example, responses resulting from changes in access [e.g. 4.2.10(L)] tend to be smaller than those resulting from stress.

¹Aside from the factors affecting branch points, all factors mentioned here have a bearing on gain, the ratio of output to input. For each of the stimulus-response mechanisms listed in Table 5.1, gain can be represented as Y'/Y .

²The following explanations of behavior are based primarily on output written by the program for each action as it occurs in the operation of the model. See the WRITE and FORMAT statements in the listing of the program in the Appendix.

to them. This, in turn, increases the relative priority of the media for the D.P., causing it to act to increase its own access to these issues as well. Shortly after the middle of 1951 the distribution of access temporarily becomes stable because no issue has a sufficiently high priority in the D.P. Being unsuccessful in the legislative arena, the opposition parties take their interests to the support arena. The R.P.P. continues to reinforce stress on the media issues and begins to do the same for the income issue. The N.P. reinforces stress on the religious and income issues. The salience of the religious issue is reinforced for each party as it seeks to increase its support from the agricultural group. Since the D.P. is predisposed to be more responsive on the religious and income issues, the use of the media by the opposition parties increases the D.P.'s stress on these issues to the extent that it acts to increase its own access to them in the first half of 1953. As before, this increases the relative priority of the media issues for the D.P., but it makes concessions on these issues to the R.P.P. in 1953 and the first quarter of 1954 before it acts to increase its own access. In this sequence of events, the key to effective control of the conflict is the ability of the D.P. to change its relative priorities primarily by increasing access on its own behalf. This enables it to respond positively to the demands of the opposition.

After the first quarter of 1954 the political effects of the economic depression begin to appear. In particular, the agricultural group's stress to gain more access to income decisions increases to the extent that it begins to act in the party arena. In addition, it withdraws support from the D.P. to the extent that the D.P. is forced to seek increased support from the agricultural group in the support arena. Both types of activity reinforce the priority of the income issue for the D.P. Meanwhile, in terms of the parties' conflict over the priority of the media, the R.P.P. is unable to focus the D.P.'s attention on the media issues. In short, as the R.P.P. continues to increase the stress of all actors on the media issues, there is no corresponding increase in the ability of the government to respond favorably to the resulting demands: It is preoccupied with the economic crisis. After the middle of 1955, the upward trend in income for the agricultural group and the redistribution of access to it by the D.P. reduce the stress of the agricultural group and the D.P.'s motivation to increase its support. The D.P. increases its own access to income, enabling it to concede access to the media to the R.P.P. and the professional group, and then increases its own access to the media. But the stress of the R.P.P. on the media issues remains well above the levels of mid-1950, and is being reinforced as the R.P.P. attempts to build its support among the officials. In this series of adjustments, the inability of the governing party to respond

adequately to more than one set of intense demands at a time is apparent. Diversion of attention from the media issues during the economic crisis permitted stress on the media issues to build up to dangerous levels.

By the third quarter of 1957, the activity of the R.P.P. has increased stress on the media issues to the extent that they are the top priority issues for several social groups and the N.P. begins to seek increased access to the media in the legislative arena. The approaching election increases the motivation of all parties to seek increased support, and the redirection of activity to the support arena results in the reinforcement of the salience of the media issues. Furthermore, to the extent that the opposition parties are unsuccessful in the legislative arena, they build up stress on the media issues for all actors through the use of the media in the support arena. The D.P.'s redirection of priorities to the media is constrained by decreased tolerance and by the N.P.'s attempts to increase the priority of the religious issue. The D.P. makes concessions on all three of these issues and increases its own access to them, but has lost effective control of the conflict. The magnitude of its access concessions are insufficient to cancel the impact of the large increases in expectations resulting from the strong predispositions to respond to all attempts to increase the priority of the media issues. By the end of 1959, the conflict is self-reinforcing.

As we have seen, neither the levels of legitimacy nor the levels of tolerance in the system fall below the respective legitimacy and tolerance thresholds in this run, but in some important instances they approach these thresholds. The legitimacy of the legislative arena for the opposition parties and their tolerance for the D.P. depend upon the degree of conflict between the D.P. and the opposition and on the magnitude of the stress motivating the activity of the opposition parties in the legislative arena. The former determines the proportion of successful actions and the latter determines the rate of activity and the magnitude of each change in legitimacy and tolerance. The trend in the R.P.P.'s evaluation of the legitimacy of the legislative arena and its tolerance for the D.P. are downward sloping at a relatively steep angle because the proportion of successful actions is low and the rate of activity is high. The periods in which the curve is temporarily flat reflect concessions by the D.P. The N.P.'s evaluation of legitimacy and tolerance for the D.P. decline less rapidly because it enjoys some agreement with the D.P. on the religious issue and because its rate of activity is lower.

The legitimacy of the support arena depends upon an actor's ability to achieve sufficiently large increases in expectations through the use of the mass media. The trends in the legitimacy of the support arena for the opposition parties are, with one exception, similar to those in the legislative arena. Nearly every time an opposition party continues its activity

from the legislative arena because it has been unsuccessful there, it is unsuccessful in achieving a sufficiently large increase in expectations. The exception occurs during and after 1958 for the R.P.P. In this instance the high degree of stress motivating the R.P.P.'s activity, the strong predispositions to respond to media issues, and the increased exposure of groups to the media are, taken together, sufficient for the R.P.P. to achieve high increases in expectations and therefore to consider the support arena more legitimate.

Other Aspects. Several components in the model enable the D.P. to adjust its priorities to maintain approximately equal stress across issues. Both the structures and parameters governing the sequencing of political activity enable the D.P. to act whenever any one of its stresses becomes sufficiently intense relative to other stresses in the political environment. The structure of the legislative arena in which this act occurs and the D.P.'s majority permit the D.P. to bypass bargaining with other parties. Finally, a given percentage increase in access produces a much larger absolute gain in access for the D.P. as opposed to the other parties because the D.P. has such a large amount of access. Other things being equal, to achieve an equivalent reduction in stress through the redistribution of access, the opposition parties must act successfully several times, while the D.P. needs to act only once. The D.P. is able to force the opposition to endure large discrepancies in stress across issues

because the opposition parties do not have sufficient access to avoid bargaining with the D.P., because the outcome is largely dependent upon the D.P.'s priorities, and because even if successful, a given percentage increase in access produces a rather small absolute increase.

The D.P.'s control is incomplete, however, because the other actors in the system enjoy some access to the media and use it to modify the D.P.'s expectations and priorities. Furthermore, being approached by another actor, the D.P. redistributes access in the party and legislative arenas if the tolerance for the actor and the salience of the issue are high and if the proposed change in access is not threatening. Finally, a withdrawal of support by a social group forces the D.P. to redistribute access to the group and to modify its priorities in the direction of the group's priorities. While the factors explaining patterns of control in the model are simplified compared to the real world, they are at least plausible explanations of who gets what, when, and how.

The increases in access to the media received by the R.P.P. after 1957 are apparent departures from the historical evidence. The problem in the behavior of the model can be explained in a number of ways, each of which suggests directions for further inquiry. If the residue of intolerance from previous conflicts between the R.P.P. and D.P. prevented the redistribution of access in Turkey, the problem may be the result of data inputs. An increase in the tolerance elasticity $ETL(P)$ or the tolerance

threshold XMT or both would have precluded interaction between the two parties in the legislative arena because of insufficient tolerance. If the threat posed by an increase in access was the telling factor in Turkey, the definition of threat incorporated into the model at 4.2.H(L) is misspecified. Even allowing for a large margin of error in the levels of access to these issues, it is not likely that the D.P.'s perception of threat included the possibility that the R.P.P. would achieve more access to any decision than the D.P. If threat was important in determining the outcome in Turkey, it was a threat of another kind. The problem may also be a consequence of the model's emphasis on value conflict as opposed to conflict over specific policies. It is conceivable that agreement in Turkey was prevented not by the different priorities of the two parties but by the D.P.'s extrapolation of the consequences of permitting a redistribution of access to the media: Quite simply, the R.P.P. would have been in a better position to manipulate the expectations of other actors. The latter two possibilities are essentially different conceptualizations of the same phenomena, and seem to be the most promising possibilities to pursue.

The absence of attempts by the D.P. to use the mass media can be attributed to some structural misspecifications and factors left out of the model. The historical viewpoints considered in a previous chapter suggest that the D.P. used the media in the early phases of the economic crisis to reassure

the population regarding the efficacy of its economic policies and consequently to reduce the salience of political decisions affecting income. The media were used in a later period to increase the salience of political decisions affecting income in order to divert attention and activity from the media issues. If these suggestions are essentially correct, there should exist in the model a set of specifications through which the use of the media by the government is motivated directly by either the use of the media by other parties or by the need for popular support among the social groups. There should also exist the possibility of using the media to decrease as well as increase expected levels of access. These specifications would incorporate into the model opportunities to manipulate priorities and the focus of attention that are lacking in the model but which apparently existed and were used in Turkey. In the current formulation, the media are used by a party only when it is unsuccessful in the legislative arena, and a governing party with a majority of access is always successful in increasing its own access.

The absence of attempts by the opposition parties to seek directly an increase in support from the agricultural group after the onset of the economic crisis, a period when the D.P. was vulnerable, is probably a consequence of factors left out of the model. What seems to have happened in Turkey but not in the model was an increase in the opposition's motivation to seek support in response to the opportunity created by the

economic crisis and the D.P.'s vulnerability, despite the opposition's increase in support. Behavior in this interpretation seems to have been motivated by the parties' internalized predisposition to act (stress as currently defined) as well as the degree of opportunity presented by the political environment. The problem in the model might be alleviated by incorporating a mechanism to increase the expected level of support as a function of the variability of support over time. It does not seem necessary to distinguish between the direction of the variability: A decrease in support might signal the threat of further decreases and increase the motivation to act as in the present formulation; but an increase in support might signal the opportunity of further increases and also increase the motivation to act.¹ In either case the result would be to redirect attention and activity away from other interests and toward achieving increases in support. This addition to the model would incorporate the degree of opportunity presented by the environment into the internalized predisposition to act.

The trend in the salience of the religious issue for the N.P. and the religious groups fails to coincide with the presumed historical trends, but the explanation of the problem

¹Cf. H. D. Lasswell and A. Kaplan, Power and Society: A Framework for Political Inquiry (New Haven: Yale University Press, 1950), p. 253: "The attention of a participant in an arena is focused on the sources of greatest expected deprivation, and greatest expected indulgence."

requires more historical information than is presently available. One possible explanation might lie in the failure of the model to distinguish factions and changes in the power of factions within the leadership of parties, since the acquisition of control by the religious extremists in the N.P. convention of 1953 seems to have precipitated the crackdown by the D.P. in 1954. Another possible explanation might lie in the failure of the model to incorporate the resistance presented by the political environment into the motivation to act: The dissolution of the N.P. in 1954 may have created the expectation that further actions against official secularism were useless and dangerous.

The inaccurate timing of the political effects of the economic crisis, particularly in the agricultural group, can be attributed most easily to the extremely simple specifications in the social system. There are a number of modifications that should be explored in the light of current theory and data. One possibility is that changes in expected access are not symmetrical as in the present formulation but more easily revised upward rather than downward. To maintain a given level of expected access, a large increase in per capita income would be needed to cancel the effects of a small decrease. Another possibility is a redefinition of the stimulus producing changes in expected access to income. While current per capita income $AY(G)$ is compared with per capita income from the previous quarter $AYP(G)$ in the current formulation, it might

be compared with a moving average of per capita income over several previous quarters or with the previous high level of per capita income in the next formulation. In either case, the political effects of the economic crisis, including agriculture's withdrawal of support from the D.P., would continue into 1957 since, according to the estimates of Table 7.5, the level of per capita income achieved by the agricultural group in 1953 is not equalled or surpassed until 1958.

Sensitivity Analysis.

In the last section we compared the behavior of one run of the model, the reference run, with the historical trends in Turkey. In this section we compare modifications of the reference run with the reference run itself through sensitivity analysis. This provides additional information about the possible consequences of errors in data inputs and about the general behavioral properties of the structure.

The Modifications. Specifically, symmetrical changes are made in three sets of inputs used in the reference run. First, the trends in income, radio exposure, and newspaper exposure given in Tables 7.5, 7.6, and 7.7 are modified to reflect slow and rapid growth in the social system. For each social group, the level of each variable is decreased by one percent of its current level for the first year after 1950, by two percent of its current level for the second year after 1950, and so forth for each additional year to represent slow growth. The levels of each variable are increased by the same amount to represent

fast growth. Thus for 1950, the level of each variable in the slow and fast growth run is equal to the level of the reference run, but for 1960 the levels of these variables are 10 percent lower in the slow growth run and 10 percent higher in the fast growth run. All other data inputs are identical to those used in the reference run.

Second, the degree of conflict among the parties implicit in the initial levels of stress in the legislative arena in Table 7.1b is decreased and increased by modifying the initial expectation levels. To represent low conflict, the two highest stresses for each party are decreased by .01 and the two lowest stresses for each party are increased by .01; to represent high initial conflict, the two highest stresses are increased for each party and the two lowest stresses decreased for each party by the same amount. All other inputs are identical to those used in the reference run.

Third, the access elasticities for political parties $ESA(P)$ are decreased or increased by .01. Thus $ESA(P) = .09$ represents a decreased propensity to redistribute access in the system, and $ESA(P) = .11$ an increased propensity. These may be interpreted as minor differences in an important aspect of elite political culture. Again, all other inputs are identical to those used in the reference run. Taken together, these symmetrical changes in three sets of inputs define unique sets of inputs for six different runs of the model.

Table 8.2. The Reference Run

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
R.P.P.: Stress										
Radio	.106	.115	.127	.109	.107	.130	.126	.167	.133	.155
Press	.106	.115	.127	.110	.105	.121	.119	.151	.154	.194
Inc.	.082	.088	.096	.091	.085	.088	.091	.095	.095	.097
Relig.	.061	.063	.067	.069	.071	.073	.077	.083	.095	.098
D.P.: Stress										
Radio	.084	.079	.083	.087	.082	.092	.086	.096	.093	.098
Press	.084	.079	.083	.087	.081	.088	.081	.090	.094	.098
Inc.	.083	.080	.085	.081	.086	.081	.084	.088	.088	.088
Relig.	.081	.083	.086	.079	.082	.084	.088	.094	.103	.092
N.P.: Stress										
Radio	.062	.065	.068	.071	.076	.084	.088	.090	.104	.106
Press	.062	.065	.068	.072	.075	.082	.088	.101	.102	.099
Inc.	.082	.088	.096	.091	.084	.086	.090	.094	.094	.097
Relig.	.092	.086	.092	.096	.100	.104	.113	.129	.138	.101
Legislative Arena: Legitimacy										
RPP	9.919	9.815	9.687	9.670	9.624	9.537	9.469	9.299	9.276	9.165
DP	10.038	10.064	10.064	10.082	10.099	10.108	10.127	10.127	10.148	10.180
NP	9.992	9.957	9.885	9.831	9.793	9.753	9.702	9.606	9.507	9.534
Support Arena: Legitimacy										
RPP	9.919	9.815	9.687	9.611	9.536	9.450	9.358	9.190	9.093	9.049
DP	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000
NP	9.982	9.938	9.866	9.802	9.755	9.716	9.665	9.560	9.424	9.372
Tolerance for DP										
RPP	.984	.963	.938	.935	.926	.910	.897	.865	.860	.840
NP	.998	.991	.977	.966	.959	.951	.941	.923	.904	.909

In order to highlight the differences in behavior produced by a difference in inputs, selected trends in each of the six runs are presented as deviations from the behavior of the reference run. That is to say, the level of each variable in the reference run is subtracted from the level of the corresponding variable in the sensitivity run. For convenience, the levels of the variables in the reference run are presented in tabular form in Table 8.2. As in the previous section, we shall focus on trends in value conflict and the legitimacy of institutions.

Slow and Fast Growth. The results of the first pair of sensitivity runs are summarized in Tables 8.3 and 8.4. In the run using slow growth trends in the social system, differences between the R.P.P. and the D.P. regarding the salience of the media issues are significantly larger than in the reference run from 1953 to 1957, but these differences are largely eliminated by the end of 1959. While value conflict is eventually brought under control, there is one instance of institutional breakdown: The support arena in the estimation of the R.P.P. loses its legitimacy in 1959. (In this and the following tables, a box indicates that a legitimacy or tolerance variable has fallen below its respective threshold.) In the run using fast growth trends, the deviations from the reference run are quantitatively negligible up to the beginning of 1953. Then the conflict between the R.P.P. and the D.P. over the salience of the media issues escalates rapidly: By the end of

Table 8.3. Slow Growth: Deviations from the Reference Run

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
R.P.P.: Stress										
Radio	-	-.001	-.004	.001	.037	-.011	.037	-.056	-.032	-.056
Press	-	-.001	.005	.033	.027	.025	.110	.033	-.036	-.094
Inc.	-	.002	-	-.013	.006	.007	.009	.005	.005	.018
Relig.	-	.001	-	-	.002	.005	.010	.016	.003	.010
D.P.: Stress										
Radio	-	-	-	-.008	.011	-.005	.017	.005	.001	.002
Press	-	-	.003	-.002	.012	.007	.022	.012	.006	-.008
Inc.	-	.001	-	.006	.013	.014	.005	.001	.001	.007
Relig.	-	-.009	-.009	-	.001	.006	.010	.002	-.002	.005
N.P.: Stress										
Radio	-	-	-	.002	.009	.009	.015	.006	.003	-.014
Press	-	-	.003	.006	.010	.017	.014	.006	-.007	-.001
Inc.	-	.001	-.011	-.004	.009	.010	-.001	-.005	-.005	.003
Relig.	-	-	-	.002	.005	.012	.026	.021	-.045	.002
Legislative Arena: Legitimacy										
RPP	-	-	-	-.007	-.078	-.065	-.254	-.046	.041	.076
DP	-	.009	.009	.008	-	.032	.033	.064	.064	.053
NP	-	-	.028	.044	-.005	-.069	-.134	-.127	.001	-.036
Support Arena: Legitimacy										
RPP	-	-	-	-.003	-.072	-.127	-.214	-.085	-.024	-.055
DP	-	-	-	-	-	-	-	-	-	-
NP	-	-	.018	.045	-.005	-.080	-.184	-.214	-.131	-.109
Tolerance for D.P.										
RPP	-	-	-	-.001	-.015	-.013	-.048	-.009	.008	.014
NP	-	-	.006	.009	-.001	-.013	-.026	-.025	-	-.007

Table 8.4. Fast Growth: Deviations from the Reference Run

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
R.P.P.: Stress										
Radio	-	-	-	.014	.046	.035	.156	*	*	*
Press	-	-	-	.014	.063	.085	.132	*	*	*
Inc.	-	-	-	-	.003	.007	.024	*	*	*
Relig.	-	-	-	-	.001	.003	.007	*	*	*
D.P.: Stress										
Radio	-	-	-	-.010	.003	-.008	.015	*	*	*
Press	-	-	-	-.010	.008	.003	.026	*	*	*
Inc.	-	-	-	-	.005	.009	.021	*	*	*
Relig.	-	-	-	-	.001	.003	.007	*	*	*
N.P.: Stress										
Radio	-	-	-	-	.003	.003	.026	*	*	*
Press	-	-	-	-	.008	.014	.018	*	*	*
Inc.	-	-	-	-	.003	.009	.024	*	*	*
Relig.	-	-	-	-	.002	.007	.015	*	*	*
Legislative Arena: Legitimacy										
RPP	-	-	-	-.047	-.166	-.221	-.451	*	*	*
DP	-	-	-	.017	-	.020	.001	*	*	*
NP	-	-	-	-	-.019	-.068	-.158	*	*	*
Support Arena: Legitimacy										
RPP	-	-	-	-.023	-.122	-.211	-.026	*	*	*
DP	-	-	-	-	-	-	-	*	*	*
NP	-	-	-	-	-.020	-.069	-.168	*	*	*
Tolerance for D.P.										
RPP	-	-	-	-.009	-.032	-.042	-.084	*	*	*
NP	-	-	-	-	-.004	-.013	-.030	*	*	*

1956, the R.P.P.'s stress on the radio and press issues is over twice the level in the reference run, while the D.P.'s stress on these issues has increased only ten to twenty percent. In 1957 the legislative arena loses its legitimacy in the estimation of the R.P.P. and the stress in the system exceeds normal operating limits. Conflict over the media generates a rather complete breakdown of the system.

In both runs, changes in inputs change the course of political activity and thereby modify the model's feedback behavior. In the slow growth run, changes in the inputs cause the groups' stress toward increased access to income to decline more slowly and their withdrawal of support from the opposition to occur more slowly. Consequently, the R.P.P. does not need to redistribute access to the media to the professional group as a means of building its support as it did in the reference run, and the professional group seeks increased access to the media in the party arena. Being unsuccessful, the professional group increases the expected level of access to the media for all actors. This has three important outcomes: The R.P.P. goes into 1954 with somewhat higher stress on the media issues than it had in the reference run; the N.P. begins to seek increased access to media decisions in 1955 as opposed to 1957 in the reference run; and aggregate stress is high enough to increase the number of demand sets and consequently the rate of political activity per quarter. Each outcome contributes to the reinforcement of stress on the media issues

while the D.P.'s attention is directed toward the income issue during the economic crisis. But as the crisis subsides, several actors are attempting to increase the relative salience of the media issues for the D.P., and the D.P. begins to redistribute access to the media rapidly. The conflict over the media is brought under control, but at the cost to the D.P. of significantly more equitable sharing of access to the media. In contrast to the reference run, the legitimacy of the support arena for the R.P.P. continues to decline in the last two years of the run because the stresses motivating the use of the media and the levels of media exposure are not high enough to produce sufficiently large increases in the expectations of other actors.

In the fast growth run, the changes in economic inputs cause the groups' stress on the income issue to decline more rapidly, exacerbating the R.P.P.'s need for support. As in the reference run, the R.P.P. acts to increase support from the professionals, granting increased access to the media and reinforcing its own priorities on these issues. In this run, however, the reinforcement is slightly greater because the stress motivating the R.P.P. (the need for support) is greater. Consequently, as the R.P.P. operates through the media the priorities of the D.P. are very slightly biased in the direction of the radio and press issues. The result is that the D.P. accedes to the media access demands of the officials in the third quarter of 1953, although it had refused the same

demands in the reference run. Because the officials do not need to escalate the issues to the support arena, the relative salience of the issues is not sufficiently high for the D.P. to redistribute access to media decisions to the R.P.P. in the last quarter of 1953 and the D.P. acts instead to increase its own access. Thus some quantitatively minor changes arising from the inputs lead to the failure of the D.P. to accede to the R.P.P. demands for increased access to the media in the last quarter of 1953 and the first quarter of 1954, demands which it met in the reference run. The consequences of this failure are disastrous. With the media issues at a lower priority for the D.P. during the economic crisis, the R.P.P. continues to reinforce stress on the issues through the support arena, the rate of activity increases, and the legitimacy of the legislative arena decreases rapidly. After the first act of 1957, the legislative arena becomes illegitimate for the R.P.P. Subsequently, the stress motivating each R.P.P. action is reinforced in the legislative arena [4.2.1(L)] and in the support arena. The positive feedback is so rapid that it suggests the need to reconsider the specifications tracing the course of events when the legislative arena is not legitimate.

Low and High Initial Conflict. As shown in Table 8.5, the low initial level of conflict relative to the reference run is maintained only through 1953. From that point to the end of 1956, the difference between the D.P. and the R.P.P. over the salience of the media issues remains at approximately

Table 8.5. Low Initial Conflict: Deviations
from the Reference Run

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
R.P.P.: Stress										
Radio	-.014	-.027	-.034	-.004	.017	.013	.032	-.021	.056	.111
Press	-.014	-.027	-.034	-.008	.010	.018	.042	.033	.102	.224
Inc.	.007	.014	.001	.002	.015	.028	.025	.021	.021	.019
Relig.	.011	.014	.016	.019	.024	.035	.043	.051	.061	.107
D.P.: Stress										
Radio	-.002	-.002	-.003	.001	.018	.013	.029	.012	.015	.010
Press	-.002	-.002	-.003	-.001	.013	.019	.031	.027	.023	.019
Inc.	-.001	.001	-	-	.017	.026	.023	.019	.019	.019
Relig.	.002	-.005	-.005	.005	.009	.018	.033	.024	.016	.027
N.P.: Stress										
Radio	.009	.010	.010	.014	.022	.037	.040	.032	.018	.016
Press	.009	.010	.010	.014	.020	.029	.033	.026	.025	.028
Inc.	-.006	-.004	-.006	.005	.008	.020	.016	.012	.012	.009
Relig.	.001	.017	.022	.026	.038	.065	.096	.037	-.004	.036
Legislative Arena: Legitimacy										
RPP	.046	.019	.057	-.018	-.148	-.273	-.351	-.304	-.281	-.170
DP	.008	.017	.017	.008	-.009	.003	.009	.033	.012	-.020
NP	-.028	-.051	-.048	-.076	-.143	-.280	-.366	-.312	-.171	-.198
Support Arena: Legitimacy										
RPP	.036	-.009	.018	-.007	-.117	-.254	-.364	-.196	-.099	-.055
DP	-	-	-	-	-	-	-	-	-	-
NP	-.018	-.032	-.029	-.047	-.126	-.264	-.410	-.434	-.298	-.246
Tolerance for D.P.										
RPP	.009	.004	.011	-.003	-.028	-.052	-.066	-.069	-.123	-.186
NP	-.005	-.010	-.009	-.014	-.028	-.054	-.070	-.059	-.033	-.038

Table 8.6. High Initial Conflict: Deviations
from the Reference Run

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
R.P.P.: Stress										
Radio	.010	.023	.044	.106	.150	.194	.052	-.010	-.012	-.028
Press	.010	.021	.045	.084	.157	.623	.228	.091	-.029	-.078
Inc.	-.011	-.016	-.024	-.019	-.004	-.004	-.007	-.011	-.011	-.013
Relig.	-.011	-.011	-.013	-.013	-.012	-.011	-.009	-.009	-.012	-.005
D.P.: Stress										
Radio	-.012	-	.005	.004	.019	.022	.024	.024	.018	.025
Press	-.012	-	.005	-	.011	.028	.034	.030	.018	.026
Inc.	-.002	.001	-.004	-	.015	.020	.017	.013	.013	.013
Relig.	-.003	-.002	-.002	.008	.011	.017	.024	.017	.008	.032
N.P.: Stress										
Radio	-.011	-.010	-.009	-.004	.006	.016	.024	.032	.016	.005
Press	-.011	-.010	-.009	-.008	-.001	.017	.024	.037	.018	.025
Inc.	-.002	-.007	-.015	-.010	.009	.011	.007	.003	.003	-
Relig.	-.004	.007	.010	.012	.018	.027	.044	.037	.050	.096
Legislative Arena: Legitimacy										
RPP	.014	.021	.034	-.012	-.080	-.098	.397	.709	.874	.974
DP	.022	-.004	-.004	-.004	-.002	.025	.029	.066	.083	.051
NP	.038	.037	.070	.083	.044	-.001	-.059	-.053	-.029	-.177
Support Arena: Legitimacy										
RPP	.014	.021	.034	.046	.255	.716	.877	1.188	1.273	1.344
DP	-	-	-	-	-	-	-	-	-	-
NP	.018	.026	.059	.082	.052	.007	-.051	-.064	-.059	-.205
Tolerance for D.P.										
RPP	.003	.005	.007	-.002	-.015	-.020	.076	.142	.178	.196
NP	.008	.008	.014	.017	.009	-	-.011	-.011	-.006	-.034

the level of the reference run, and then begins to increase toward maximum levels at the end of 1959. The legitimacy of the support arena becomes insufficient for the R.P.P. in 1956 and the legitimacy of the legislative arena becomes insufficient in 1957. As shown in Table 8.6, the high initial level of conflict over the salience of the media is maintained and exacerbated until it reaches extremely high levels at the end of 1955. Then it begins to decline until, by the end of 1959, the conflict is less intense than it was in the reference run. Similarly, the legitimacy of the legislative arena in the estimation of the R.P.P. reaches its lowest point in 1955 and then begins to climb rapidly.

At the beginning of the run with initially low conflict in the legislative arena, the D.P.'s stress levels on the four issues are equal, and approximate equality is maintained through several quarters as the D.P. acts to eliminate small increases in stress on any particular issue. Operating through the media, the R.P.P. is able to revise the D.P.'s priorities enough to gain increased access to decisions affecting press and radio in the last quarter of 1951 before the D.P. acts to increase its own access to these decisions. This is an important departure from the reference run in which a similar sequence of events did not occur until 1953. Reinforced by the actions of the officials, the R.P.P., and the R.P.P.'s interactions with the professionals, stress on the media issues increases but the economic crisis begins before the D.P.

redistributes access to the media. Strong pressures to increase the priority of each of the four issues are brought to bear on the D.P., but it begins to achieve some measure of control only after the pressures generated by the economic crisis subside. The N.P. receives its first increase in access to decisions affecting religion in the last quarter of 1956, but in the same quarter the support arena becomes illegitimate for the R.P.P. Activity by the R.P.P. which otherwise would have focused the D.P.'s priorities on continued redistribution of access to media decisions is now diverted into the military arena. By the third quarter of 1957, the R.P.P.'s activity in the legislative arena has been unsuccessful often enough that the legitimacy of the arena falls below the threshold. The R.P.P.'s stress on the media issues continues to be reinforced with no possibility of alleviating it.

At the beginning of the run with initially high conflict in the legislative arena, the D.P. quickly acts to increase its access to the high priority decisions, those affecting income and religion. The low salience of the radio and press issues tends to make the D.P. less responsive to appeals through the media, but this tendency is overcome by the high degree of stress motivating the R.P.P.'s appeals. Moreover, the R.P.P.'s appeals raise the media access expectations of the officials and professionals, who begin to act without success in the party arena and reinforce the R.P.P.'s stress as they continue in the support arena. These events combine to force the D.P. to

redistribute access to the media a few quarters earlier than it did in the reference run. The positive feedbacks reinforcing the salience of the media issues continue to operate, however, and the D.P. cannot redistribute access quickly enough to bring the situation under control. Even during the height of the economic crisis, the pressures on the D.P. are strong enough to divert its priorities from the income issue to the media issues. Because actions to increase access to the media are so often successful, the legitimacy of the legislative arena for the R.P.P. remains above the threshold and the D.P. continues to redistribute access as the economic crisis subsides. By the second quarter of 1957, the D.P. no longer enjoys a majority of the access to decisions affecting the press and must bargain with the opposition to improve its own power position on this issue. In effect, the conflict is brought under control because the opposition and particularly the R.P.P. are able to force their priorities on the government before the legitimacy of the political institutions is destroyed.

Low and High Access Elasticity. Deviations from the behavior of the reference run as a result of a lower and higher propensity to redistribute access are given in Tables 8.7 and 8.8, respectively. With $ESA(P) = .09$, the conflict between the R.P.P. and D.P. over the salience of the radio and press issues reaches its maximum intensity relative to the reference run in 1955 and 1956, and the conflict between the N.P. and the D.P. over the salience of the religious issue reaches its

Table 8.7. Low Access Elasticity ESA(P): Deviations from the Reference Run

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
R.P.P.: Stress										
Radio	-	-.015	-.018	.004	.031	.044	.091	.012	-.007	-.024
Press	-	-	.004	.025	.069	.133	.115	.021	-.019	-.062
Inc.	-.001	-.001	-.012	-.003	.005	.021	.031	.045	.038	.039
Relig.	-	.001	-.001	-.001	-	.003	.007	.008	.010	.023
D.P.: Stress										
Radio	-	-.001	-.001	-.007	.007	.005	.031	.039	.045	.026
Press	-	-	.001	-.006	.010	.013	.036	.043	.042	.025
Inc.	-.007	.001	-.007	.001	.001	.019	.025	.045	.038	.040
Relig.	.002	-.005	-.006	.004	.005	.010	.015	.014	.020	.042
N.P.: Stress										
Radio	-	-.001	-.001	.002	.006	.015	.040	.044	.025	.026
Press	-	-	-	.001	.006	.018	.033	.042	.038	.032
Inc.	-.001	-.001	-.003	.008	.007	.025	.034	.050	.043	.047
Relig.	.001	.002	.001	.002	.004	.011	.021	.016	.054	.133
Legislative Arena: Legitimacy										
RPP	-	.024	.048	.003	-.107	-.231	-.220	-.034	.092	.190
DP	.009	.009	.017	.017	.009	.032	.013	.013	.006	.016
NP	-	-	.001	-.020	-.040	-.125	-.269	-.303	-.323	<u>-.546</u>
Support Arena: Legitimacy										
RPP	-	.014	.028	.019	-.071	-.027	.200	.447	.530	.616
DP	-	-	-	-	-	-	-	-	-	-
NP	-	-	-	-.010	-.041	-.127	-.270	-.321	-.344	<u>-.391</u>
Tolerance for D.P.										
RPP	-	.005	.010	.001	-.020	-.044	-.042	-.007	.017	.035
NP	-	-	-	-.003	-.008	-.024	-.051	-.058	-.061	-.104

Table 8.8. High Access Elasticity ESA(P): Deviations from the Reference Run

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
R.P.P.: Stress										
Radio	-.001	-.019	-.020	-.021	-.012	-.025	-.010	-.075	-.033	-.045
Press	-.001	.002	-.027	.008	.008	-.014	-.030	-.053	-.042	-.058
Inc.	-	-.013	-.021	-.016	-.003	.002	.007	.014	.006	.010
Relig.	-.001	-	-.001	-.002	-.002	-.003	-.005	-.008	-.017	-.016
D.P.: Stress										
Radio	-.001	-.004	-.002	-.013	-.005	-.012	-.002	-.011	-.006	-.006
Press	-.001	-.001	-.010	-.009	-	-.004	-.005	-.011	-.011	-.007
Inc.	-.002	-.006	-.011	-.007	-.003	.002	-.006	-.003	-	-.005
Relig.	-.003	-.002	-.004	-.006	-.007	-.007	-.010	-.014	-.021	-.007
N.P.: Stress										
Radio	-	-.002	-.001	-.001	-.003	-.007	-.008	-.008	-.019	-.015
Press	-	-	.001	.003	.002	-.002	-.005	-.014	-.009	.009
Inc.	-	-.013	-.021	-.016	-.003	.003	.007	.014	-.006	-.005
Relig.	-.003	-.003	-.002	-.015	-.016	-.018	-.023	-.034	-.038	.006
Legislative Arena: Legitimacy										
RPP	.020	.072	.161	.139	.129	.150	.142	.267	.212	.199
DP	-	-	.008	.006	-.011	-.011	-.013	-.013	-.034	-.066
NP	.009	.035	.089	.136	.150	.167	.162	.199	.290	.184
Support Arena: Legitimacy										
RPP	.020	.053	.119	.136	.144	.153	.150	.253	.262	.184
DP	-	-	-	-	-	-	-	-	-	-
NP	.009	.026	.081	.129	.151	.163	.162	.209	.317	.290
Tolerance for D.P.										
RPP	.004	.014	.032	.027	.025	.028	.027	.050	.040	.037
NP	.002	.007	.018	.027	.040	.033	.032	.038	.056	.035

maximum intensity in 1959. The legitimacy of the legislative and support arenas for the R.P.P. eventually exceeds the levels of the reference run but the two arenas become illegitimate for the N.P. in 1959. With $ESA(P) = .11$, the intensity of value conflicts between the government and opposition is generally less than in the reference run, and the levels of stress are generally lower than in the reference run. For both the R.P.P. and the N.P., the legislative and support arenas become more legitimate.

The low propensity to redistribute access has its first significant impact on the rate of activity of the D.P. in the first several quarters. Because the initial actions of the D.P. do not lower its stress as much as they did in the reference run, the D.P. acts more often. The effect is to increase the flexibility of the D.P.'s priorities, and to make it possible for the D.P. to increase the R.P.P.'s access to decisions affecting the use of the radio in the second quarter of 1951 and its access to decisions affecting the press two years later. But at the onset of the economic crisis, the D.P. has not redistributed as much access to these issues as it did in the reference run, and compared to the reference run the D.P.'s priorities are biased in the direction of the income and religious issues. During the economic crisis the level and distribution of aggregate stress increase the rate of activity of the opposition and decrease the rate of activity of the D.P. This and the intensity of the R.P.P.'s unfulfilled

demands for access to the media are sufficient to focus the government's priorities on the media issues a good deal of the time, in spite of the economic crisis. By the end of 1957 the conflict over the media is brought under control, but at the cost of inattention to the religious demands of the N.P. The D.P. begins to revise its issue priorities by acting on its own behalf in the legislative arena in the last quarter of 1958. But by this time the lack of attention to the religious issue has made the breakdown of legitimacy in the estimation of the N.P. inevitable.

The high propensity to redistribute access has the effect of reducing the rate of activity compared to the reference run after the first quarter. Each change in access reduces stress by a greater amount, and each change in the D.P.'s access modifies the relative priorities of the D.P. by a greater amount. Moreover, the level and distribution of aggregate stress is such that the D.P.'s proportion of total activity in the system is high. These results combine to make it impossible for any stress in the system to be reinforced to the extent that the D.P. loses control of the conflict. The consequence is almost uniformly lower levels of stress than those generated in the reference run, and a high and self-maintaining degree of flexibility in the system. It is an indication of the counterintuitive behavior of systems that a low rate of access redistribution causes the R.P.P. to gain a net increase over the D.P. of 16 and 26 "legislative votes"

to decisions affecting the radio and press, respectively, by the end of 1959; but with a high rate of access redistribution the R.P.P. gains a net increase of only two and one "legislative votes."

Perspective on Behavior.

Given the prominent position of empirical fit among the appraisal criteria of political science, the ability of the model to approximate at least the gross trends in conflict and breakdown in Turkey may seem, at first glance, the most significant outcome of the analysis in this chapter, tending to affirm the validity of the model. This is a mistaken assumption. Leaving aside problems of accurately characterizing historical trends and accurately estimating data inputs, it is probable that alternative formulations might have performed equally well. The significance of the analysis depends on its relevance to the purposes stated in the Introduction: Improving the model and the theory on which it is based by locating omissions and inadequate specifications; gaining insight into the general behavioral properties of complex representations of political systems and related methodological problems; and revising data collection priorities in order to develop the model more effectively. We shall return to these considerations in the Conclusion, after presenting the behavior of the Huntington model.

Chapter 9

Performance of the Huntington Model

As we have seen, Huntington's theory focuses on the interaction between mobilization and institutionalization. A society with strong political institutions has the ability to curb the excesses of parochial demands and to mediate the competition among social forces. However, rapid mobilization may undermine the strength of political institutions, producing not political development but political decay. Consequently, in examining the behavior of the model based on Huntington's theory, we focus on trends in the degree of mobilization (represented as stress) and the strength of political institutions. The questions remain the same: First, how does the behavior of the model using Turkish inputs compare with the gross trends considered in Chapter 6? Second, how do the realistic and unrealistic aspects of the behavior arise, and what do they suggest about the structure of the model? Regardless of the fit between historical and simulated behavior, what are the general behavioral properties of the model as revealed in sensitivity analyses?

Qualitative and Quantitative Behavior.

Table 9.1 is a qualitative summary of the political activity occurring in the behavior of the model in each quarter. Figures 9.1 through 9.3 are quantitative summaries of the trends in access, support, and stress, and Figure 9.4 summarizes

Table 9.1. A Qualitative Summary of Activity

	R.P.P. Interactions					D.P. Interactions					
	Party and Support Arenas					Legis. Arena	Party and Support Arenas				
	Agr.	Tra.	Pro.	Off.	Rel.	D.P.	Agr.	Tra.	Pro.	Off.	Rel.
1950						PWPW	<u>II</u>	<u>I</u>	<u>I</u>	<u>I</u>	
	<u>RI</u>					FWPW	<u>IR</u>				
1951	<u>II</u>					FWPW	<u>I</u>				
	<u>R</u>					PW	<u>R</u>			<u>lpw</u>	
	<u>R</u>					PW					
	<u>W</u>					PWI					
1952	<u>P</u>	<u>R</u>	<u>Pp</u>	<u>pw</u>		WP					
	<u>R</u>		<u>Ww</u>			WP					
	<u>P</u>		<u>W</u>			WPI					
	<u>R</u>		<u>P</u>			WPI					
	<u>P</u>		<u>W</u>			WPI					
1953	<u>W</u>		<u>P</u>			WPI					
	<u>R</u>		<u>W</u>			WPI					
	<u>W</u>		<u>P</u>			WP					
	<u>R</u>					WP					
1954	<u>I</u>					WP			<u>w</u>	<u>w</u>	<u>r</u>
	<u>I</u>					WP			<u>w</u>	<u>w</u>	
						WPIWPI	<u>I</u>				
						PWIPWI	<u>II</u>				
1955						PWIPW	<u>II</u>				
	<u>II</u>					WPWP	<u>II</u>				
	<u>II</u>					WPWP	<u>II</u>				
	<u>WP</u>					WPWP					
1956	<u>RW</u>					WPIWPI					
	<u>PR</u>					WPIWPI					
	<u>WP</u>					WPIWPI					
	<u>RW</u>					WPPW					
1957	<u>PR</u>					WPPW					
	<u>WF</u>					WPPW					
	<u>RP</u>					WPPW					
	<u>WR</u>					WPPW					
1958	<u>PW</u>					WPPW					
	<u>RP</u>					WPPW					
	<u>WR</u>					WPPW					
	<u>WR</u>					WPPW					
1959	<u>WR</u>					WPPW	<u>P</u>				
	<u>RP</u>					WPPW	<u>W</u>				
	<u>IR</u>					WPPW					
	<u>RW</u>					WPPW					

ctivity

D.P. Interactions

N.P. Interactions

Party and Support
Arenas

Legis.
Arena

Party and Support
Arenas

Legis.
Arena

Agr. Tra. Pro. Off. Rel. Unilat.

Agr. Tra. Pro. Off. Rel. D.P.

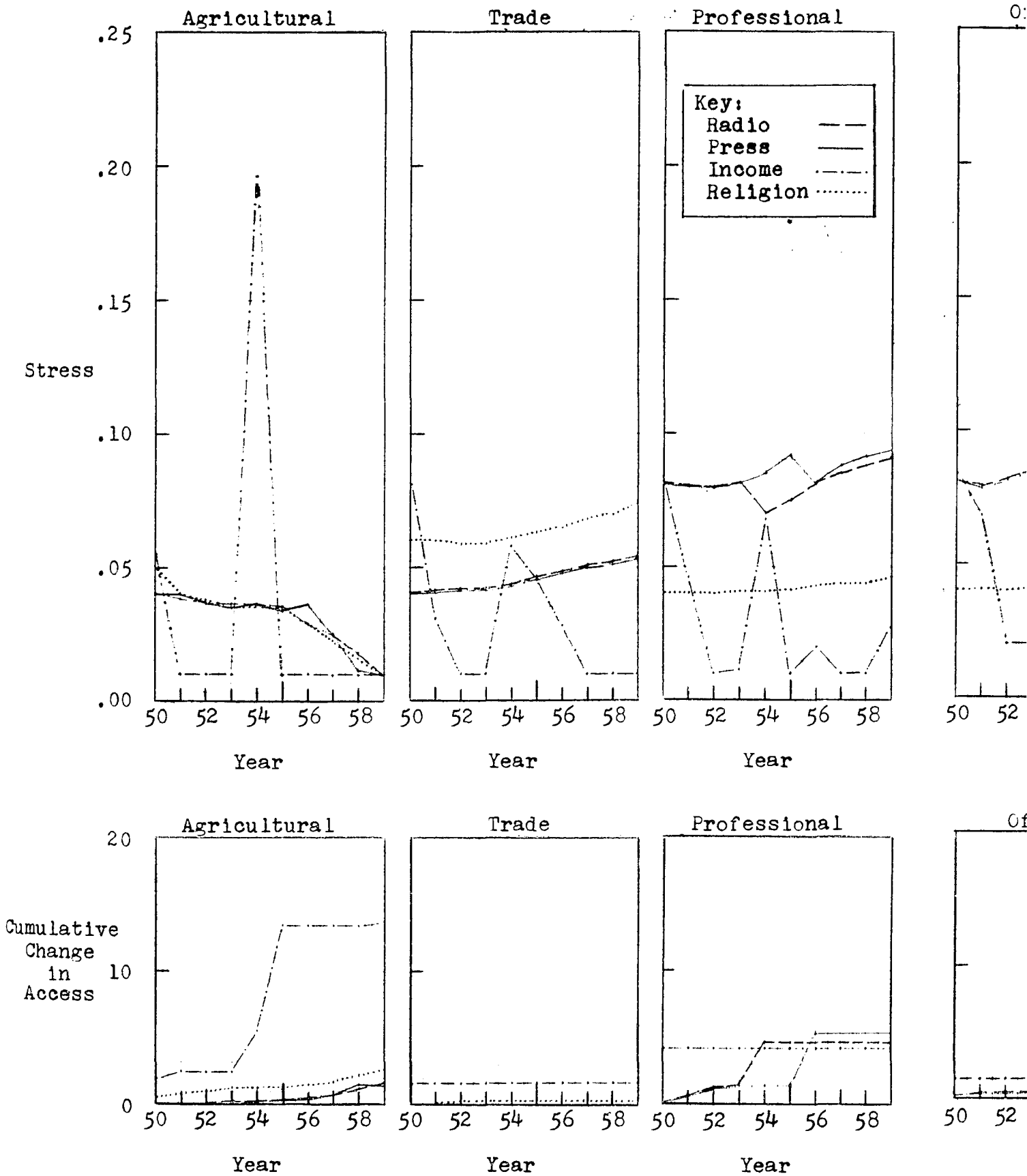
<u>I</u>	<u>i</u>	<u>i</u>	<u>i</u>		<u>RIR</u>					<u>R</u>
					<u>II</u>	<u>RI</u>				<u>RR</u>
			<u>ipw</u>		<u>IRPWI</u>	<u>II</u>				<u>R</u>
						<u>R</u>				
						<u>P</u>				
						<u>P</u>				<u>I</u>
						<u>R</u>	<u>R</u>			<u>I</u>
						<u>P</u>				
						<u>W</u>				<u>RI</u>
					<u>W</u>	<u>R</u>				<u>RI</u>
					<u>P</u>	<u>W</u>				<u>RI</u>
					<u>R</u>	<u>P</u>				<u>IR</u>
					<u>I</u>	<u>R</u>				<u>IR</u>
		<u>W</u>	<u>WP</u>	<u>r</u>		<u>W</u>				<u>R</u>
		<u>W</u>	<u>W</u>			<u>I</u>				<u>R</u>
						<u>I</u>				<u>R</u>
<u>II</u>						<u>I</u>				<u>RR</u>
						<u>II</u>				<u>RIRI</u>
<u>I</u>					<u>IW</u>	<u>I</u>				<u>RIR</u>
<u>I</u>					<u>P</u>	<u>II</u>				<u>RR</u>
						<u>PR</u>				<u>RIRI</u>
						<u>WP</u>				<u>RWIRI</u>
					<u>W</u>	<u>PR</u>				<u>RIRP</u>
					<u>P</u>	<u>RW</u>				<u>RR</u>
					<u>I</u>	<u>PR</u>				<u>RWR</u>
					<u>WP</u>	<u>WP</u>				<u>RPRP</u>
						<u>RW</u>				<u>RWPRW</u>
						<u>PR</u>				<u>RWR</u>
						<u>PW</u>				<u>R</u>
						<u>RP</u>				<u>RR</u>
						<u>WR</u>				<u>RPRP</u>
						<u>PW</u>				<u>RPR</u>
					<u>WPR</u>	<u>RP</u>				<u>RWR</u>
						<u>PW</u>				<u>RRP</u>
						<u>RP</u>				<u>RWR</u>
						<u>PW</u>				<u>RR</u>
						<u>RP</u>				<u>RR</u>
						<u>RP</u>				<u>RPR</u>
						<u>W</u>				

trends in the strength of political institutions. With the exception of Figure 9.4, the format of these results is nearly identical to the format of the corresponding table and figures in the previous chapter.¹ Figure 9.4 gives the relevant trends in adaptability, autonomy, complexity, and coherence for each of the parties, the legislative arena, and the support arena.

At a gross level, the trends in mobilization and institutionalization in the behavior of the model are consistent with the historical evidence we have considered, but only up to about 1957: After that they diverge sharply. First, the stress of the R.P.P. toward the redistribution of access to the state radio and the press increases rather steeply over roughly the first seven years in the run. A maximum stress of .386 is reached for the radio issue in the second quarter of 1957 and a maximum of .448 is reached for the press issue in the third quarter of 1957. From these points the curves turn downward sharply. By the end of 1959, these issues are hardly more salient for the R.P.P. than they were in the middle of 1950. Second, coinciding with these trends and in part reflecting them is a decrease in the institutionalization of the legislative arena, the key institution in the system. As shown in Figure 9.4, the autonomy and complexity of the legislative arena decrease from the initial levels to their lowest

¹Notice that the range of cumulative access change in the legislative arena differs. In Figure 8.2 the range is 0-20, but in Figure 9.2 the range is 0-60. Much more access was redistributed in the behavior of the Huntington model.

Figure 9.1. Stress and Access Trends in the Party Arena



Party Arena

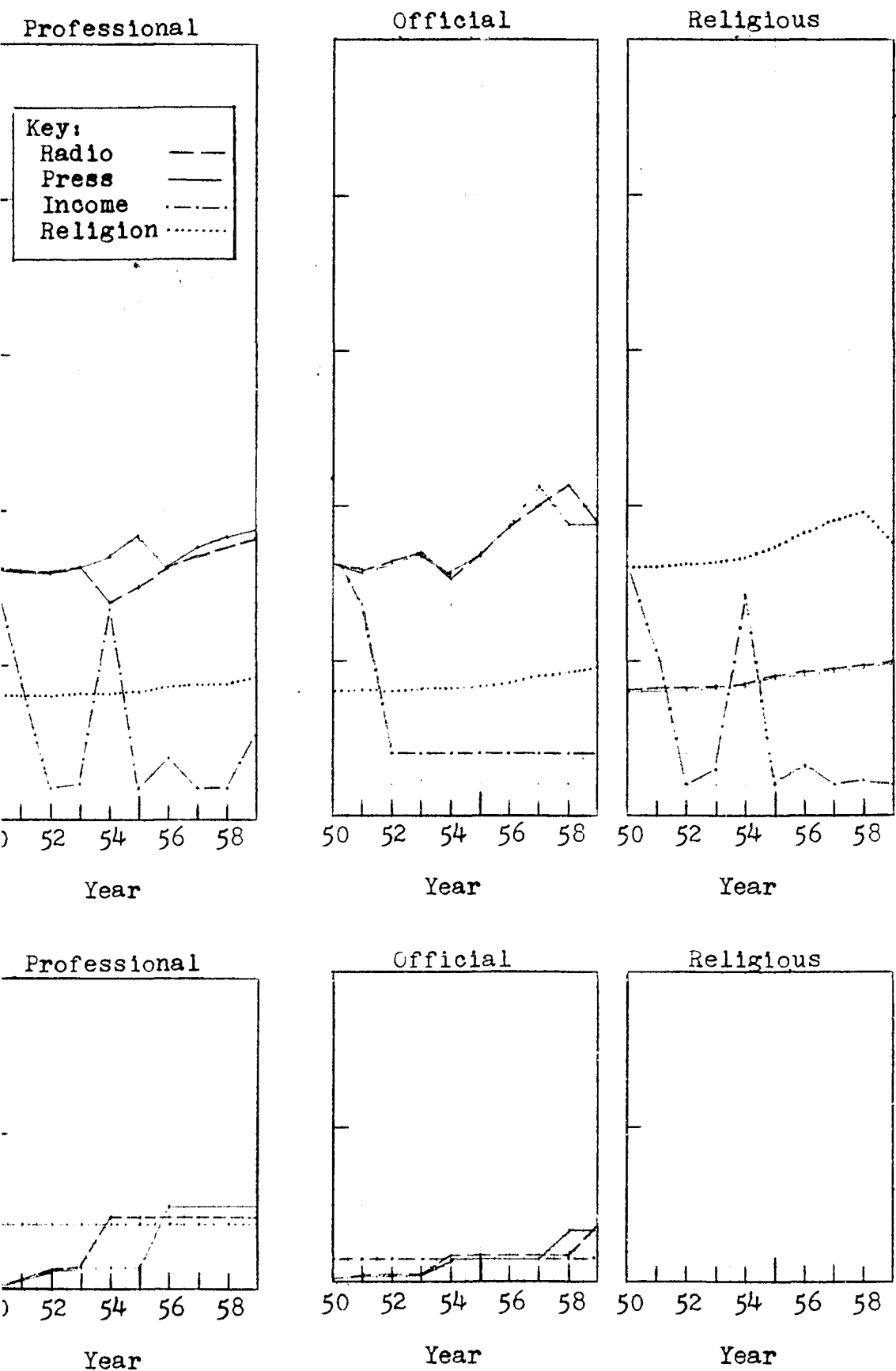


Figure 9.2. Stress and Access Trends in the Legislative Arena

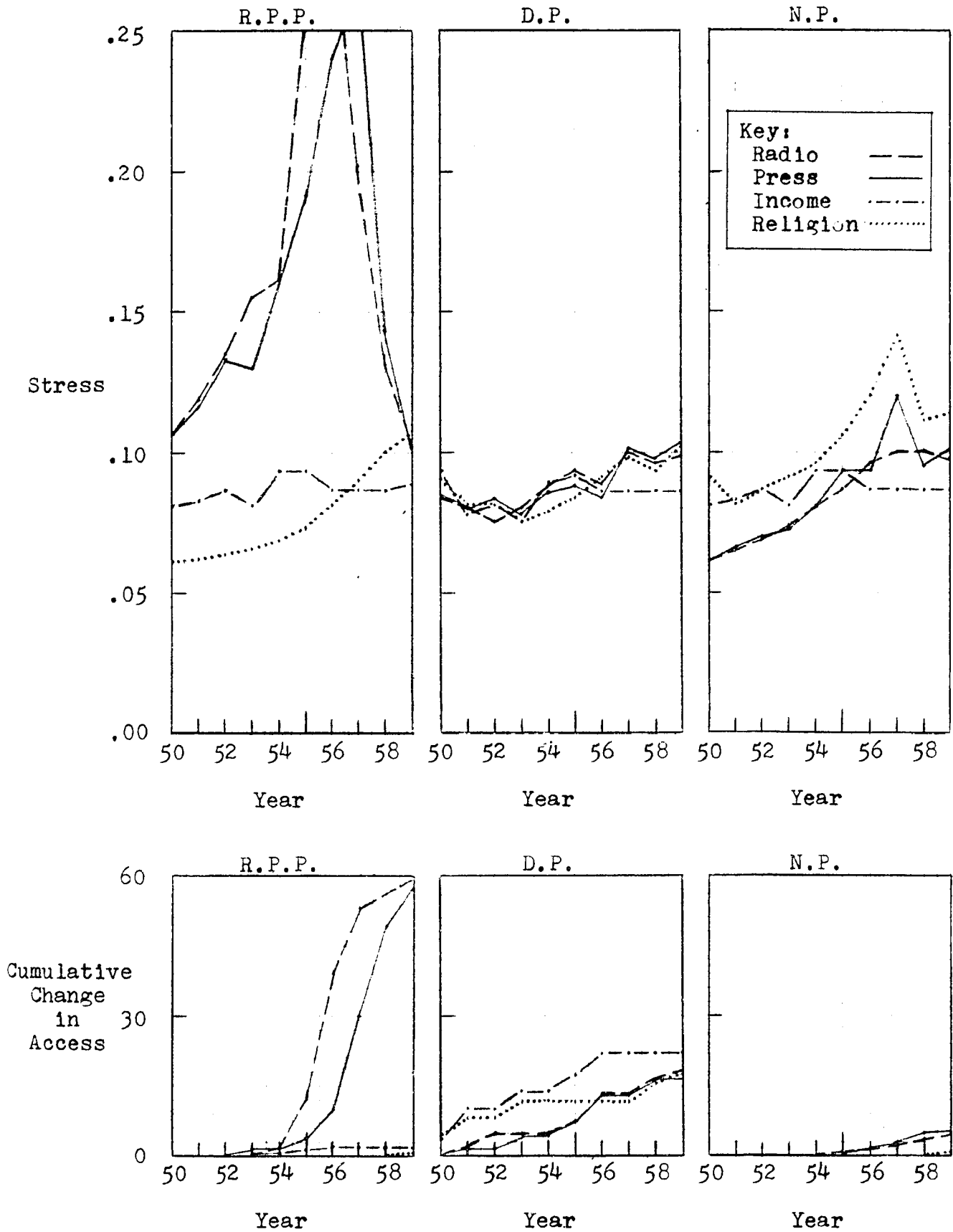
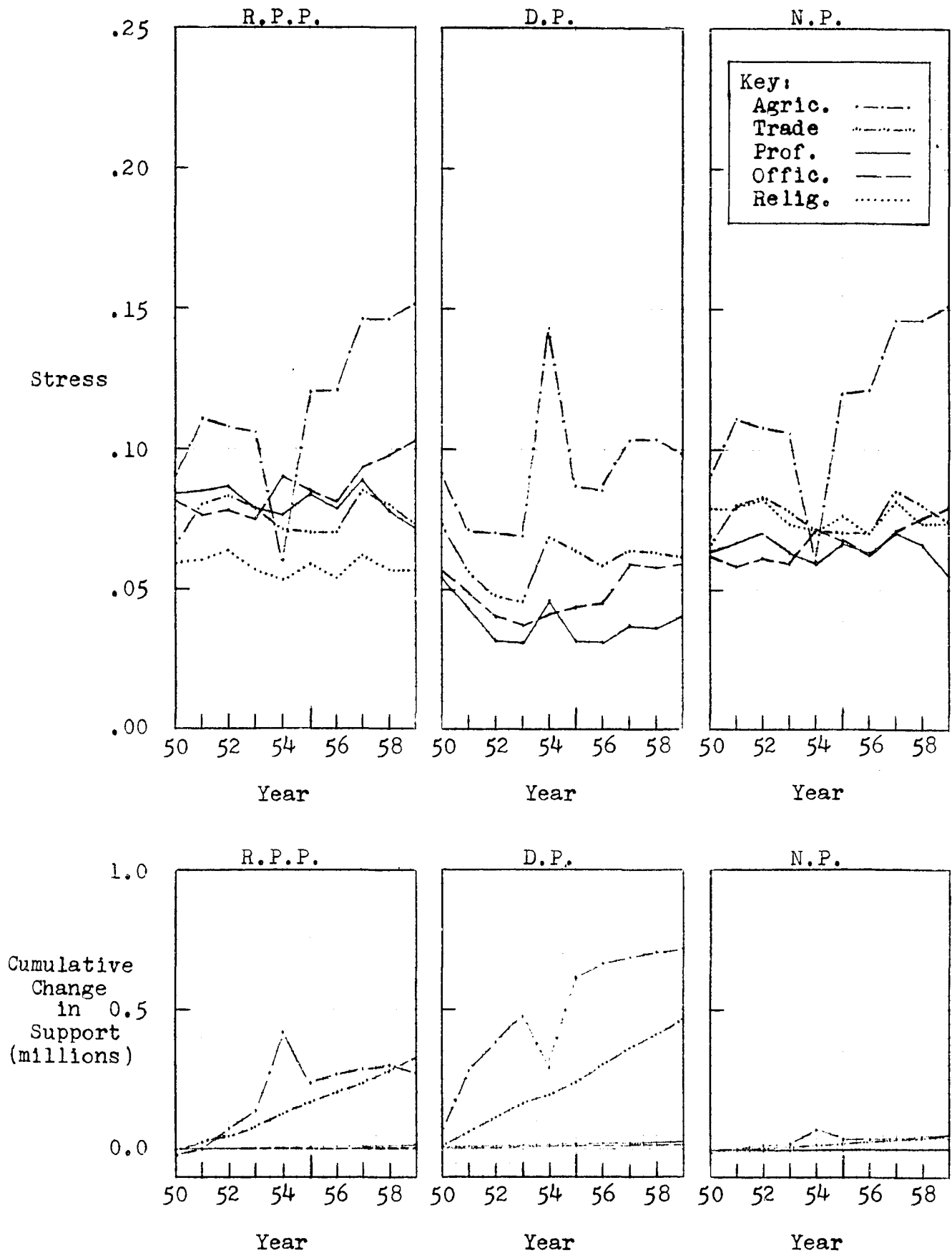
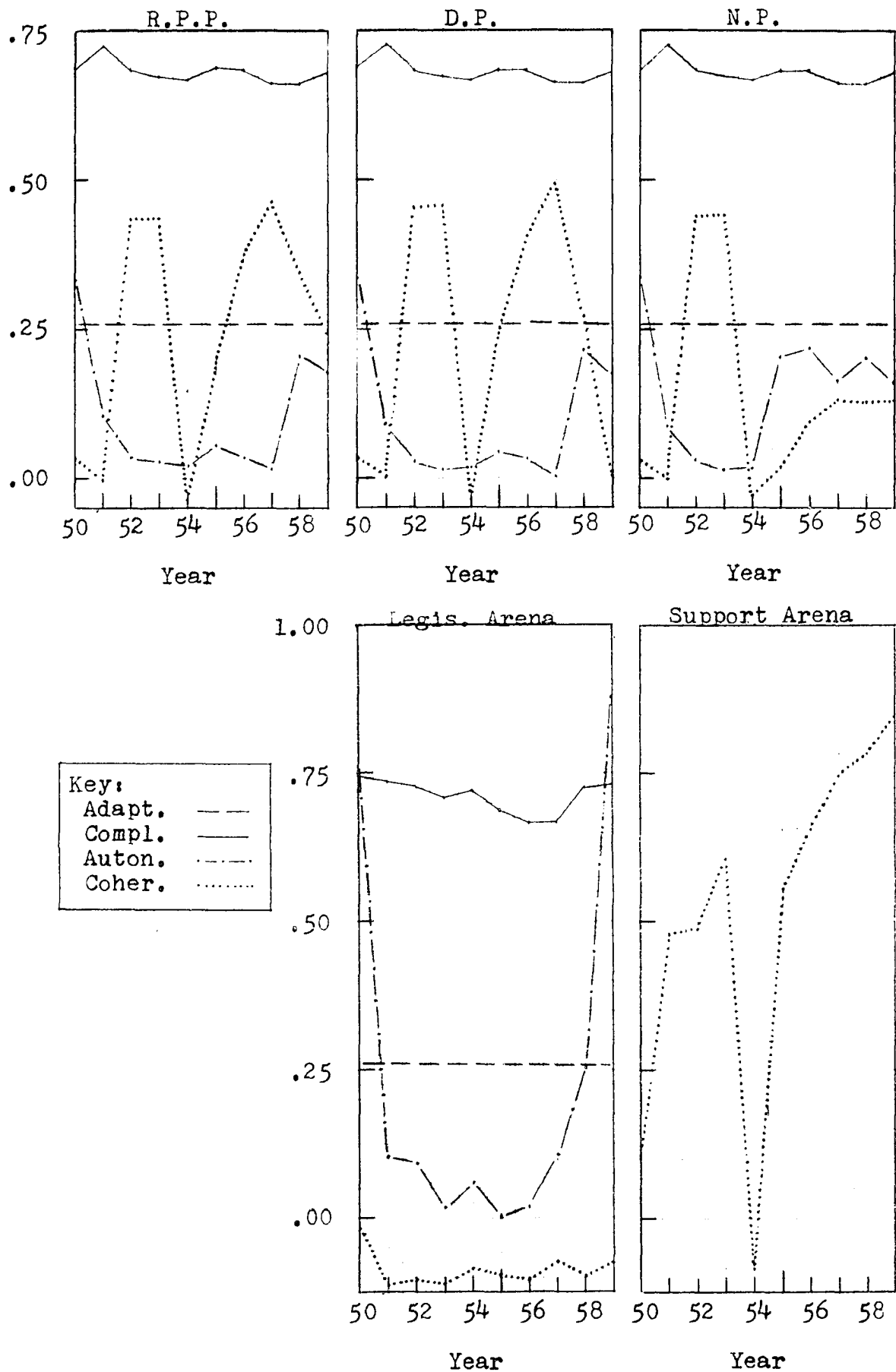


Figure 9.3. Stress and Support Trends in the Support Arena



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Figure 9.4. Adaptability, Complexity, Autonomy, and Coherence



levels during the period from the end of 1955 to the end of 1957, with the decrease in autonomy being much more dramatic than the decrease in complexity. However, by the end of 1959 these two variables approach or exceed their initial levels. Coherence decreases from the level of 1950 and remains below the threshold ($XCH = 0.0$) throughout the run. Adaptability remains approximately constant. In short, while conditions in 1957 point toward the breakdown of the system, the system eliminates its basic problems by the end of 1959.

Several other aspects of the model's behavior, in addition to the key aspects above, are worth considering because they provide insight into the model's structure. Basically, the D.P. has preponderant but by no means complete control over the distribution of access and stress in the system. On the one hand, the D.P. can adjust its own access to deal with changes in priorities as they arise, and it can impose its own priorities on the opposition by failing to respond when the priorities of government and opposition are sufficiently different. As shown in Figure 9.2, the D.P. maintains approximate equality of stress across issues and the opposition parties, particularly the R.P.P., endure large differences in stress across issues. On the other hand, the D.P. is forced to redistribute access to other actors, as shown in Figures 9.1 and 9.2. In a qualitative sense, relationships of control are the same as those in the behavior of the Lipset model. In a quantitative sense, however, the opposition's degree of control

over the D.P. near the end of the run exceeds the degree which occurred in the behavior of the Lipset model and which seems to have occurred in Turkey.

Turning to other aspects, the model's behavior seems to depart from the historical events and trends in much the same way as the behavior of the Lipset model does, although the magnitudes and some of the details often differ. First, Figure 9.2 indicates that the R.P.P.'s access to the media grew rapidly from about the end of 1954 to the end of 1958. What is a period of success for the R.P.P. in the behavior of the model was a period of frustration in Turkey. Second, Table 9.1 indicates that the D.P. never used the media as an instrument of control in the behavior of the model, although the media seem to have been an important instrument of control in Turkey. Third, Table 9.1 also indicates that the R.P.P. and N.P. failed to seek direct increases in support from the agricultural group for three and two quarters, respectively, while the D.P. was vulnerable due to the economic crisis. Fourth, Figures 9.1 and 9.2 indicate that the trends in the salience of the religious issue for the religious group and the N.P. do not coincide with the historical trend in so far as it has been determined. While crises of some intensity seem to have occurred in 1952 and 1954 in Turkey, a crisis does not occur in the behavior of the model until 1958. Finally, Figures 9.1 and 9.3 indicate that the agricultural group's stress toward increased access to income decisions declined and its support

for the D.P. increased between 1954 and 1957, in contrast to the historical evidence.

Explanations of Behavior.

Feedback Explanations: Important Components. A feedback interpretation of the model's behavior is the most powerful means of explaining it. Inherent in the structure are the same five types of feedback found in the Lipset model, plus two more. Distinguished according to their comparators, these five types of feedback are based on $SP(G,V)$ in the party arena, $SG(P,V)$ in the legislative arena, $GEF(G)$ and $SE(P,G)$ in the support arena, and the difference between aggregate stress SSS on the one hand and $X1$ and $X2$ on the other. The latter govern the sequencing and rate of political activity in the main program. The stresses $SP(G,V)$ and $SG(P,V)$ can produce positive or amplifying feedback if the attempts to redistribute access motivated by them are unsuccessful. The other comparators have predominantly negative feedback tendencies.

The two types of feedback unique to the Huntington model represent the direct impact of institutions on political outcomes. As a result of the positive difference between the autonomy of an institution and the autonomy threshold XAU , the magnitude of the proposed redistribution of access is moderated. As a result of the positive difference between the complexity of an institution and the complexity threshold XCM , the level of expectation involved in the pursuit of an interest decreases. The changes in proposed access and in

expectation have an impact on the levels of autonomy and complexity to complete the feedback loop, but the direction of the impact depends on the overall configuration of access and expectations in the arena. As in the case of the Lipset model, all types of feedback in the model interact: Activity by a group or party in response to one comparator may change the amount of disequilibrium (in some cases stress) in other comparators in the system. With respect to the two feedbacks unique to the Huntington model, it should be noted that moderation of access demanded tends to maintain the existing level of stress [either $SP(G,V)$ or $SG(P,V)$] and the moderation of expectations tends to reduce it.

Different types of feedback behavior are brought into play depending on the particular path taken at each branch point, and the particular path taken depends in turn on the level of variables and thresholds. According to the principle that the positive feedbacks in a system tend to dominate its behavior, the most crucial branch points are the salience [4.1.B(H) and 4.1.D(H)] and coherence branch points. If an issue is not sufficiently salient for the governing party and the arena in question is not sufficiently coherent, the first two types of feedback are positive and potentially explosive: The deprived actor uses the media to reinforce stress on the issue for itself and others.

The magnitude of the change in a comparator as a result of the activity it generates depends on the form of the

relationships in the loop, the magnitude of the elasticities relating stimulus and response, and the levels of key variables, as in the Lipset model. However, tolerance, one of the key variables moderating the impact of one actor on another in the Lipset model, is not defined in the Huntington model. Thus, for example, an attempt by one actor to influence others through the media varies according to its relative access to the media, the degree of other actors' exposure to the media, and their predispositions (existing stress) on the issue, but not on tolerance.

Mobilization, Decay, and Development. By the time of the election in 1954, the R.P.P.'s stress toward the redistribution of access to the media has climbed to levels about 60% greater than the initial levels, while most other stresses in the system remain near the initial levels or have declined. In the first quarter of the run, the autonomy of the legislative arena increases sharply as the D.P. increases the N.P.'s and its own access to religion. The high level of autonomy has the effect of moderating the extent of the D.P.'s subsequent increases in access to income and religion, and the relative priority of these two values is reinforced in the D.P.'s encounters with social groups. In spite of the tendency for the complexity of the arena to moderate the levels of expectation associated with these two values, the net outcome is to reinforce the priority of these interests relative to the media. As a consequence, the R.P.P. is unsuccessful in

its attempts to increase its access to the media, and reinforces these interests as it continues to pursue them in the support arena. The autonomy of the arena slowly declines as the D.P. draws its access to income and religion decisions more in line with its expectations and the R.P.P. becomes more extreme in its emphasis on the media. Early in 1951 the autonomy of the arena drops below the threshold and the D.P. quickly achieves larger increases in access to press, radio, and income decisions without making any concessions to the R.P.P. Thus the possibility of reducing the salience of the media issues for the R.P.P. is temporarily postponed. With only the R.P.P.'s stress on the media issues remaining at high levels in the legislative arena, most of the political activity in the system is diverted to the party and support arenas. In part because of previous activity by the R.P.P., the media issues become the most salient ones for the official and professional groups. In contrast to the Lipset run, the activity of these groups on these issues is constrained within the D.P. because it is sufficiently coherent in this period.¹ The R.P.P.'s interactions with these and other groups in the support arena reinforce its stress on these issues while at the same time it continues to reinforce these interests

¹This of course precludes attempts by these groups to increase the salience of the issues for all actors through the use of the media. This eliminates some pressure that otherwise would have occurred to redirect the D.P.'s attention and priorities toward the media issues.

through use of the media. The R.P.P.'s pressure causes the D.P. to concede the R.P.P. increased access to decisions affecting the press in the first quarter of 1953, and increased access to decisions affecting the state radio in the first quarter of 1953. But while other issues are under control, the stress on the media issues within the R.P.P. remains at dangerously high levels. This difference in the state of the Huntington and Lipset models at the onset of the economic crisis can be attributed primarily to the autonomy of the legislative arena and the coherence of the D.P.

As we have seen, the R.P.P.'s stresses with respect to the media issues reach their most extreme levels in the second and third quarters of 1957. The economic crisis, even though it is brought under control in the first half of 1955, is largely responsible. In the second quarter of 1954, agricultural support for the D.P. becomes a problem of sufficient magnitude for the D.P. to seek an increase in support directly by increasing the access of the agricultural group to decisions affecting income. At the same time, however, no issue has reached a sufficient degree of priority for the D.P., and consequently, agriculture's attempts to redistribute access to income in the party arena and the opposition parties' attempts to increase access to the other values in the legislative arena are unsuccessful. They lead to attempts to revise the priorities of the D.P. through mass appeals in the support arena. Because of nearly simultaneous pressures to increase the priority of

each of the four issues, the D.P. is able to sort out priorities only quite slowly. Meanwhile, because of the high rate of appeals through the media on all issues, the expectations of all actors on all issues are increased. Moreover, because the magnitude of each actor's response is proportional to its current level of stress on the issue at hand, each increase in stress is larger than the previous one. By the first quarter of 1955, the income issue has achieved a degree of priority sufficient for the D.P. to begin to redistribute access to the agricultural group and the opposition, and then to act on its own behalf. This makes the D.P.'s priorities more flexible and increases the relative salience of the media issues. From this point until mid-1957 a recurring sequence of events takes place. The intensity of the R.P.P.'s motivation to increase its access to the media is reinforced by its interactions with social groups and its own appeals through the media. This causes the D.P. to concede to the R.P.P. further access to one of the media issues and then almost immediately to increase its own access to the same issue. The pattern is repeated for the other media issue, but in each case the increases in access granted to the R.P.P. are not sufficient to counteract the reinforcement of the R.P.P.'s motivation, primarily because the motivation has reached such high levels. Given the context, the D.P. cannot redistribute access quickly enough to control the crisis.

This recurring sequence is finally broken at the beginning of 1957. As aggregate stress in the system increases, the stresses of relatively low intensity no longer generate activity, and the pattern of activity becomes streamlined and focused on only a few key stresses in the system. The result is that from the beginning of 1957 to the middle of 1958 the D.P. does not move to increase its own access but simply redistributes access to the opposition parties consistently and on a large scale. This constrains the scope of the opposition's activity within the legislative arena by making the continuation of activity in the support arena unnecessary, and eliminates the reinforcement of the opposition's interests in the media by satisfying the interests. The crisis is brought under control, but only through the virtual capitulation of the D.P. By the middle of 1959 the autonomy of the legislative arena has reached the level that further redistributions of access are moderated.

The institutional constraints in the model of Huntington's theory interact with outcomes in a way that legitimacy in the model based on Lipset's theory does not. That is to say, adaptability, complexity, autonomy, and coherence not only influence the path taken at key branch points, they also have a direct through often quantitatively small impact on outcomes as well. As the D.P. redistributes access to income and religious decisions in the legislative arena during the first few quarters, the D.P.'s pattern of interests is drawn somewhat

out of line with the pattern of interests in the arena as a whole. This sharply increases the autonomy of the arena but has little effect on its complexity. The net result is to make the access distribution of the legislative arena more stable than it otherwise would have been. Exacerbated in part by this stability, the increasing stress of the R.P.P. on the media issues during and after 1951 begins to distort the overall pattern of interests in the arena and to produce institutional decay: Both autonomy and complexity decline, and the arena becomes vulnerable to the more rapid redistribution of access. From about 1955 on, redistribution of access to the media produces small increases in complexity that have the effect of lowering the adaptability threshold. XAT declines to .259 in 1956 and to .258 in 1959. Meanwhile, the concessions by the D.P. to the opposition reduce the overall stress on the media issues and the correlation between the R.P.P.'s interests and the interests of the arena as a whole decreases, causing increases in the complexity and autonomy of the legislative arena. The coincidence of interests among the three parties is never great enough to raise the level of coherence of the legislative arena above zero. With one exception, coherence in the support arena is uniformly high, reflecting the priority of agricultural support in each party. The exception occurs around the end of 1954, when the economic crisis temporarily produces increases in agricultural support for the opposition parties.

The generally high coherence of the support arena together with structural specifications that preclude activity in the military arena under conditions of high coherence account in part for the most implausible events in this run: The resolution of the extreme crisis in the legislative arena in 1957 through non-violent means such as bargaining and the manipulation of expectations. Under such extreme conditions, it is more plausible to expect that the conflict would be resolved in the military arena regardless of levels of coherence in the support arena.

While the trend toward institutionalization at the end of the decade is inconsistent with the trends in Turkey, the operation of the model is consistent with the broad generalization of Huntington's theory: Rapid mobilization may produce institutional decay, and the successful resolution of challenges to the system strengthen its institutions. However, the model's behavior in the period 1950 to 1952 suggests another generalization not emphasized in Huntington's theory: The stability produced by strong institutions may contribute significantly to rapid mobilization, increasing conflict, and the subsequent decay of the institutions.

Other Aspects. The explanations of other aspects of the model's behavior are for the most part identical to the explanations of the corresponding aspects of the behavior of the Lipset model. These two outcomes reflect common aspects

of structure and data inputs and seem relatively insensitive to the structural differences between the models.

The D.P.'s control of the system depends on the ability to act when a salient interest emerges, to increase access on its own behalf without bargaining, and to utilize its greater access to effect larger changes in access. Other actors seeking to improve their power positions must bargain with the D.P., the outcome depending largely on the D.P.'s priorities, and lower levels of access entail a lesser ability to effect changes in the distribution of access. The D.P.'s control is incomplete because its expectations and priorities are subject to modification through the use of mass media by any actor and through withdrawals of support by social groups.

The large increases in access to the media received by the R.P.P. in the later years of the run are not due to inappropriate settings of the tolerance thresholds and elasticities, or to the misspecification of threat (as they may be in the Lipset model), for the simple reason that tolerance and threat are not explicitly defined in the Huntington model. These seem to be important omissions since they remove from the consideration of any current political demand the degree of historical cooperation and conflict between actors and the projected impact of the demand on future power arrangements. Aside from indicating questions to guide historical clarification and data collection, the other four apparent departures between simulated and historical events and trends point to the

same kinds of modifications suggested for the Lipset model: Mechanisms by which the governing party can manipulate the focus of attention, mechanisms by which perceived opportunities and difficulties in a particular course of action are incorporated into the motivation to act; and mechanisms that more accurately reflect the translation of economic performance into stress toward the redistribution of access to decisions affecting income.

Sensitivity Analysis.

Having compared the behavior of the reference run of the model with the historical trends in Turkey, we can now compare modifications of the reference run with the reference run itself through sensitivity analysis. The particular modifications are the same as those used in the last chapter: Slow and rapid growth as reflected in the exogenous income and media exposure time series; initially low and initially high conflict among the political parties in the legislative arena; and low and high propensities to redistribute access on the part of the political parties. These symmetrical changes in three inputs (together with unchanged inputs) define unique sets of inputs for six different runs. As before, the selected trends in each of these runs are presented as deviations from the corresponding trends in the reference run. For convenience, the selected trends in the reference run are summarized in tabular form in Table 9.2. (In this and subsequent tables, levels of complexity, autonomy, and coherence that are boxed are ineffec-

Table 9.2. The Reference Run

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
R.P.P.: Stress										
Radio	.106	.119	.135	.155	.161	.252	.301	.202	.131	.104
Press	.106	.117	.134	.130	.161	.192	.240	.266	.144	.102
Inc.	.081	.083	.087	.081	.094	.094	.087	.087	.087	.089
Relig.	.061	.062	.064	.066	.069	.073	.081	.090	.100	.107
D.P.: Stress										
Radio	.084	.080	.075	.080	.088	.094	.089	.100	.097	.099
Press	.084	.080	.084	.078	.086	.088	.084	.101	.098	.103
Inc.	.093	.078	.081	.075	.089	.093	.086	.086	.086	.086
Relig.	.090	.081	.082	.075	.079	.084	.091	.099	.094	.102
N.P.: Stress										
Radio	.062	.065	.069	.074	.081	.087	.096	.100	.101	.098
Press	.062	.066	.070	.073	.081	.094	.094	.120	.095	.101
Inc.	.081	.083	.087	.081	.094	.094	.087	.087	.087	.087
Relig.	.091	.082	.087	.091	.096	.106	.120	.142	.111	.114
Legislative Arena										
Adapt.	.260	.260	.260	.260	.260	.260	.259	.259	.259	.258
Compl.	.746	.735	.726	.708	.721	.680	.667	.671	.726	.729
Auton.	.756	.103	.091	.020	.059	.007	.022	.110	.253	.887
Coher.	-.109	-.112	-.105	-.109	-.086	-.093	-.103	-.074	-.099	-.075
Support Arena										
Coher.	.174	.478	.487	.603	-.087	.554	.657	.742	.780	.848

tive because they are below their respective thresholds.)

As in the previous section, we shall focus on trends in mobilization and the strength of political institutions.

Slow and Fast Growth. Tables 9.3 and 9.4 summarize the results of the first pair of sensitivity runs. Where data reflecting slow growth are used in the social system, the R.P.P.'s stress toward the redistribution of access to media decisions rises above the corresponding levels of stress in the reference run only around 1954 and 1959. The levels are much lower from 1955 to 1958, the period when peak levels were attained in the reference run. On the other hand, for both the D.P. and the N.P., levels of stress across all issues are almost uniformly equal to or higher than they were in the reference run, and the religious issue in particular becomes extremely salient for the N.P. toward the end. In general terms, the levels of complexity, autonomy and coherence of the legislative arena over time in this run exceed the levels of the reference run, but only the increased autonomy in 1957 and 1958 makes a difference. Where data reflecting fast growth are used in the social system, the R.P.P.'s stress toward the redistribution of access to decisions affecting the press generally exceeds reference run levels toward the end of the run, but stress on the radio issue falls below the reference run level after 1954. For both the D.P. and the N.P., levels of stress across all issues are almost uniformly lower than they were in the reference run. The legislative arena is

Table 9.3. Slow Growth: Deviations from the Reference Run

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
R.P.P.: Stress										
Radio	-	-.001	-.004	-.007	.035	-.082	-.145	-.086	.002	.046
Press	-	-	-.003	.018	.035	-.022	-.084	-.141	-.011	.041
Inc.	-	-	.003	.001	-	.006	.029	.046	.030	.028
Relig.	-	-	-	-	-	.001	-.001	-	.006	.027
D.P.: Stress										
Radio	-	-	-	-	.003	-.001	.017	.019	.032	.052
Press	-	-	-	.002	.005	.005	.024	.016	.031	.049
Inc.	-	-	.002	-	.001	.001	.019	.033	.040	.040
Relig.	-	-	.001	.001	.001	.002	.002	.004	.024	.048
N.P.: Stress										
Radio	-	-	-	-.001	.002	.007	.012	.023	.041	.055
Press	-	-	-	.002	.005	.003	.012	.002	.041	.065
Inc.	-	-	.003	.001	.002	-.001	.019	.033	.040	.040
Relig.	-	-	-	-	.001	-.001	-	.003	.076	.188
Legislative Arena										
Adapt.	-	-	-	-	-	-	.001	-	-	.001
Compl.	-	.001	.004	.010	-.015	.036	.061	.068	.014	-.042
Auton.	-	-.007	.114	-.020	-.038	.004	.037	.681	.605	-.180
Coher.	-	.001	.001	-.002	.002	-.003	.022	.003	-.007	.016
Support Arena										
Coher.	-	.026	.083	.037	.071	-.096	-.040	.061	.105	.007

Table 9.4. Fast Growth: Deviations from the Reference Run

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
R.P.P.: Stress										
Radio	-	-	.001	.002	.011	-.128	-.142	-.087	-.052	-.023
Press	-	-	-.001	.023	.003	-.034	-.024	.117	.082	.136
Inc.	-	-.001	-.005	.007	-.017	-.015	-.008	-.008	-.008	-.010
Relig.	-	-	.001	-	-.003	-.007	-.011	-.017	-.022	-.027
D.P.: Stress										
Radio	-	-	-	-	-.010	-.020	-.010	-.017	-.012	-.022
Press	-	-	-.009	.002	-.008	-.014	-.003	-.017	-.013	-.022
Inc.	-	-.002	-.005	.006	-.006	-.016	-.009	-.011	-.011	-.011
Relig.	-	-	.001	-.001	-.005	-.010	-.016	-.023	-.014	-.019
N.P.: Stress										
Radio	-	-	-	-	-	-.010	-.014	-.011	-.018	-.015
Press	-	-	-	.002	.002	-.015	-.015	-.025	-.017	-.014
Inc.	-	-.001	-.005	.007	-.017	-.016	-.009	-.009	-.009	-.009
Relig.	-	-	.003	-.010	-.015	-.025	-.034	-.051	-.011	-.032
Legislative Arena										
Adapt.	-	-	-	-	-	-	-	.001	-	.001
Compl.	-	-.001	.004	.009	-.019	.023	.009	-.096	-.071	-.090
Auton.	-	-.055	-.089	.049	-.053	.010	-.017	-.103	-.203	-.856
Coher.	-	.002	-.003	.015	-.007	-.014	-.005	-.019	-.025	-.025
Support Arena										
Coher.	-	-.035	.010	.006	.155	.065	.037	-.006	-.012	-.022

generally less complex, autonomous, and coherent, but only the decreased autonomy in 1959 makes a difference.

In the slow growth run, the initial adjustments have the effect of diverting attention away from the media issues. As the social groups' income increases more slowly, their stress on the income issue decreases more slowly and consequently their withdrawal of support from the opposition parties occurs more slowly. As a result, rather than redistributing access to the media to the professionals and officials as a means of building support, the R.P.P. diverts activity to attempts to increase its access to income. There are three important consequences: The R.P.P.'s stress on the media is not reinforced through interactions with the professionals and officials in the support arena; its appeals through the media on the media issues have less impact on itself, the D.P., and other actors because they are less highly motivated; and the R.P.P.'s appeals through the media on the income issue reinforce the D.P.'s priorities already biased toward this issue. Thus while the D.P. redistributed access to the media issues in favor of the R.P.P. in 1953 and 1954 in the reference run, it does not do so until 1955 in this run. In effect, inattention to the R.P.P.'s media demands in the earlier years forces the D.P. to divert attention to them at the height of the economic crisis. As the economic crisis wanes due to improved economic performance, the D.P. continues to redistribute access to the media to itself and the opposition. In the course of these adjustments the

N.P. receives no concessions of access to the religious issue and the salience of the issue increases. But the diversion of the D.P.'s attention from the media and income issues is only marginal and the N.P. continues to be unsuccessful up to the end of the run. The increased institutionalization of the legislative arena reflects the moderation of the media issues and the increased salience of other issues.

In the fast growth run, the initial marginal adjustments have the effect of modifying through time the distribution of attention to the media issues on the one hand and the income issue on the other. Due to relatively fast economic growth, the social groups withdraw support from the opposition parties more rapidly. This diverts their activity from seeking increased access to income decisions in the legislative arena to seeking increased support from the trade group through concessions on the religious issue beginning in the fourth quarter of 1951. With aggregate stress at a low level, the D.P. is able to increase its own access to the media in the fourth quarter of 1952 and consequently to lower the relative salience of these issues. Lacking pressure on the income issue from the opposition, the D.P. does not increase its access to income decisions until the third quarter of 1954, a year later than in the reference run. By the fourth quarter of 1954, the D.P.'s priorities are flexible enough for it to concede the R.P.P. its first increases in access to decisions affecting the media. From this point the level and distribution of stress in the

system enable the D.P. to act often on its own behalf in the legislative arena, making it flexible in its issue priorities and enabling it to effect strategic concessions of access to opposition parties. By 1956 the salience of the press issue for the R.P.P. has been reinforced by a number of actors, but the levels of stress in the legislative arena on other issues are low, the rate of activity is decreased, and the parties divert much of their activity to attempts to increase support. The low levels of autonomy and complexity in the legislative arena in this run compared to the reference run can be attributed to the D.P.'s one failure, its inability to moderate sufficiently the salience of the press issue for the R.P.P.

Low and High Initial Levels of Conflict. The results of the low and high initial conflict runs are presented as deviations from the reference run in Tables 9.5 and 9.6. When conflict in the legislative arena is initially low, the levels of mobilization of the opposition parties on the media issues over time are substantially lower than in the reference run. Only the N.P.'s levels of stress on the religious issue exceed reference run levels by substantial amounts. The coherence of the support arena is sometimes higher and sometimes lower than in the reference run, but at the end of each year it still remains above the coherence threshold. The institutionalization of the legislative arena is consistently higher over time in this run compared to the reference run. When conflict in the legislative arena is initially high, the focus of attention in the

Table 9.5. Low Initial Conflict: Deviations
from the Reference Run

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
R.P.P.: Stress										
Radio	-.016	-.039	-.055	-.075	-.081	-.172	-.220	-.120	-.046	-.016
Press	-.015	-.019	-.029	-.014	-.021	-.084	-.119	-.133	-.027	.017
Inc.	.014	.021	.009	.020	-.003	-.004	.006	.007	.007	.006
Relig.	.011	.015	.018	.026	.045	.023	.029	.030	-.002	-.012
D.P.: Stress										
Radio	.006	.001	.006	.001	-.007	-.013	-.008	-.019	-.015	-.017
Press	.007	-.003	-.004	.006	.002	-	.011	-.006	-.004	-.011
Inc.	-.006	.005	-.001	.009	.004	-.003	.007	.008	.008	.006
Relig.	-.007	-.003	-.002	.003	.008	.003	.004	-.003	-	-.010
N.P.: Stress										
Radio	.008	.005	.001	-.004	-.011	-.017	-.025	-.028	-.027	-.024
Press	.009	.009	.008	.009	.011	-	.001	-.012	.003	-.008
Inc.	-.008	-.006	-.007	.003	-.002	.002	.013	.005	.005	.006
Relig.	.002	.019	.028	.044	.073	.030	.023	.008	-.003	-.010
Legislative Arena										
Adapt.	-	-	-	-	-	-	-	-	-	.001
Compl.	.001	.001	.004	.011	-.030	.035	.038	.029	.001	-.001
Auton.	.161	.288	.577	.694	.745	.618	.505	.618	.559	-.028
Coher.	.006	.012	-	.029	.027	.023	.059	.041	.036	.001
Support Arena										
Coher.	-.059	.004	-.005	-.099	.147	.006	.061	.035	-.022	-.029

Table 9.6. High Initial Conflict: Deviations
from the Reference Run

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
R.P.P.: Stress										
Radio	.010	.009	.010	.015	.035	.213	.276	-.001	-.031	-.029
Press	.010	.011	.011	.041	.089	1.230	.481	-	-.010	-.015
Inc.	-.010	-.011	-.015	-.009	-.022	-.020	-.013	-.013	-.013	-.014
Relig.	-.011	-.011	-.010	-.010	-.013	-.017	-.025	-.034	-.043	-.049
D.P.: Stress										
Radio	-.012	-.004	.006	-.003	-.011	-.006	.018	-.001	-.017	-.016
Press	-.012	-.004	-.003	-.001	-.007	.002	.034	-.003	-.009	-.023
Inc.	-.003	.004	.001	-.002	-.012	-.009	-.002	-.002	-.002	-.010
Relig.	-.003	-.003	-.001	.008	.004	-.001	-.008	-.015	-.010	-.027
N.P.: Stress										
Radio	-.011	-.012	-.014	-.015	-.017	-.007	-.001	-.009	-.017	-.020
Press	-.011	-.013	-.015	-.014	-.016	-.004	.024	-.020	-.012	-.025
Inc.	.009	-.006	-.010	-.004	-.016	-.013	-.006	-.006	-.006	-.006
Relig.	.005	.002	.007	-.004	-.018	-.028	-.042	-.063	-.029	-.031
Legislative Arena										
Adapt.	-	-	-	-	-	-.001	-.002	-.002	-.002	-.001
Compl.	-.006	-.003	-.001	.003	-.056	-.276	-.103	-.024	-.022	.010
Auton.	.199	-.044	-.089	-.020	-.052	-.007	.113	-.005	-.210	-.504
Coher.	-.001	.004	-.006	.012	-.018	-.011	-.005	-.057	-.065	-.066
Support Arena										
Coher.	-.081	-.025	-.038	-.022	.016	-.076	.143	.078	.018	.009

system is shifted toward the media issues and the pattern of mobilization of the R.P.P. on the media issues is exacerbated: Much higher levels of stress are generated in the middle years of the decade, but somewhat lower levels are generated near the end. In terms of complexity, autonomy, and coherence, the legislative arena is less institutionalized than it is in the reference run, and in terms of coherence the support arena is less institutionalized through the first half of the decade. In short, low initial conflict leads to consistently lower mobilization and conflict and to strong institutions, but high initial conflict exacerbates the pattern of extreme mobilization and conflict and subsequent control found in the reference run.

Low initial conflict entails an equal distribution of attention across all four issues for the D.P. at the start of the run. Through the D.P.'s interactions with social groups in the first few quarters, the salience of the income and religious issues increases to the point that the D.P. acts to increase its own access. This decreases the salience of these issues and increases the relative salience of the media issues for the D.P. at a time when further changes in relative salience are moderated by the autonomy of the arena. Low initial conflict also entails lower stress on the media issues for the R.P.P. Consequently, it begins to seek increased access to decisions affecting the media later than it did in the reference run, and there is less reinforcement of the salience of these

issues because the motivation is lower. These two sequences of adjustment to the initial conditions cause the D.P. to concede the R.P.P. increased access to decisions affecting the radio in the third quarter of 1951. The radio issue assumes such a low priority for the R.P.P. that it generates very little activity during the rest of the run. The R.P.P.'s activity is diverted toward the press issue and toward the income issue, each of which was at a higher level of salience initially and was reinforced in the R.P.P.'s interactions with social groups. The D.P. is able to revise its allocation of attention rapidly enough to maintain control because only three issues have relatively high salience and because the pattern of stresses in the system enables the D.P. to act on its own behalf quite often. This state of affairs is self-perpetuating: The D.P. is so flexible that the R.P.P. in particular is not able to achieve rapid increases in stress on the media issues for itself or others. The D.P. wins in the sense that it redistributes much less access to the R.P.P. than it did in the reference run.

In the other run, the initially high level of conflict is not moderated through tactical adjustments but rather exacerbated. The D.P.'s initial moves to increase its own access to decisions affecting income and religion have the direct effect of reducing somewhat the relative salience of these issues. But they also have the indirect effect of increasing the autonomy of the legislative arena for several quarters, thus

moderating further increases in the D.P.'s access and making the reallocation of the D.P.'s attention more difficult. As a result, the R.P.P.'s high initial stress on the media issues is reinforced as the R.P.P. fails to achieve a redistribution of access. By the second quarter of 1951, the stress on the media issues begins to dominate the overall pattern of interests in the legislative arena causing the autonomy of the arena to decline. The R.P.P.'s pressure increases the relative salience of the media issues for the D.P., but in the third quarter of 1953 the D.P. increases its own access to the media before it can respond favorably to the R.P.P.'s demands. At the onset of the economic crisis, no issue is sufficiently salient for the D.P., and in subsequent quarters the continuing pressure of the R.P.P. results in only one concession on the radio issue and several moves by the D.P. to increase its own access to the media. Finally, in the last quarter of 1955 the R.P.P. receives its first concession on the press issue; but by this time the level of stress in the R.P.P. is so high that the D.P. can only continue to make concessions and the R.P.P. gains a majority of the access to decisions affecting the press. The D.P., in effect, is beaten. Non-responsiveness on the part of the D.P. exacerbated by the stability imposed by institutional constraints in the early period lead to extreme mobilization and conflict and the capitulation of the D.P. In a real system under similar circumstance, the breakdown would have occurred.

Low and High Access Elasticity. The deviations from the behavior of the reference run generated by low and high access elasticities for political parties are presented in Tables 9.7 and 9.8. With $ESA(P) = .9$, the general pattern of mobilization of parties on issues is similar to the pattern in the reference run, although the R.P.P.'s stress on the media issues over time tends to be somewhat lower and the N.P.'s stress on the religious issue somewhat higher. Complexity, autonomy, and coherence exhibit both positive and negative deviations from the reference run, but the only major difference is that the autonomy of the legislative arena exceeds the threshold in the last three years of this run compared to only the last year of the reference run. With $ESA(P) = .11$, the pattern of mobilization in the reference run is modified such that the radio issue is consistently less salient for the R.P.P., the peak salience of the press issue for the R.P.P. occurs earlier, and the religious issue is more salient for the N.P. except at the beginning and end of the run. The autonomy of the legislative arena is always less than the autonomy threshold at the end of each year in this run, but otherwise the deviations of the trends in institutionalization are not significant.

With a low access elasticity, the D.P.'s initial redistributions of access are less successful in reducing stress than they were in the reference run. This has three important consequences: First, the D.P. requires additional activity to reduce its levels of stress on all issues. Because the

Table 9.7. Low Access Elasticity ESA(P): Deviations from the Reference Run

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
R.P.P.: Stress										
Radio	-	-.002	-.003	.001	.011	-.050	-.058	-.017	-.016	.003
Press	-	-	-.018	.002	-.025	-.042	-.008	-.021	-	-.002
Inc.	-	-.001	-.005	.003	-.012	-.008	.004	.005	.005	.003
Relig.	-	.002	.004	.004	.005	.008	.010	.018	.020	-.001
D.P.: Stress										
Radio	-	.001	.002	.002	-.007	-.010	.009	.010	.013	.005
Press	-	.001	-.008	.002	-	-.001	.010	.012	.012	-
Inc.	.004	-.002	-.005	.003	-.010	-.010	.002	.003	.003	.003
Relig.	.001	-.003	-.002	-	.001	.004	.006	.013	.017	.001
N.P.: Stress										
Radio	-	-	-	-	-.001	-.002	-.006	.005	.010	.011
Press	-	-.001	-.001	-	-.002	-.005	.005	-.009	.017	.002
Inc.	-	-.001	-.005	.003	-.012	-.001	.012	.013	.013	.013
Relig.	.001	.018	.022	.025	.031	.041	.070	.074	.048	-.003
Legislative Arena										
Adapt.	-	-	-	-	-	-.001	-	-	-	.001
Compl.	-.002	.004	.005	.009	-.008	.029	.048	.034	-.010	.010
Auton.	.202	-.100	.286	.106	.149	.279	.238	.476	.619	-.119
Coher.	.003	-	-.003	.002	-.027	-.019	.008	.038	.054	-.005
Support Arena										
Coher.	-.008	-.003	-.004	-.008	.080	-.028	.045	.054	.040	-.021

Table 9.8. High Access Elasticity ESA(P): Deviations from the Reference Run

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
R.P.P.: Stress										
Radio	-	-.004	-.007	-.032	-.015	-.084	-.178	-.032	-.019	.001
Press	-	-.002	-.005	.017	.030	.085	.047	-.057	-.012	.029
Inc.	-	-.001	-.005	-.005	-.005	-.007	.003	.004	.004	.003
Relig.	-	.002	.004	.005	.006	.008	.014	.019	.004	-.001
D.P.: Stress										
Radio	-	-.002	.007	-.005	-.006	.001	.004	.013	.006	-.005
Press	-	-.002	-.002	-.001	-	.003	.013	.012	.015	-
Inc.	-.004	.001	-.002	-.009	-	-.001	.009	.011	.011	.012
Relig.	-.001	-	-.008	.001	.002	.005	.010	.013	.009	.002
N.P.: Stress										
Radio	-	-	-.001	-.003	-.004	.002	.006	.031	.011	.009
Press	-	-.001	-.001	.001	.001	.007	.004	-.015	.008	.013
Inc.	-	-.001	-.005	.005	-.005	.007	.017	.019	.019	.020
Relig.	-.001	.014	.021	.024	.031	.045	.078	.024	-	-.014
Legislative Arena										
Adapt.	-	-	-	-	-	-	-	-	-	-
Compl.	-	.007	.008	.013	-.017	-.010	.008	.048	.004	-.005
Auton.	-.384	-.103	-.080	.283	.092	.096	.356	.282	-.094	-.656
Coher.	-.003	-	.004	.007	-.008	-.014	-	-.019	-.012	-.029
Support Arena										
Coher.	.007	-.013	-.023	-.019	.039	.092	.148	.119	.101	.013

D.P.'s rate of activity is higher, the opposition's rate of activity is lower. In particular, the R.P.P. and N.P. delay their attempts to increase access to decisions affecting income until well into 1953. Second, the N.P. persists in seeking increased access to decisions affecting religion because the initial redistribution of access was insufficient. The salience of the issue is rapidly reinforced compared to the reference run, in which the N.P. avoided the issue during most of 1951 and half of 1952. Third, since other more highly motivated activity replaces many of the interactions between the R.P.P. and social groups which occurred in the reference run, the R.P.P. receives less reinforcement on the media issues from social groups. While the quantities involved are small, these outcomes have an important bearing on the most potentially explosive stresses in the system, the R.P.P.'s stresses on the media issues. In particular, the D.P. concedes the R.P.P. increased access to media decisions a quarter earlier than in the reference run, and it concedes additional access to decisions affecting the press in the second quarter of 1954. This enables the D.P. to moderate the intensity of conflict over the media during the rest of the run, even though the pattern of adjustment is quite similar to the pattern that occurred in the reference run. The reinforcement of the religious issue for the N.P. persists into the later years until the media issues are brought under sufficient control that the N.P. can focus the D.P.'s attention on it.

With a high access elasticity, the D.P.'s initial redistributions of access are more successful in reducing stress than they were in the reference run. The first major consequence is a decrease in aggregate stress which reduces the overall rate of activity a quarter earlier. This prevents the N.P. from receiving a second increase in access to religious decisions as it did in the reference run, and causes the N.P. to persist in reinforcing the salience of the issue for itself and others. The decreased overall rate of activity also eliminates an additional opportunity for the R.P.P. to increase the salience of the media issues; and more importantly, because of the N.P.'s efforts, the religious issue rather than the media issues tend to dominate the R.P.P.'s interactions with social groups. As a result, the D.P.'s concession to the R.P.P. on the press issue in the first quarter of 1953 in the reference run does not occur in this run, and the R.P.P. receives only one concession on the radio issue before the onset of the economic crisis. Although the R.P.P.'s stress on the press issue is consistently higher here than in the reference run, its stress on the radio issue is somewhat lower. With reduced pressure to focus its priorities on the income issue as the economic crisis subsides, and with less pressure to focus on the radio issue, the D.P. is able to revise its priorities in the direction of the press issue rapidly enough and to redistribute access rapidly enough to bring the crisis over the media under control.

CONCLUSION

Chapter 10

Theories, Method, and Data

In this chapter we draw together the points in the analysis having a bearing on its purposes: First, improving the models and the theories on which they are based by comparing their behavior and by locating omissions and inadequate specifications in their structures; second, gaining insight into the methodological problems of developing theories of complex political systems, including their representation as computable structures and understanding their general behavioral properties; and third, revising data collection priorities in order to develop theories of complex political systems more efficiently. How far have we come and where should we go from here in the continuing effort to understand political systems as systems?

The Theories: Structure and Behavior.

Comparisons. The theories of Lipset and Huntington and the models based on them differ primarily in the hypothesized nature of the institutional constraints on political activity in the course of modernization. As we have seen, development for Lipset is progress toward stable democracy, and stable democracy entails institutionalized opposition in which people choose among contenders for public office. Lipset defines for each actor a pattern of legitimacy which constrains its activity within institutions and a pattern of tolerance which

constrains its relations with other actors. When the legitimacy of institutionalized procedures becomes insufficient, the political activity of an actor is no longer constrained within orderly channels but leads to instability and chaos. When tolerance among actors becomes insufficient, patterns of conflict are reinforced and consensus and compromise are diminished.

Development for Huntington is the institutionalization of political organizations and procedures, and the level of institutionalization is a matter of adaptability, complexity, autonomy, and coherence. In contrast to Lipset, these institutional constraints are defined for each institution rather than for each actor. When institutions are rigid, simple, subordinate, and disunified, they lack the ability to curb the excesses of private or narrow interests and to define and realize common interests. Politics becomes a matter of unrelenting competition among social forces. The basic difference between the two theories touches on a basic question of political inquiry: How can the pursuit of conflicting interests be reconciled with the realization of the common interests which give rise to the need for government?

The structures of the theories also differ in two less important respects. Threat explicitly enters into the bargaining process in the struggle to redistribute access in Lipset's theory but not in Huntington's. Furthermore, Huntington does not include a variable like tolerance which may preclude certain interactions among pairs of actors or modify the

influence which one actor has over another. Aside from the basic differences, however, the similarities of the two structures are much more important than their differences.

By representing these theories as computable structures and incorporating common data inputs reflecting the Turkish context, we have been able to trace the behavioral implications of these differences in structure. Basically, the Lipset model has a lesser tendency to generate high degrees of mobilization and conflict than the Huntington model. But when a crisis is sufficient to render institutions illegitimate in the Lipset model, the crisis tends to be self reinforcing and the institutions cannot be reconstituted on a legitimate basis. In contrast, crises in the Huntington model, although more frequent and more severe, tend to be resolved and the institutions (particularly the autonomy of the legislative arena) tend to be strengthened as a result.

Most of these tendencies are apparent in the two reference runs. In the Lipset model, the maximum year-end stresses of the R.P.P. on the radio and press issues occur in 1959: They are, respectively, .155 and .194 compared to .098 and .098 for the D.P. in the same year. In the Huntington model, in contrast, the maximum stress of the R.P.P. on the two issues occurs in 1956: They are .301 and .240 compared to .089 and .084 for the D.P. in the same year. Clearly, the mobilization of the opposition and conflict between the government and the opposition are much more extreme in the reference run of the

Huntington model. While the legislative arena in the Lipset model does not lose its legitimacy, the legislative arena in the Huntington model loses a sufficient degree of autonomy in the years surrounding the peak crisis year, but regains a sufficient degree of autonomy at the end of the run.

The same tendencies are also apparent in the sensitivity analyses. Of the six sensitivity runs of the Lipset model, the run incorporating high initial conflict produces the most extreme levels of R.P.P. stress on the media issues. Yet these levels of stress on the media issues are only about 50-60% as high as those produced by the Huntington model with the same initial conditions. Similarly, of the six sensitivity runs of the Lipset model, the run using high access elasticities produces the lowest average levels of R.P.P. stress on the media issues. The Huntington model with the same high access elasticities produces higher levels of stress on the media in nearly every year. Furthermore, in every run of the Lipset model in which an institution loses its legitimacy for an actor, stress in either the legislative or military arena increases as a result and the legitimacy of the institution is not re-established. In three of the five runs of the Huntington model in which the autonomy of the legislative arena is initially high and then too low, a sufficiently high level of autonomy is re-established later in the run.

These differences in the behavioral tendencies of the models must be explained in terms of their structural differ-

ences since the data inputs of corresponding runs are nearly identical.¹ The key to the explanation lies in the interaction between the basic institutional constraints unique to each structure and the strategies of conflict resolution they have in common: Bargaining to redistribute access and manipulating expectations to change priorities. When an actor receives an increase in access through successful bargaining in the party or legislative arenas, conflict and mobilization are moderated. When an actor fails to achieve an increase in access, mobilization and conflict are reinforced through the manipulation of expectations and priorities in the support arena. Crises can be prevented, if at all, only by a **change** in the priorities of the governing party that would permit an accommodation through bargaining.

In the Lipset model, legitimacy and tolerance constrain an actor to use the bargaining and expectation-manipulation strategies specified in the party, legislative, and support arenas. With some exceptions depending on data inputs, the strategies are effective in redistributing access or changing priorities rapidly enough to prevent extreme crises. When the legitimacy of the support arena becomes insufficient, however, the institutional constraint is inoperative and the strategy of manipulating expectations is bypassed: There is little chance that the priorities of the governing party

¹The only inputs the two models do not have in common are those required by their unique institutional constraints.

will be changed enough to permit compromise and accomodation. When the legitimacy of the party or legislative arenas becomes insufficient, these institutional constraints become inoperative and the bargaining procedures are bypassed: Access will not be redistributed in the arena. The only strategy left is the use of violence implicit in the military arena. Political outcomes may render institutions illegitimate and actors intolerant, but once these conditions arise there are no procedures in the model by which legitimacy and tolerance can be re-established.

In the Huntington model, the overall tendency of the institutional constraints is to make the bargaining and expectation-manipulation strategies less effective in redistributing access and modifying the governing party's priorities, and the tendency increases with the strength of the institutions. To be sure, adaptability and complexity contribute to successful bargaining and the moderation of opposition (although their impact is slight), and the coherence of the support arena prevents the diversion of activity to the military arena. However, autonomy in excess of the threshold in the party and legislative arenas moderates the redistribution of access and thus limits the effectiveness of successful bargaining in avoiding or moderating crises. Coherence in excess of the threshold in the party arena contains the activity of social groups and prevents their use of the media to manipulate expectations and the priorities of the governing

party. (If coherence were sufficiently high in the legislative arena in these runs, the inflexibility of the governing party's priorities would have been increased.) When these institutional constraints operate, they tend to produce short-run stability in the power structure and expectations at the expense of long-run instability and crises. Extreme levels of crisis render the autonomy and coherence constraints of the party and legislative arenas inoperative and give rise to strong pressures on the government to change its priorities. These adjustments tend toward the resolution of the crisis and the re-establishment of autonomy and coherence. As the events of May, 1960 in Turkey suggest, the resolution of these extreme crises in the model is rather implausible.

The differences in the behavior of the models and the reasons for the differences can be considered in a more general perspective. As Lasswell and Kaplan have noted,

Not every conflict, of course, eventuates in crisis: it may be resolved before the intensity of the situation mounts to an extreme. Whether or not such a resolution is possible depends, in general, on how easily the environment may be modified so as to eliminate the conflict, and on the flexibility of the predispositions leading to the conflicting acts....Crisis is precipitated, therefore, not merely by conflict, but by the failure of available practices for the resolution of conflict.¹

Given inputs approximating the Turkish context, the modification of the political environment through redistribution of

¹H. D. Lasswell and A. Kaplan, Power and Society: A Framework for Political Inquiry (New Haven: Yale University Press, 1950), p. 243.

access and the flexibility of predispositions (in particular, expectations and priorities) are facilitated by legitimacy and tolerance in the Lipset model but hampered by autonomy and coherence in the Huntington model.

It is not particularly productive to compare Lipset's interpretation of the Turkish experience¹ with the behavior of the model based on his theory using Turkish inputs: The interpretation is not sufficiently detailed and the implied optimism about prospects for stable democracy in Turkey seems to be inappropriate in the light of events both before and after his analyses were published. Huntington's interpretation of the Turkish experience² is consistent with the performance of the model based on his theory up to about 1957. After 1957, the model makes adjustments which were not made in Turkey in the period from 1957 to 1960.³ However, while the interpretation quite correctly emphasizes the generalization that rapid mobilization produces institutional decay, it does not emphasize the complementary generalization (apparent in the behavior of the model) that the stability produced by strong institutions may contribute significantly to rapid mobilization, increasing conflict, and the subsequent decay of institutions.

¹See pp. 29-30.

²See pp. 37-8.

³The particular specifications most directly responsible for this divergence between simulated and historical outcomes are based on necessary interpolations from Huntington's theory rather than direct statements in the theory itself.

Incomplete Specifications. Every theory is incomplete in the sense that it selectively emphasizes and otherwise simplifies the phenomena it is intended to represent. The theories of Lipset and Huntington are also incomplete in the sense that they are not comprehensive: They contain logical and conceptual gaps that must be filled in order to build systemic models of political systems. In Part I, important clues in the theories are clarified and elaborated and gaps are filled through the incorporation of new material. Given the purposes of this study, these clarifications and additions are necessary steps in the development of the two structures and the theories on which they are based.

The conceptualization and use of stress in each structure evolved from the comments of both Lipset and Huntington on the role of rising expectations or aspirations in generating political demands and political activity. Stress is defined in Chapter 3 as the difference between expected access or support and actual access or support expressed as a proportion of actual access or support. Stress is used as an index of perceived power deprivation and of the relative salience of the political values for each actor. It serves as the motivation for political activity, determining in large part the distribution of political activity across actors and values and through time. It represents the attention structure of an actor and the magnitude of the predisposition of one actor to respond to the activity of another, particularly in the support

arena where it mediates the manipulation of expectations. Finally, the pattern of stress in the models represents two important concepts in the theories: Value conflict, which is emphasized by Lipset; and mobilization, which is emphasized by Huntington. From the viewpoint of comprehensive modeling, it is stress that organizes and integrates the components of the system, summarizes the symbolic and material aspects of value outcomes for all actors, and provides the dynamic element.

The theories of Lipset and Huntington aside, stress as defined and used here bears a close resemblance to important concepts in two general approaches to political inquiry. In the configurative approach of Lasswell and Kaplan, stress at the actor level is similar to the intensity of an actor and stress at the system level is similar to the tension level of a society. In the cybernetic approach, the pattern of stress in the system closely approximates the magnitude and distribution of load in a feedback system. These near equivalencies facilitate the use of these powerful frameworks in understanding and developing the theories.

Several ambiguities and omissions in the theories are encountered in the specification of the processes in the models in Chapter 4. First, although the theories indicate that an actor seeking increased access may approach another actor, they do not sufficiently indicate the factors guiding the choice of another actor. In this study the assumption is that the choice is biased toward the most powerful actor.

Second, the theories lack process hypotheses indicating the causes of giving or withholding support for political parties. The models utilize the quarterly change in the index of governmental effectiveness with respect to each group [$GEP(G) - GEP(G)$] as the basic determinant of changes in support. This aggregates across all values the impact of recent increases in access conceded by the governing and opposition parties and it takes into account the impact of rising expectations. If the government does not redistribute access rapidly enough to offset increases in a group's expectations and access generated by the opposition, the group withdraws some of its support from the government. Third, while Huntington explicitly writes that lack of consensus among group or party elites leads to appeals to the masses, all other specifications in the two models regarding the shift of activity from one arena to another have no explicit basis in the theories. The assumptions are made here that lack of success or lack of legitimacy and effectiveness in the Lipset model cause activity to be diverted to the support arena, and lack of legitimacy in the support arena causes activity to be diverted to the military arena. In the Huntington model, lack of coherence in the support arena leads to the diversion of activity to the military arena. More generally, the theories lack a detailed treatment of what have been called here the legislative and support arenas. Many of the process specifications for these arenas

are based on extrapolations from rather detailed comments on the incorporation of social groups into the party system.

Major gaps in the theories are considered in Chapter 5. First, neither Lipset, Huntington, nor the political development literature in general has considered in sufficient detail the regularities governing the sequencing of political actions and the overall rate of political activity. Assumptions about these regularities are necessary in any dynamic representation of political systems disaggregated by actors and values. The assumptions used here emphasize the level and distribution of stress as key factors in determining the sequencing and overall rate of political activity. Second, while Lipset and Huntington provide information about the current context of certain political responses, they tend to ignore the definition of the immediate stimulus and the form of the stimulus-response relationships. The stimulus-response relationships used in the study are summarized in Table 5.1. Finally, exogenous data on social and economic trends rather than additional process specifications are used to deal with the omission of governmental impact on the social system in each theory.

Inadequate Specifications. While a comprehensive modeling approach is helpful in the location of big ambiguities and gaps in the theories, it is essential in the location of inadequate formulations provisionally accepted in the specification of the structure. If the adequacy of each provisional formulation depends on its performance in the context of the

model as a whole, we have to deduce the behavior of the model as a whole to evaluate each of its components. What appears to be plausible in the specification of a structure can often be shown to be inadequate in the behavior of the structure in a specific context.¹

Several departures between simulated and historical events call into question the adequacy of the specifications governing the shift of political activity from one arena to another. In the reference run of the Huntington model, the extreme levels of stress in 1957 did not cause any party to divert its activity to the military arena. Similarly, in none of the sensitivity runs of either model did the crises over the media near the end of the decade cause the governing party to divert its activity to the military arena, as it did in Turkey. Furthermore, in none of the fourteen runs did the governing party use the media as a means of controlling the political situation. The particular specifications responsible for these departures from historical events can sometimes be pinpointed. For example, the governing party in the models avoids the use of the media largely because it can achieve increases in access in the legislative arena, and the use of the media is specified to be a result of the failure to achieve

¹In nearly every case, the problems in the behavior of the models pointing to inadequate specifications and emphasized in Chapters 8 and 9 are independent of the details of the Turkish context in the sense that they could not have been eliminated by changing initial conditions and parameters.

such increases. In general, however, the problems can be attributed to specifications providing for the implicit progression from bargaining to manipulation of expectations to military coercion (largely added to the models rather than derived from the theories); and the interaction of these specifications with the specifications for institutional constraints. Both sets of specifications need to be reconsidered.

Departures between simulated and historical events also call into question some of the specifications entering into the bargaining procedures in the party and legislative arenas. In particular, increases in the R.P.P.'s access to the media in the legislative arena occurred near the end of the two reference runs. In the reference run of the Lipset model, either the tolerance mechanism used inadequate data inputs or the threat mechanism incorporated an irrelevant definition of threat, one not likely to operate given the D.P.'s relative degree of access. In the structure of the Huntington model, neither tolerance nor threat is defined, and consequently there is no means of avoiding some degree of access redistribution when the attention of both government and the opposition is focused on one or two values relative to other values. Since the attention of the relevant parties is likely to be focused on a common value at the peak of a crisis, there is a high probability that the crisis can eventually be resolved through access redistribution in the Huntington model. In

actual situations like the one that occurred in Turkey, the probability of peaceful resolution does not seem to be so high.

In both models, the degree of opportunity or difficulty presented by the political environment in the undertaking of a political act is lacking, although it seems to have been important in Turkey. There the opposition parties' actions to increase their support from the agricultural group when the D.P. was politically vulnerable can best be explained as a response to a political opportunity. Similarly, the timing of peak periods of stress on the religious issue in Turkey may indicate that the N.P. and the religious group curtailed activity because of the perceived difficulty of success given the situation and the D.P.'s actions in 1954. The specifications determining stress thus seem to be incomplete: Additional specifications to incorporate the impact of the environment on the predisposition to act seem to be required.¹

Finally, the specifications governing the sequencing and rate of activity are to some extent inadequate. This can be seen most clearly in the sensitivity analyses. The specifications produce changes in the number of demand sets, and this causes "jerky" rather than more plausible smooth changes

¹Cf. Lasswell and Kaplan, op. cit., Catharsis has taken place when there exists "a weakening of the stress toward action without completion of the act, or completion only of an act failing to alter significant factors." (p. 9) "...readjustment is said to take place if the movement has had considerable effect on the environment, catharsis if its environmental impact has been minimal." (p. 242).

in the number of demands processed per quarter. Moreover, at high levels of aggregate stress the specifications produce too much potential for conflict resolution, particularly where a small number of key demands by opposition parties dominate activity to the exclusion of demands by other actors.

The "jerkiness" of changes in the number of demands per quarter is largely a technical problem due to the use of FORTRAN IV. Other computer languages, in particular SIMSCRIPT II,¹ incorporate specialized timing routines for event simulations, and can be used to overcome the problem. While suggestions for dealing with the other problems of specification considered in this section could be summarized from Chapters 8 and 9, it seems more appropriate to consider in a **later** section how data collection priorities could be revised to provide information directly relevant to these problems of specification.

Methods.

The essentials of the representation of these two complex theories as computable structures can be summarized briefly. The key units are actors, both social groups and political parties. The power position and potential of each actor is described in terms of access to decisions affecting specific values, popular support, expected access, and (in the case of political parties) expected support. The difference between

¹See P. J. Kiviat, R. Villanueva, and H. M. Markowitz, The SIMSCRIPT II Programming Language (Englewood Cliffs, N.J.: Prentice-Hall, 1968), particularly Chapter 5.

actual and expected power positions motivates political activity. Activity is organized into party, legislative, and support arenas relatively specialized to the determination of certain outcomes by certain actors. In effect, the arenas constrain the pursuit of power. Processes of group elite and party elite behavior are represented as sequences of contingent choices, and processes of mass behavior as regular changes in support. Each outcome affects subsequent activity, and the action of social groups also is affected by social and economic trends.

The behavior of the structures in the fourteen runs suggests the general behavioral properties of this form of representation. The most important general property is the tendency for a small quantitative difference in the state of otherwise identical systems to give rise to a qualitative change in the sequence of events that accelerates the divergence of the systems' behavior over time. This tendency can be seen in any two runs of the Lipset or Huntington model, but is most apparent in the behavior of the reference run and the fast growth run of the Lipset model. Quantitatively small differences in the political adjustment to slightly faster growth in income and media exposure lead to the failure of the D.P. to accede to the R.P.P.'s demands for increased access to the media, demands which are fulfilled in the reference run. Consequently, the unresolved conflict over the distribution of access to the media is exacerbated as the D.P.'s attention

is diverted to the economic crisis, and the system breaks down quickly. In short, inherent in structures like these are a large number of possible patterns of behavior. Which one is realized depends on the details of the specific context (data inputs) used. Thus computer simulation provides the bridge between structure and context on the one hand and deduced behavior on the other.

The behavioral properties of structures such as these can be considered in terms of an historical viewpoint about the nature of social behavior and the associated problems of method.

To achieve certainty about a subject as flowing, diverse, and complex as social behavior is impossible. Each kind of activity reacts upon all others. How, then, distinguish in the ensemble the part taken by each? How evaluate exactly the role which, for example, the economic or religious factor has played in a given evolution? The conditions indispensable to all really scientific knowledge--calculation and measurement--are completely lacking in this field. And the interference of chance and individuals increases still more the difficulty of the historian's task by constantly confronting him with the unforeseen, by changing at every moment the direction which events seemed to take.

Not to historical method but to the subjects with which history is concerned must be imputed the historians' want of precision and the fact that their results seem uncertain and contradictory.¹

Social and political behavior in the models is flowing, diverse, and complex, and each kind of activity in the models reacts upon all others as it modifies the distribution of

¹Henri Pirenne, "What Are Historians Trying to Do?" in Hans Meyerhoff, ed., The Philosophy of History in Our Time (Garden City, N.Y.: Doubleday Anchor, 1959), p. 97.

stress in the system. Through sensitivity analysis of the models, it is possible to "distinguish in the ensemble the part taken by each" component and kind of activity. Small differences in the states of the models have consequences similar to the consequences of chance and individuals: They continually change the direction which events seem to take. Because of measurement errors in the state descriptions of models and the impact of change and individuals in systems, it is impossible to achieve certainty about social and political behavior. However, our explorations have shown that it is not impossible to measure and calculate. By formalizing general assumptions about process and incorporating measurements representing a particular context, we can deduce (or calculate) the behavior of a system. By determining discrepancies between deduced and historical behavior, we can infer improvements in our assumptions. In short, through simulation methods, we can in principle reduce by a significant proportion the uncertainties in our understanding of systems without ignoring the flowing, diverse, and complex nature of their behavior.

To the extent that our theories incorporate a large number of components selected from the systems they purport to describe, and to the extent that firm deductive and inductive links between structure and context on the one hand and behavior on the other are required to develop the theories, the representation of theories in comparative government as computer simulation models is the most appropriate form of

representation for scientific and other purposes.¹ Expressed in written English, our theories lack the specificity and deductive capability necessary to bridge the gap between structure and behavior. Expressed as empirical (statistical) generalizations, our "theories" tend to emphasize data about past behavior, ignore the underlying processes which produced the data,² and divert attention from the range of possible future developments. Having specified and operated models based on the theories of Lipset and Huntington, we can reassert with greater confidence the points made in the Introduction: Conventional forms of theory in comparative government are necessary but not sufficient for purposes of scientific progress and applications to individual countries.

Data.

Information on Structure. Data can be used in two general ways to improve the Lipset and Huntington models as representations of specific political systems. The first is to collect information directly relevant to structural specifications, a possibility alluded to at the end of the section on inadequate specifications.

Survey techniques and possibly elite interviews can be

¹The other purposes include projection and the invention and evaluation of policy alternatives.

²For some detailed arguments, see Ronald D. Brunner and Klaus Liepelt, "Data Analysis, Process Analysis, and System Change," (Mimeographed, Discussion Paper # 27, Institute of Public Policy Studies, The University of Michigan, 1971).

used to clarify the components to be in the state description of a model. For example, Frederick Frey used data from a large sample of Turkish peasants in the early 1960's to assess the relative significance of several analytical distinctions as predictors of many aspects of peasant behavior. He found that "region predicted peasant behavior more effectively than any other indicator employed except for peasant mass media exposure, which was nearly equal to region in predictive power. No other factor came near these two."¹ In the early 1950's Daniel Lerner and his associates asked a sample of Turks "What is the biggest personal problem for people in the same circumstances as yourself?" Seventy-two percent of those classified as having transitional (as opposed to traditional) personalities gave responses classifiable as economic.²

Frey's data and analysis indicate that the peasant group might be disaggregated for purposes of modelling according to the relatively modernized Western region and the relatively traditional Eastern region. With a national sample, it would be possible to assess the utility of disaggregating politically relevant social groups by occupation or other criteria. If Lerner's question were reformulated to focus more directly

¹Frederick Frey, "Regional Variations in Rural Turkey" (Cambridge: M.I.T. Center for International Studies, 1966), p. 67. See also pp. 55-8. Other analytical distinctions used include literacy, formal educational levels, travel experience, village level of development, and various attitudes.

²Daniel Lerner, The Passing of Traditional Society: Modernizing the Middle East (New York: The Free Press, 1958), p. 163.

on personal problems for which the government is assigned responsibility, it could be used to assess the overall distribution of concern with matters of economics, religion, mass media control, and so forth as political issues. We could decide how many value sectors or issues are necessary to incorporate in the model in order to include the responses of, say, 95% of the sample, and decide whether this number is worth the degree of complication or should be cut back. In short, with appropriate survey data we could make more informed choices about the simplification of the structure of the system with minimal distortion.

Interview questions can also be designed to clarify directly the processes operating in a system and represented in a model. The assumption behind this use of interviewing technique is that important political actors in a system solve complex problems or **perform** complex tasks by breaking them down into sequences of choices and using decision rules and criteria to make each choice. To the extent that problems or tasks have occurred often enough, stable decision routines tend to be established. These decision routines can be uncovered by interviews and represented as flow charts similar in form to those presented in Chapter 4.¹

¹See for example, John P. Crecine, Governmental Problem-Solving: A Computer Simulation of Municipal Budgeting (Chicago: Rand McNally, 1969). Programs have also been written to simulate an investment trust officer, a department store buyer, laboratory subjects, and chess players.

Since this use of interview technique in the study of political development is almost unprecedented, there is little experience that can be utilized to make judgments of feasibility. However, in a study of the role expectations of Tanzanian elites Raymond F. Hopkins was able to ask a number of questions that are relevant in the present context. For example, "If an MP openly and strongly criticizes the President and his policies, what would the President do in response?" There are a number of responses, including "Force MP out of Assembly or detain him" and "President accepts criticisms, considers their merit."¹ In a study designed in part to build a simulation model of military coups in Ecuador, John S. Fitch III has interviewed participants about specific historical events.² For present purposes, key questions of feasibility are the extent to which the important aspects of behavior represented in the model are routinized and the extent to which respondents are not entirely candid (or what can be done about it). To the extent that there is regularity in behavior and the technique can uncover it, the processes in the models can be improved directly.

In this study the general questions about process that might be clarified first through interviews have already been suggested as a result of examination of the model's behavior.

¹Personal communication.

²Personal communication.

We need to know the decision sequences and the decision rules underlying the diversion of activity from one arena to another and the acceptance or rejection of demands in the legislative arena, as well as the impact of environmental opportunity and resistance on the motivation to act. We might also probe for clues to the nature of the institutional constraints perceived by participants, enabling us to make some direct judgments about the relevance of the alternative constraints hypothesized by Lipset and Huntington. Questions could be phrased about hypothetical situations (as Hopkins did) or directed toward the explanation of particular historical events (as Fitch did). In any case, questions should be keyed to formulations provisionally incorporated in the models with due attention to the probability that all the key decisions and decision criteria may not be represented in the current formulation. The results should be represented in the models as processes rather than data.

Data on Contexts and Behavior. The second means of using data to improve the Lipset and Huntington models as representations of specific political systems is to measure the data inputs and behavior over time as accurately as possible. To the extent that inputs and historical time series are accurately measured, the divergence between simulated and historical behavior can be attributed to the structure of the models alone. The key variables to be measured are stress and its hypothesized components, access or support and expectations.

Lacking the means to conduct sample surveys and elite interviews, stress as intensity (the stress toward action) and relative stress as the distribution of attention can be measured through content analysis of political communications. Intensity, for example, is a matter of prominence and style in the language of politics. The prominence of issues can be inferred from the location of stories in a newspaper or a radio broadcast, from the size of headlines, and so forth. An indicator of intensity in style is the frequency of usage of active as opposed to inactive verbs.¹ Crude measures of popular support and access in the legislative arena can be derived from electoral returns and voting alignments on key issues in the legislature.

With the means to conduct sample surveys and elite interviews, stress can be measured more directly. Questions similar to the one Lerner asked in Turkey could be asked at successive points in time to characterize issue priorities and changes in issue priorities of the important actors over time. The results would indicate the ranking of stress across issues for each actor, but not the magnitude of stresses. Questions designed and used by the Institute for Applied Social Research (INFAS) in West Germany might possibly be developed to measure stress or expectations on an interval

¹See H. D. Lasswell, N. Leites and associates, Language of Politics: Studies in Quantitative Semantics (Cambridge: M.I.T. Press, 1968 ed.), pp. 22-8; and H. D. Lasswell, et. al., The Comparative Study of Symbols (Stanford: Stanford University Press, 1952).

scale if the results are aggregated to the group level.¹ Moreover the magnitude of data collection at INFAS--national samples of about 800 respondents each month since at least the middle of 1966--would be more than sufficient for modeling purposes in so far as data on social groups are concerned. The advantage of the survey approach is that each item in the interview schedule could be tailored to a variable in a model, and that nearly every variable in a model could be measured, including group size, income levels, and levels of media exposure.

Structure, Context, and Behavior As Constraints. In data analytic studies in comparative government, missing data are a severe handicap and may even preclude the investigation of a problem. In the process analysis of a political system through simulation, however, scientific progress can be made even when large gaps in the data base exist.

As we have seen in this study, inputs can be adjusted within the constraints of currently available data in order to make a model's behavior fit a set of historical events and trends. Even with a good deal of freedom to adjust inputs due to a partial lack of data, certain errors of fit could not be eliminated and consequently certain structural formulations could be found to be inadequate. What appears to be an heretical departure from scientific method is in fact a weak test of a model made possible by the assumption that we are dealing

¹See Brunner and Liepelt, op. cit.

with a system and not merely a set of unrelated components or components related only through a statistical model. As shown in the two sets of sensitivity analyses, structural differences and changes in inputs have an impact on every aspect of behavior. Because structure, context and behavior are interdependent in a model, any additional empirical information that can be brought to bear on one component constrains the number of possible alternatives or the range of permissible variation of the other components. Consequently, small increases in empirical information bring about proportionately large improvements in the model.

Thus progress in the development of the Lipset and Huntington models does not depend on the collection of all the information mentioned in the previous subsection. Any additional empirical constraints are likely to bring significant progress in the rejection and reformulation of structural assumptions.

In short, the form of theory developed here is not only superior to the conventional forms in comparative government because of its ability to accommodate cross-national differences in context and to utilize possible similarities in structure, as noted in the Introduction. It is also more amenable to cumulative improvement and refinement through data collection and scientific procedures. Formal models of political systems can be used to organize and interrelate much of what is known about particular systems, and to guide the extension of our knowledge.

APPENDIX

```

C
C SIMULATION MODEL OF LIPSET'S THEORY
C
C MAIN PROGRAM. INPUT, INPUT DISPLAY, AND MACRO-SEQUENCING.
  INTEGER G,P,V,Y,O,YE,OE,YSTART,OSTART,SW,YEAR
  REAL LFG1,LEG2
  REAL*8 GPP,PAR,ACT,VAL,ARE,GIN,PIN,CON,RLK,TITLE
  COMMON /L1/ GPP(9),PAR(5),VAL(9),ARE(6),CON(8),GIN(2),PIN(2),
1 ACT(13),RLK(1),TITLE(13),YEAR(12),YE(4),OE(4),Y,O
2 /I1/ TAP(9,9,12),TSP(9,9,12),TAG(5,9,12),TSG(5,9,12),TSM(5,9,12),
3 TAE(5,9,12),TSE(5,9,12),TTLE(13,13,12),TLEG1(9,5,12),TLEG2(5,5,12
3 )
4 /M1/ AP(9,9,5),EP(9,9,1),SP(9,9,1),AG(5,9,1),EG(5,9,1),SG(5,9,1),
5 AM(5,9,1),EM(5,9,1),SM(5,9,1),AE(5,9,1),PE(5,9,1),SE(5,9,1),
5 TLF(13,13,1),LEG1(9,5,1),LEG2(5,5,1),
6 SW(30),ARE(P),ANF(P),GEF(P),GEP(P),ESA(12),ESS(12),ELG(12),
7 ETL(12),XST(12),XAT(4),XCT,XML,XMT,XFT
8 /D1/ DEM(10),IACT(10),IVAL(10),IARE(10)
9 /S1/ AY(P),RA(P),CI(P),PO(P),AYP(P),POP(P),RAD(P,12),CIR(P,12),
1 ECO(P,12),PON(P,12),YSTART,OSTART
2 /I1/ NG,NP,NV,NA,NGG,NPP,NVV,NAI,IGP,IYV,IRV,INV,ITV
C READ TITLE, INDEXING, STARTING, AND ELECTION INFORMATION.
C READ THE OUTPUT LABELS.
C READ DATA FOR SOCIAL SYSTEM.
C READ STRUCTURAL INFORMATION. LEGITIMACY AND TOLERANCE.
C READ THE ACCESS AND EXPECTATION DATA FOR EACH ARENA.
C READ THE PARAMETERS AND SWITCHES.
C INPUT DISPLAY--BASIC INFORMATION.
C INPUT DISPLAY--PARAMETERS.
C INPUT DISPLAY--SOCIAL SYSTEM DATA.
C INPUT DISPLAY--ACCESS AND EXPECTATION DATA FOR EACH ARENA.
  DO 15 G=1,NG
    GEF(G)=0.0
    DO 16 V=1,NV
      GFF(G)=GEF(G)+(EP(G,V,1)-AP(G,V,IGP))/AP(G,V,IGP)
    16 CONTINUE
    GEP(G)=GFF(G)
  15 CONTINUE
  IR=1
C SET YEARLY DO-LOOP.
  DO 20 Y=1,NY
    YEAR(Y)=YSTART+Y
C SET QUARTERLY DO-LOOP.
  DO 30 Q=OSTART,4
    CALL SOCIAL
    OSTART=1
    IARE(IR)=6
    CALL SHPPRT (IR)
    DO 31 I=1,4
      IF ((YE(I).NE.Y).OR.(OE(I).NE.O)) GO TO 31
    DO 32 P=1,NP
      L=NG+P
      DO 33 G=1,NG
        RIS=ESS(L)*SE(P,G,1)+1.0
        EF(P,G,1)=RIS*(FE(P,G,1)-AE(P,G,1))+AE(P,G,1)
        SE(P,G,1)=(EF(P,G,1)-AE(P,G,1))/AE(P,G,1)
      33 CONTINUE
    32 CONTINUE
    CALL SUM (SE,NP,NG,1,5,9,1)
  31 CONTINUE
  NDS=0

```

```

34 CONTINUE
  DD 35 IR=1,10
  DEM(IR)=0.0
35 CONTINUE
  CALL RANK (EP,AP,SP,NG,NV,NP,1,9,9,5,1)
  CALL RANK (FG,AG,SG,NP,NV, 1,2,5,9,1,1)
  CALL RANK (EE,AE,SE,NP,NG, 1,3,5,9,1,1)
  CALL RANK (EM,AM,SM,NP,NV, 1,4,5,9,1,1)
  SSS=SP(NGG,NVV,1)+SG(NPP,NVV,1)+SE(NPP,NGG,1)+SM(NPP,NVV,1)
  IF (NDS.NE.0) GO TO 36
  CALL RASP (F1,X1,SSS,P1,R10)
  NDS=IFIX(R10)
  IF (SW(4).EQ.1) WRITE (6,90) YEAR(Y),0,SSS,NDS
90 FORMAT ('POLITICAL PROCESS FOR '14,' QUARTER '11,',' AGGREGATE ST
  RESS IS 'F5.3,' AND THE NUMBER OF DEMAND SETS IS '12)
  IF (SW(4).EQ.1) WRITE (6,89) SP(NGG,NVV,1),SG(NPP,NVV,1),
  1 SE(NPP,NGG,1),SM(NPP,NVV,1)
89 FORMAT (' STRESS DISTRIBUTION: PARTY='F5.3,' LEGIS='F5.3,' SUPP
  LORT='F5.3,' MILIT='F5.3)
36 CONTINUE
  CALL PESP (E2,X2,SSS,P2,RIS)
  ND=IFIX(RIS)
  IF (ND.GT.10) ND=10
  IF (SW(5).EQ.1) WRITE (6,91) NDS
91 FORMAT ('DEMAND SET '12)
  DO 37 IR=1,ND
  IF (IARE(IR).EQ.1) CALL PARTY (IR)
  IF (IARE(IR).EQ.2) CALL LEGIS (IR)
  IF (IARE(IR).EQ.3) CALL SUPPRT (IR)
  IF (IARE(IR).EQ.4) CALL MILIT (IR)
37 CONTINUE
  NDS=NDS-1
  IF (NDS.GT.0) GO TO 34
30 CONTINUE
C END OF QUARTERLY DO-LOOP. BEGIN YEARLY OUTPUT SUMMARIES.
20 CONTINUE
C END OF YEARLY DO-LOOP
STOP
END

```

```

SUBROUTINE SOCIAL
REAL*P GPP,PAR,ACT,VAL,ARE,GIN,PIN,CON,BLK,TITLE
REAL LEG1,LEG2
INTEGER G,P,V,Y,Q,YE,OE,YSTART,OSTART,SW,YEAR
COMMON /L1/ GPP(9),PAR(5),VAL(9),ARE(6),CON(8),GIN(2),PIN(2),
1 ACT(13),BLK(1),TITLE(13),YEAR(12),YE(4),OE(4),Y,0
4 /M1/ AP(9,9,5),EP(9,9,1),SP(9,9,1),AG(5,9,1),FG(5,9,1),SG(5,9,1),
5 AM(5,9,1),FM(5,9,1),SM(5,9,1),AE(5,9,1),EE(5,9,1),SE(5,9,1),
5 TLF(13,13,1),LEG1(9,5,1),LEG2(5,5,1),
6 SW(30),ARE(8),AME(8),GFE(8),GFP(8),ESA(12),ESS(12),ELG(12),
7 ETL(12),XST(12),XAT(4),XCI,XMI,XHT,XET
9 /S1/ AY(8),RA(8),CI(8),PD(8),AYP(8),POP(P),RAD(6,12),CIR(8,12),
1 ECD(8,12),PDN(8,12),YSTART,OSTART
2 /I1/ NG,NP,NV,MA,NGG,NPP,NVV,NAA,IGP,IYV,IRV,INV,ITV
DIMENSION PGGP(8,13,4)
IF (SW(19).EQ.1) WRITE (6,250) YEAR(Y),0,(GPP(G),SP(G,IYV,1)),G=1,N
1G)
IF (O.LI.3) K=Y-1
IF (O.GE.3) K=Y

```

```

KK=K+1
KL=K-1
IF (O.FO.3) A=0.0
IF (O.FO.4) A=1.0
IF (O.FO.1) A=2.0
IF (O.FO.2) A=3.0
DO 210 G=1,NG
IF ((Y.NE.1).OR.(O.NE.OSTART)) POP(G)=PO(G)
200 ARF(G)=RAD(G,K)+A*(PAD(G,KK)-PAD(G,K))/4.0
ANF(G)=CIR(G,K)+A*(CIR(G,KK)-CIR(G,K))/4.0
PO(G)=PON(G,K)+A*(PON(G,KK)-PON(G,K))/4.0
POPP(G,K,O)=PO(G)
IF ((Y.FO.1).AND.(O.FO.OSTART)) POP(G)=PO(G)
IF (KL.LT.1) GO TO 210
AY(G)=(FCO(G,K)+A*(FCO(G,KK)-FCO(G,K))/4.0)/PO(G)
AYP(G)=(FCO(G,KL)+A*(FCO(G,K)-FCO(G,KL))/4.0)/POPP(G,KL,O)
RI=-ESS(G)*(AY(G)/AYP(G)-1.0)+1.0
EP(G,IYV,1)=RI*EP(G,IYV,1)
IF (EP(G,IYV,1)-1.01*AP(G,IYV,NPP)) 222,223,223
222 EP(G,IYV,1)=1.01*AP(G,IYV,NPP)
223 SP(G,IYV,1)=(EP(G,IYV,1)-AP(G,IYV,NPP))/AP(G,IYV,NPP)
210 CONTINUE
CALL SUM (SP,NG,NV,1,9,9,1)
IF (SW(19).EQ.1) WRITE (6,251) (GPP(G),SP(G,IYV,1),G=1,NG)
RETURN
250 FORMAT ('1SOCIAL. '14,'-'11,'. INCOME STRESSES: '8(2X,A6,'='F4.3)
1)
251 FORMAT (' INCOME STRESSES AFTER CHANGES: '8(2X,A6,'='F4.3)
END

SUBROUTINE PARTY (IR)
REAL LEG1,LEG2
REAL*8 GPP,PAR,ACT,VAL,ARE,GIN,PIN,CON,BLK,TITLE
INTEGER G,P,V,Y,O,YE,OE,YSTART,OSTART,SW,YEAR
COMMON /L1/ GPP(9),PAR(5),VAL(9),ARE(6),CON(8),GIN(2),PIN(2),
1 ACT(13),BLK(1),TITLE(13),YEAR(12),YE(4),OE(4),Y,O
4 /M1/ AP(9,9,5),EP(9,9,1),SP(9,9,1),AG(5,9,1),EG(5,9,1),
5 AM(5,9,1),EM(5,9,1),SM(5,9,1),AF(5,9,1),EE(5,9,1),SE(5,9,1),
5 TLF(13,13,1),LEG1(9,5,1),LEG2(5,5,1),
6 SW(30),ARF(8),ANF(8),CHF(8),GFP(8),ESA(12),ESS(12),ELG(12),
7 FTL(12),XST(12),XAT(4),XCT,XML,XMT,XET
8 /D1/ DEM(10),IACT(10),IVAL(10),IAPE(10)
2 /I1/ NG,NP,NV,NA,NOG,NPP,NVV,NAI,IGP,IYV,IRV,INV,ITV
DIMENSION AGM(4),EG(4)
G=IACT(IR)
V=IVAL(IR)
DEM(IR)=SP(G,V,1)
WRITE (6,350) GPP(G),VAL(V),DEM(IR),EP(G,V,1),AP(G,V,NPP)
C EFFECTIVENESS.
FFF=GFP(G)/GFP(G)
WRITE (6,351) FFF,XET
IF (FFF.LT.XET) GO TO 320
RIL=-ELG(G)*SP(G,V,1)+1.0
LEG1(G,1,1)=RIL*LEG1(G,1,1)
C LEGITIMACY.
WRITE (6,352) LEG1(G,1,1),RIL,XML
IF (LEG1(G,1,1).GT.XML) GO TO 321
C EXTREMISM AND ALIENATION.
RIS=ESS(G)*SP(G,V,1)+1.0

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      FP(G,V,1)=RIS*(EP(G,V,1)-AP(G,V,NPP))+AP(G,V,NPP)
      SP(G,V,1)=(EP(G,V,1)-AP(G,V,NPP))/AP(G,V,NPP)
      CALL SUM (SP,NG,NV,1,9,9,1)
      RIT=-ETL(G)*SP(G,V,1)+1.0
      DO 310 I=1,NA
      IF (G.NE.I) TLF(G,I,1)=RIT*TLF(G,I,1)
310 CONTINUE
      WRITE (6,353) SP(G,V,1),RIS,RIT
      GO TO 340
C PROCEED WITHIN PARTY.
320 RIL=FLG(G)*SP(G,V,1)+1.0
      LEG1(G,1,1)=RIL*LEG1(G,1,1)
      WRITE (6,352) LEG1(G,1,1),RIL,XML
321 DO 323 P=1,NP
      AGM(P)=0.0
323 CONTINUE
      DO 324 P=1,NP
      I=0
325 I=I+1
      IF (AG(P,V,1).LE.AGM(I)) GO TO 325
      IF (I.EQ.NP) GO TO 326
      J=NP
327 J=J-1
      K=J+1
      AGM(K)=AGM(J)
      MG(K)=MG(J)
      IF (J.GT.I) GO TO 327
326 AGM(I)=AG(P,V,1)
      MG(I)=P
324 CONTINUE
C CONSIDER EACH PARTY IN ORDER. THE MOST POWERFUL FIRST.
      I=0
328 I=I+1
      P=MG(I)
      IF (I.GT.NP) GO TO 333
C TOLERANCE
      L=NG+P
      WRITE (6,354) PAR(P),TLF(G,L,1),XMT
      IF (TLF(G,L,1).LE.XMT) GO TO 328
C SALIENICE
      SAL=SG(P,V,1)/SG(P,NV,1)
      WRITE (6,355) PAR(P),SAL,XAT(P)
      IF (SAL.LT.XAT(P)) GO TO 330
C THREAT.
      RIA=ESA(G)*SP(G,V,1)+1.0
      DELTA=RIA*AP(G,V,P)
      APM=0.0
      DO 303 IG=1,NG
      IF ((AP(IG,V,P).GT.APM).AND.(IG.NE.G)) APM=AP(IG,V,P)
303 CONTINUE
      IF ((DELTA.LT.APM).OR.(AP(G,V,P).GT.APM)) GO TO 335
C FAILURE.
330 RIT=-ETL(G)*SP(G,V,1)+1.0
      TLF(G,L,1)=RIT*TLF(G,I,1)
      TLF(L,G,1)=(-ETL(L)*SG(P,V,1)+1.0)*TLF(L,G,1)
      WRITE (6,360) PAR(P),TLF(G,L,1),RIT
333 RIL=-FLG(G)*SP(G,V,1)+1.0
      LEG1(G,1,1)=RIL*LEG1(G,1,1)
      WRITE (6,356) LEG1(G,1,1),RIL
340 CALL SUPPRT (IP)

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GO TO 349
C SUCCESS.
335 AP(G,V,P)=DELTA
RIT=ETL(G)*SP(G,V,1)+1.0
TLF(G,L,1)=RIT*TLF(G,L,1)
TLF(L,G,1)=( FTL(L)*SG(P,V,1)+1.0)*TLF(L,G,1)
RIL=ELG(G)*SP(G,V,1)+1.0
LEG1(G,1,1)=PIL*LEG(G,1,1)
CALL SUM (AP,NG,NV,NP,9,9,5)
SP(G,V,1)=(FP(G,V,1)-AP(G,V,NPP))/AP(G,V,NPP)
CALL SUM (SP,NG,NV,1,9,9,1)
RIS=SG(P,V,1)*(RIA-1.0)+1.0
EG(P,V,1)=RIS*(EG(P,V,1)-AG(P,V,1))+AG(P,V,1)
SG(P,V,1)=(EG(P,V,1)-AG(P,V,1))/AG(P,V,1)
CALL SUM (SG,NG,NV,1,9,9,1)
WRITE (6,357) AP(G,V,P),SP(G,V,1),GPP(G),RIA
WRITE (6,358) PAR(P),SG(P,V,1),RIS
WRITE (6,359) LEG1(G,1,1),TLF(G,1,1),RIL,RIT
349 RETURN
350 FORMAT ('O PARTY. 'A6,' AND 'A6,'. STRESS='F4.3,' EXPECT='F7
1.3,' ACCESS='F7.3)
351 FORMAT (' EFFECTIVENESS='F5.3,'. XFT='F5.3)
352 FORMAT (' LEGITIMACY CHANGES TO 'F6.3,'. RIL='F5.3,' AND XML
1='F6.3)
353 FORMAT (' STRESS INCREASES TO 'F4.3,'. RIS='F5.3,'. RIT='F5
1.3)
354 FORMAT (' TOLERANCE FOR 'A6,'='F5.3,'. XMT='F5.3)
355 FORMAT (' SALIENCE FOR 'A6,'='F4.3,'. XAT='F4.3)
356 FORMAT (' LEGITIMACY DECREASES TO 'F6.3,'. RIL='F5.3)
357 FORMAT (' ACCESS INCREASES TO 'F7.3,' AND STRESS DECREASES TO
1 'F4.3,,' FOR 'A6,,' RIA='F5.3)
358 FORMAT (' STRESS FOR 'A6,' INCREASES TO 'F4.3,'. RIS='F5.3)
359 FORMAT (' LEGITIMACY INCREASES TO 'F6.3,' AND TOLERANCE INCRE
1ASES TO 'F5.3,'. RIL='F5.3,' RIT='F5.3)
360 FORMAT (' TOLERANCE FOR 'A6,' DECREASES TO 'F5.3,'. RIT='F5.
13)
END

SUBROUTINE LEGIS (IR)
REAL LEG1,LEG2
REAL*8 GPP,PAR,ACT,VAL,APF,GIN,PIN,CON,RLK,TITLE
INTEGER G,P,V,Y,O,YE,BE,YSTART,OSTART,SW,YEAR
COMMON /L1/ GPP(9),PAR(5),VAL(9),APF(6),CON(8),GIN(2),PIN(2),
1 ACT(12),RLK(1),TITLE(13),YEAR(12),YE(4),OE(4),Y,O
4 /M1/ AP(9,9,5),FP(9,9,1),SP(9,9,1),AG(5,9,1),EG(5,9,1),SG(5,9,1),
5 AM(5,9,1),PM(5,9,1),SM(5,9,1),AE(5,9,1),PE(5,9,1),SE(5,9,1),
5 TLF(13,13,1),LEG1(9,5,1),LEG2(5,5,1),
6 SP(30),APF(8),APF(8),OEF(8),OEF(8),PSA(12),PSS(12),ELG(12),
7 FTL(12),XST(12),XAT(4),XCT,XM,XMI,XET
8 /D1/ DEF(10),IACT(10),IVAL(10),IAPF(10)
2 /I1/ NG,NP,NV,NA,NGG,GPP,NVV,NAA,IGP,IYV,IRV,INV,IIV
DIMENSION AGM(4),EG(4)
P=IACT(IR)
L=NG+P
V=IVAL(IR)
DEM(IR)=SG(P,V,1)
WRITE (6,450) PAR(P),VAL(V),DEM(IR),EG(P,V,1),AG(P,V,1)
C LEGITIMACY.
WRITE (6,451) LEG2(P,1,1),XML

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      IF (LEGG2(P,1,1).GE.XM) GO TO 420
C EXTREMISM AND ALIENATION.
      RIS=ESS(L)*SG(P,V,1)+1.0
      EG(P,V,1)=RIS*(EG(P,V,1)-AG(P,V,1))+AG(P,V,1)
      SG(P,V,1)=(EG(P,V,1)-AG(P,V,1))/AG(P,V,1)
      CALL SUM (SG,NP,NV,1,5,9,1)
      RIT=-FIT(L)*SG(P,V,1)+1.0
      DO 410 I=1,NA
      IF (L.FO,I) GO TO 410
      TLF(L,I,1)=RIT*TLF(L,I,1)
410 CONTINUE
      GO TO 436
C ACCESS SUFFICIENT.
420 RIA=ESA(L)*SG(P,V,1)+1.0
      DELTA=RIA*AG(P,V,1)
      ACC=AG(P,V,1)/AG(NPP,V,1)
      IF (ACC.GT.XCT) GO TO 441
C PANK BY ACCESS.
      DO 421 IP=1,NP
      AGM(IP)=0.0
421 CONTINUE
      DO 422 IP=1,NP
      I=0
423 I=I+1
      IF (AG(IP,V,1).LE.AGM(I)) GO TO 423
      IF (I.FO,NP) GO TO 424
      J=NP
425 J=J-1
      K=J+1
      AGM(K)=AGM(J)
      MG(K)=EG(J)
      IF (J.GT,I) GO TO 425
424 AGM(I)=AG(IP,V,1)
      MG(I)=IP
422 CONTINUE
C CONSIDER EACH PARTY IN ORDER
      I=0
426 I=I+1
      IP=MG(I)
      IF (I.GT,NP) GO TO 431
      IF (IP.FO,P) GO TO 426
C TOLERANCE.
      LP=NG+IP
      WRITE (A,453) PAR(IP),TLF(L,IP,1),XMT
      IF (TLF(L,IP,1).LE.XMT) GO TO 426
C COMBINED ACCESS.
      ACC=(AG(P,V,1)+AG(IP,V,1))/AG(NPP,V,1)
      IF (ACC.LT.XCT) GO TO 431
C SALIENCE.
      SAL=SG(IP,V,1)/SG(IP,NVV,1)
      WRITE (A,454) PAR(IP),SAL,XAT(IP)
      IF (SAL.LE.XAT(IP)) GO TO 430
C THREAT.
      IF ((DELTA.IT.AG(IP,V,1)).GE.(AG(P,V,1).GT.AG(IP,V,1))) GO TO 440
C FAILURE.
430 RIT=-FIT(L)*SG(P,V,1)+1.0
      TLF(L,LP,1)=RIT*TLF(L,LP,1)
      TLF(LP,1,1)=(-FIT(LP)*SG(IP,V,1)+1.0)*TLF(LP,1,1)
      WRITE (A,455) PAR(IP),TLF(L,LP,1),RIT
431 RIL=-FIT(L)*SG(P,V,1)+1.0

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      LFG2(P,1,1)=RIL*LFG2(P,1,1)
      WRITE (6,455) LFG2(P,1,1), RIL
436 CALL SUPPRT (IR)
      GO TO 449
C SUCCESS.
440 RIT=ETL(L)*SG(P,V,1)+1.0
      TLF(L,LP,1)=RIT*TLF(L,LP,1)
      TLF(LP,L,1)=( ETL(LP)*SG(IP,V,1)+1.0)*TLF(LP,L,1)
      WRITE (6,459) PAR(IP),TLF(L,LP,1),RIT
441 RIL=FLG(L)*SG(P,V,1)+1.0
      LEG2(P,1,1)=RIL*LFG2(P,1,1)
      AG(P,V,1)=DELTA
      CALL SUM (AG,MP,NV,1,5,9,1)
      DO 442 I=1,MP
      IF (I.EQ.P) GO TO 443
      RIS=SG(I,V,1)*(RIA-1.0)+1.0
      EG(I,V,1)=RIS*(EG(I,V,1)-AG(I,V,1))+AG(I,V,1)
443 SG(I,V,1)=(EG(I,V,1)-AG(I,V,1))/AG(I,V,1)
442 CONTINUE
      CALL SUM (SG,MP,NV,1,5,9,1)
      WRITE (6,456) AG(P,V,1),LEG2(P,1,1),RIA,RIL
      WRITE (6,457) (PAR(P),SG(P,V,1),P=1,MP)
449 RETURN
450 FORMAT ('O      LEGIS.  'A6,' AND 'A6,'.  STRESS='F4.3,' EXPECT='F7
1.3,' ACCESS='F7.3)
451 FORMAT ('      LEGITIMACY='F6.3,'.  XML='F6.3)
452 FORMAT ('      STRESS INCREASES TO 'F4.3,'.  RIS='F5.3,'.  TOLERAN
ICE DECREASES BY 'F5.3)
453 FORMAT ('      TOLERANCE FOR 'A6, '='F5.3,'.  XMT='F5.3)
454 FORMAT ('      SALIENCE FOR 'A6, '='F4.3,'.  XAT='F4.3)
455 FORMAT ('      LEGITIMACY DECREASES TO 'F6.3,'.  RIL='F5.3)
456 FORMAT ('      ACCESS TO 'F7.3,' AND LEGITIMACY TO 'F6.3,'.  RIA='
1F5.3,' AND RIL='F5.3)
457 FORMAT ('      STRESSES:'4(2X,A6, '='F4.3)!)
459 FORMAT ('      TOLERANCE FOR 'A6,' CHANGES TO 'F5.3,'.  RIT='F5.3)
      END

      SUBROUTINE SUPPRT (IR)
      REAL LEG1,LEG2
      REAL*8 GPP,PAR,ACT,VAL,ARE,GIN,PIN,CON,BLK,TITLE
      INTEGER G,P,V,Y,Q,YE,OE,YSTART,OSTART,SW,YEAR
      COMMON /L1/ GPP(9),PAR(5),VAL(9),ARE(6),CON(8),GIN(2),PIN(2),
1 ACT(13),BLK(1),TITLE(13),YEAR(12),YE(4),OE(4),Y,Q
4 /M1/ AP(9,9,5),EP(9,9,1),SP(9,9,1),AG(5,9,1),EG(5,9,1),SG(5,9,1),
5 AM(5,9,1),EM(5,9,1),SM(5,9,1),AF(5,9,1),EF(5,9,1),SF(5,9,1),
5 TLF(13,13,1),LEG1(9,5,1),LEG2(5,5,1),
6 SW(30),ARE(8),AME(8),GEE(8),GEP(8),ESA(12),ESS(12),FLG(12),
7 ETL(12),XST(12),XAT(4),XCT,XML,XPT,XFT
8 /D1/ DEM(10),IACT(10),IVAL(10),IAPF(10)
9 /S1/ AY(8),RA(8),CI(8),PP(8),AYP(8),POP(8),RAD(8,12),CIR(8,12),
1 ECO(8,12),POM(8,12),YSTART,OSTART
2 /I1/ NG,MP,NV,HA,NGG,HPV,NVV,MAA,IGP,IYV,IRV,INV,ITV
      IF (IAPF(IP).EQ.2) GO TO 520
      IF (IAPF(IR).EQ.3) GO TO 530
      IF (IARE(IR).EQ.6) GO TO 560
C GROUP G HAS ESCALATED A PROBLEM OUT OF THE PARTY SYSTEM.
      G=IACT(IR)
      V=IVAL(IR)
      IF (LEG1(G,2,1).GT.XML) GO TO 505

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WRITE (6,552) LEG1(G,2,1),GPP(G),XML
GO TO 549
505 CONR=0.0
CONN=0.0
DO 510 P=1,NP
CONR=CONR+(AP(G,IRV,P)/AP(NGG,IRV,P))*(AG(P,IRV,1)/AG(NPP,IRV,1))
CONN=CONN+(AP(G,INV,P)/AP(MGG,IRV,P))*(AG(P,INV,1)/AG(NPP,INV,1))
510 CONTINUE
CONR=FLOAT(NP)*FLOAT(NG)*CONR
CONN=FLOAT(NP)*FLOAT(NG)*CONN
IF (CONR.GT.1.0) CONR=1.0
IF (CONN.GT.1.0) CONN=1.0
WRITE (6,550) GPP(G),VAL(V),CONR,CONN
I=G
GO TO 521
C PARTY P HAS ESCALATED A PROBLEM OUT OF THE LEGISLATIVE SYSTEM.
520 P=IACT(IR)
V=IVAL(IR)
IF (LEG2(P,2,1).GE.XML) GO TO 526
WRITE (6,553) LEG2(P,2,1),PAR(P),XML
CALL MILIT (IR)
GO TO 549
526 CONR=FLOAT(NP)*AG(P,IRV,1)/AG(NPP,IRV,1)
CONN=FLOAT(NP)*AG(P,INV,1)/AG(NPP,INV,1)
IF (CONR.GT.1.0) CONR=1.0
IF (CONN.GT.1.0) CONN=1.0
WRITE (6,550) PAR(P),VAL(V),CONR,CONN
I=NG+P
521 CONTINUE
WRITE (6,551) (GPP(IG),SP(IG,V,1),IG=1,NG), (PAR(IP),SG(IP,V,1),IP=
11,NP)
RSUM=0.0
DO 524 IG=1,NG
RIR=SP(IG,V,1)*CONR*ARE(IG)*TLF(IG,1,1)*DEM(IP)+1.0
RIN=SP(IG,V,1)*CONN*ANE(IG)*TLF(IG,1,1)*DEM(IR)+1.0
EP(IG,V,1)=(RIR*RIN)*(EP(IG,V,1)-AP(IG,V,NPP))+AP(IG,V,NPP)
SP(IG,V,1)=(EP(IG,V,1)-AP(IG,V,NPP))/AP(IG,V,NPP)
PSUM=PSUM+(RIR+RIN)/2.0
524 CONTINUE
DO 525 IP=1,NP
IA=IP+NG
RIP=SG(IP,V,1)*CONR*TLF(IA,1,1)*DEM(IP)+1.0
RIN=SG(IP,V,1)*CONN*TLF(IA,1,1)*DEM(IP)+1.0
EG(IP,V,1)=(RIP*RIN)*(EG(IP,V,1)-AG(IP,V,1))+AG(IP,V,1)
SG(IP,V,1)=(EG(IP,V,1)-AG(IP,V,1))/AG(IP,V,1)
RSUM=PSUM+(RIP+RIN)/2.0
525 CONTINUE
WRITE (6,551) (GPP(IG),SP(IG,V,1),IG=1,NG), (PAR(IP),SG(IP,V,1),IP=
11,NP)
EFF=RSUM/(FLOAT(NP)+FLOAT(NG))
RIL=FLG(I)*DEM(IP)+1.0
IF (EFF.LE.XST(I)) RIL=-FLG(I)*DEM(IR)+1.0
IF (IARE(IP).EQ.2) GO TO 527
LEG1(G,2,1)=RIL*LEG1(G,2,1)
WRITE (6,554) EFF,RIL,LEG1(G,2,1),XST(I)
GO TO 549
527 LEG2(P,2,1)=RIL*LEG2(P,2,1)
WRITE (6,554) EFF,RIL,LEG2(P,2,1),XST(I)
GO TO 549
C PARTY HAS A SUPPORT PROBLEM.

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530 P=IACI(IR)
    G=IVAL(IR)
    WRITE (6,552) PAR(P),GPP(G),AF(P,G,1),DEM(IR)
    IF (LEG2(P,2,1).GE.XMI) GO TO 536
    WRITE (6,553) LEG2(P,2,1),PAR(P),XMI
    IVAL(IR)=IPV
    CALL MILIT (IR)
    IVAL(IR)=INV
    CALL MILIT(IR)
    GO TO 549
536 VMS=0.0
    DO 534 IV=1,NV
    IF (SP(G,IV,1).LT.VMS) GO TO 534
    VMS=SP(G,IV,1)
    V=IV
534 CONTINUE
    L=P+NG
    RIA=ESA(L)*DEM(IR)+1.0
    AP(G,V,P)=RIA*AP(G,V,P)
    CALL SUM (AP,NG,NV,NP,9,9,5)
    IF ((EP(G,V,1)-1.01*AP(G,V,NPP)) 531,532,532
531 EP(G,V,1)=1.01*AP(G,V,NPP)
532 SP(G,V,1)=(EP(G,V,1)-AP(G,V,NPP))/AP(G,V,NPP)
    RIS=SG(P,V,1)*DEM(IR)+1.0
    EG(P,V,1)=RIS*(EG(P,V,1)-AG(P,V,1))+AG(P,V,1)
    SG(P,V,1)=(EG(P,V,1)-AG(P,V,1))/AG(P,V,1)
    WRITE (6,555) VAL(V),AP(G,V,P),SP(G,V,1),PAR(P),SG(P,V,1),RIA,RIS
540 CALL SUM (SP,NG,NV,1,9,9,1)
    CALL SUM (SG,NP,NV,1,5,9,1)
    GO TO 549
C. CUMULATE CHANGES IN SUPPORT.
560 DO 561 G=1,NG
    GEP(G)=GEF(G)
    GEF(G)=0.0
    DO 562 V=1,NV
    GEF(G)=GEF(G)+(EP(G,V,1)-AP(G,V,IGP))/AP(G,V,IGP)
562 CONTINUE
    RIA=-ESA(G)*(GEF(G)/GEP(G)-1.0)+1.0
    RIO=2.0-RIA
    AF(IGP,G,1)=RIA*AF(IGP,G,1)
    DELTA=(RIA-1.0)*AF(IGP,G,1)
    DO 563 P=1,NP
    IF (P.EQ.IGP) GO TO 563
    AE(P,G,1)=RIO*AE(P,G,1)
    DELTA=DELTA+(RIO-1.0)*AE(P,G,1)
563 CONTINUE
    AE(NPP,G,1)=AE(NPP,G,1)+DELTA
    DO 564 P=1,NP
    PRIP=AE(P,G,1)/AE(NPP,G,1)
    AF(P,G,1)=PRIP*PD(G)
    FE(P,G,1)=FE(P,G,1)+PRIP*(PD(G)-POIP(G))
    IF (FE(P,G,1)-1.01*AE(P,G,1)) 549,570,570
569 FE(P,G,1)=1.01*AE(P,G,1)
570 SF(P,G,1)=(FE(P,G,1)-AE(P,G,1))/AE(P,G,1)
564 CONTINUE
561 CONTINUE
    CALL SUM (SF,NP,NG,1,5,9,1)
    CALL SUM (AF,NP,NG,1,5,9,1)
    IF (SW(20),FO,1) CALL OUTPUT (AF,NPP,NGG,1,PAR,GPP,BLK,3,1,5,9,1)
549 RETURN

```

```

550 FORMAT ('      SUPPORT.  'A6,' AND 'A6,'.  CONR='F5.3,' AND CONN='
1F5.3)
551 FORMAT ('      STRESS:'8(2X,A6,'='F4.3))
552 FORMAT ('O      SUPPORT.  'A6,' AND 'A6,'.  SUPPORT='F5.3,' STRESS=
1F4.3)
553 FORMAT ('      LEGITIMACY='F6.3,' FOR 'A6,'.  XML='F6.3)
554 FORMAT ('      EFFECTIVENESS='F5.3,'.  LEGITIMACY CHANGES BY 'F5.3
1,' TO 'F6.3,'.  XST='F5.3)
555 FORMAT ('      ACCESS TO 'A6,'='F7.3,' AND STRESS='F4.3,'.  STRESS
1 OF 'A6,'='F4.3,'.  RIA='F5.3,' AND RIS='F5.3)
END

```

SUBROUTINE MILIT (IR)

```

REAL*8 GPP,PAR,ACT,VAL,ARE,GIN,PIN,CON,BLK,TITLE
INTEGER G,P,V,Y,O,YE,OE,YSTART,OSTART,SM,YEAR
COMMON /L1/ GPP(9),PAR(5),VAL(9),ARE(6),CON(8),GIN(2),PIN(2),
1 ACT(13),BLK(1),TITLE(13),YEAR(12),YE(4),OE(4),Y,O
4 /M1/ AP(9,9,5),EP(9,9,1),SP(9,9,1),AG(5,9,1),EG(5,9,1),SG(5,9,1),
5 AM(5,9,1),EM(5,9,1),SM(5,9,1),AE(5,9,1),EE(5,9,1),SE(5,9,1),
5 TLF(13,13,1),LEG1(9,5,1),LEG2(5,5,1),
6 SW(30),ARF(9),AMF(8),GEF(8),GEP(8),ESA(12),ESS(12),ELG(12),
7 ETL(12),XST(12),XAT(4),XCT,XML,XMT,YET
8 /D1/ DEM(10),IACT(10),IVAL(10),IARE(10)
2 /I1/ NG,NP,NV,NA,NGG,NPP,NVV,NAA,IGP,IYV,IRV,INV,ITV
P=IACT(IR)
V=IVAL(IR)
IF (IARE(IR).NE.4) GO TO 600
C FROM MAIN.
WRITE (6,650) PAP(P),VAL(V),DEM(IR)
GO TO 649
C ESCALATION.
600 L=NG+P
RIS=ESS(L)*DEM(IR)+1.0
EM(P,V,1)=RIS*(EM(P,V,1)-AM(P,V,1))+AM(P,V,1)
SM(P,V,1)=(EM(P,V,1)-AM(P,V,1))/AM(P,V,1)
CALL SUM (SM,NP,NV,1,5,9,1)
WRITE (6,651) VAL(V),SM(P,V,1),RIS
649 RETURN
650 FORMAT ('O      MILIT.  'A6,' AND 'A6,'.  STRESS='F7.3)
651 FORMAT ('      MILIT.  STRESS ON 'A6,' INCREASES TO 'F7.3,'.  RIS=
1F5.3)
END

```

SUBROUTINE RANK (E,A,S,II,JJ,KK,MAT,L,M,N,NORANK)

```

DIMENSION E(L,M,1),A(L,M,N),S(L,M,1)
COMMON /P1/ DEM(10),IACT(10),IVAL(10),IARE(10)
III=II+1
JJJ=JJ+1
KKK=KK+1
IF (KK.EQ.1) KKK=1
IF (NORANK.EQ.1) GO TO 200
C COMPUTE STRESSES ONLY.
DO 101 I=1,II
DO 102 J=1,JJ
DENOM=0.0
DO 103 K=1,KK
DENOM=DENOM+A(I,J,K)
103 CONTINUE

```

```

      IF (E(I,J,1)-1.01*DENOM) 109,110,110
109 F(I,J,1)=1.01*DENOM
110 S(I,J,1)=(E(I,J,1)-DENOM)/DENOM
102 CONTINUE
101 CONTINUE
      GO TO 120
C SORT STRESSES ONLY.
200 DO 111 I=1,II
      DO 112 J=1,JJ
      IR=11
105 IR=IR-1
      IF (S(I,J,1).LT.DEM(IR)) GO TO 112
      IF (IR.EQ.10) GO TO 104
      IRR=IR+1
      DEM(IRR)=DEM(IR)
      IACT(IRR)=IACT(IR)
      IVAL(IRR)=IVAL(IR)
      IARE(IRR)=IARE(IR)
104 DEM(IR)=S(I,J,1)
      IACT(IR)=I
      IVAL(IR)=J
      IARE(IR)=MAT
      IF (IR.EQ.1) GO TO 112
      GO TO 105
112 CONTINUE
111 CONTINUE
120 RETURN
      END

      SUBROUTINE RESP (E,X,S,RMAX,RI)
      D=E*(S-X)/X
      ABSD=ABS(D)
      RI=(2.0*ABSD+1.0)/(ABSD+1.0)
      IF (D.LT.0.0) RI=2.0-RI
      RI=(RMAX/2.0)*RI
      RETURN
      END

      SUBROUTINE SUB (ARRAY,II,JJ,KK,L,M,N)
      DIMENSION ARRAY (L,M,N)
      III=II+1
      JJJ=JJ+1
      IF (KK.EQ.1) KKK=1
      IF (KK.NE.1) KKK=KK+1
220 DO 211 K=1,KK
      DO 200 I=1,II
      ARRAY(I,JJJ,K)=0.0
      DO 201 J=1,JJ
      ARRAY(I,JJJ,K)=APRAY(I,JJJ,K)+ARRAY(I,J,K)
201 CONTINUE
200 CONTINUE
      DO 202 J=1,JJJ
      ARRAY(III,J,K)=0.0
      DO 203 I=1,II
      ARRAY(III,J,K)=APRAY(III,J,K)+ARRAY(I,J,K)
203 CONTINUE
202 CONTINUE
211 CONTINUE

```

```
IF (KKK.EQ.1) GO TO 218
DO 204 I=1,III
DO 205 J=1,III
ARRAY(I,J,KKK)=0.0
DO 206 K=1,KK
ARRAY(I,J,KKK)=ARRAY(I,J,KKK)+ARRAY(I,J,K)
206 CONTINUE
205 CONTINUE
204 CONTINUE
218 CONTINUE
RETURN
END
```



```

C          SIMULATION MODEL OF HUNTINGTON'S THEORY
C
REAL*8 GPP,PAR,APF,CON,RLK,VAL,TITLE
INTEGER G,P,V,Y,0,YE,OF,YSTART,OSTART,SW,YEAR
COMMON /L1/ GPP(9),PAR(5),VAL(9),ARE(6),CON(8),BLK(1),TITLE(13),
1 YEAR(12),YE(4),GF(4),Y,0
2 /I1/ TAP(9,9,12),TSP(9,9,12),TAG(5,9,12),TSG(5,9,12),TSM(5,9,12),
3 TAF(5,9,12),TSE(5,9,12),STR1(5,4,12),STR2(4,4,12)
4 /M1/ AP(9,9,5),EP(9,9,1),SP(9,9,1),AG(5,9,1),EG(5,9,1),SG(5,9,1),
5 AM(5,9,1),EM(5,9,1),SM(5,9,1),AF(5,9,1),FE(5,9,1),SE(5,9,1),
6 SW(30),APF(8),ANF(8),GPF(8),GEP(8),ESA(12),ESS(12),XAT(8),AUT(8),
7 COM(8),COH(8),EAD,EAU,FCN,XAU,XCM,XCH,XCT
8 /D1/ DEM(10),IACT(10),IVAL(10),IARF(10)
9 /S1/ AY(8),RA(8),CI(8),PO(8),AYP(8),POP(8),RAD(8,12),CIR(8,12),
1 ECO(8,12),PON(8,12),YSTART,OSTART
2 /I1/ NG,NP,MV,NI,NA,NGG,NPP,MVV,NII,MAA,IGP,IYV,IRV,INV,ITV
C READ TITLE, INDEXING, STARTING, AND ELECTION INFORMATION.
C READ THE OUTPUT LABELS.
C READ DATA FOR SOCIAL SYSTEM.
C READ THE ACCESS AND EXPECTATION DATA FOR EACH ARENA.
C READ THE PARAMETERS AND SWITCHES.
C CALCULATE COMPLEXITY, AUTONOMY, CONFERENCE.
C INPUT DISPLAY--BASIC INFORMATION.
C INPUT DISPLAY--PARAMETERS.
C INPUT DISPLAY--SOCIAL SYSTEM DATA.
C INPUT DISPLAY--ACCESS AND EXPECTATION DATA FOR EACH ARENA.
      DO 21 G=1,NG
      GEF(G)=0.0
      DO 22 V=1,NV
      GEF(G)=GEF(G)+(EP(G,V,1)-AP(G,V,IGP))/AP(G,V,IGP)
22 CONTINUE
21 CONTINUE
      IR=1
C SET YEARLY DO-LOOP.
      DO 20 Y=1,NY
      YEAP(Y)=YSTART+Y
C SET QUARTERLY DO-LOOP.
      DO 30 Q=OSTART,4
      CALL SOCIAL
      OSTART=1
      IARF(IR)=6
      CALL SUPPRT (IR)
      DO 31 I=1,4
      IF ((YE(I).NE.Y).OR.(OF(I).NE.0)) GO TO 31
      DO 32 P=1,NP
      L=NG+P
      DO 33 G=1,NG
      RIS=ESS(L)*SE(P,G,1)+1.0
      EF(P,G,1)=RIS*(EF(P,G,1)-AE(P,G,1))+AE(P,G,1)
      SF(P,G,1)=(EF(P,G,1)-AE(P,G,1))/AE(P,G,1)
33 CONTINUE
32 CONTINUE
      CALL SUM (SF,NP,NG,1,5,9,1)
31 CONTINUE
      MDS=0
34 CONTINUE
      DO 35 IR=1,10
      DEM(IR)=0.0
35 CONTINUE
      CALL BANK (EP,AP,SP,NG,NV,NP,1,9,9,5,1)

```

```

CALL RANK (EG,AG,SG,NP,NV, 1,2,5,9,1,1)
CALL RANK (FF,AF,SE,MP,NG, 1,3,5,9,1,1)
CALL RANK (FM,AM,SM,MP,NV, 1,4,5,9,1,1)
SSS=SP(NGG,NVV,1)+SG(MPP,NVV,1)+SF(MPP,NGG,1)+SM(MPP,NVV,1)
IF (NDS.NE.0) GO TO 36
CALL RESP (E1,X1,SSS,R1,RID)
NDS=IFIX(RID)
IF (SW(4).EQ.1) WRITE (6,90) YEAR(Y),Q,SSS,NDS
90 FORMAT ('POLITICAL PROCESS FOR 'I4,' QUARTER 'I1,'. AGGREGATE ST
RESS IS 'F8.3,' AND THE NUMBER OF DEMAND SETS IS 'I2)
IF (SW(4).EQ.1) WRITE (6,89) SP(NGG,NVV,1),SG(MPP,NVV,1),
1 SF(MPP,NGG,1),SM(MPP,NVV,1)
89 FORMAT (' STRESS DISTRIBUTION: PARTY='F5.3,' LEGIS='F5.3,' SUPP
PORTE='F5.3,' MILIT='F5.3)
36 CONTINUE
CALL RESP (E2,X2,SSS,R2,RIS)
ND=IFIX(RIS)
IF (ND.GT.10) ND=10
IF (SW(5).EQ.1) WRITE (6,91) NDS
91 FORMAT ('DEMAND SET 'I2)
DO 37 IR=1,ND
IF (IARE(IR).EQ.1) CALL PARTY (IR)
IF (IARE(IR).EQ.2) CALL LEGIS (IR)
IF (IARE(IR).EQ.3) CALL SUPPRT (IR)
IF (IARE(IR).EQ.4) CALL MILIT (IR)
37 CONTINUE
NDS=NDS-1
IF (NDS.GT.0) GO TO 34
30 CONTINUE
C END OF QUARTERLY DO LOOP. BEGIN YEARLY OUTPUT SUMMARIES.
20 CONTINUE
C END OF YEARLY DO-LOOP
STOP
END

```

SUBROUTINE SOCIAL

```

REAL*8 GPP,PAR,ARE,CON,PLK,VAL,TITLE
INTEGER G,P,V,Y,Q,YE,QE,YSTART,QSTART,SW,YEAR
COMMON /L1/ GPP(9),PAR(5),VAL(9),ARE(6),CON(8),PLK(1),TITLE(13),
1 YEAR(12),YE(4),QE(4),Y,Q
4 /M1/ AP(9,9,5),FP(9,9,1),SP(9,9,1),AG(5,9,1),EG(5,9,1),SG(5,9,1),
5 AM(5,9,1),FM(5,9,1),SM(5,9,1),AF(5,9,1),FE(5,9,1),SE(5,9,1),
6 SW(30),ARE(8),AMP(8),GPF(8),GEP(8),PSA(12),ESS(12),XAT(8),AUT(8),
7 CON(8),CDH(8),PAD,PAU,ECN,XAU,XCM,XCH,XCT
9 /S1/ AY(8),RA(8),CI(8),PI(8),AYP(8),POP(8),PAD(8,12),CIR(8,12),
1 ECO(8,12),POH(8,12),YSTART,QSTART
2 /I1/ NG,NP,NV,NI,BA,NGG,NPP,NVV,NII,NAA,IGP,IYV,IRV,INV,ITV
DIMENSION PGPP(9,13,4)
IF (SW(19).EQ.1) WRITE (6,250) YEAR(Y),Q,(GPP(G),SP(G,IYV,1),G=1,N
1G)
IF (Q.LT.3) K=Y-1
IF (Q.GE.3) K=Y
KK=K+1
KL=K-1
IF (Q.EQ.3) A=0.0
IF (Q.EQ.4) A=1.0
IF (Q.EQ.1) A=2.0
IF (Q.EQ.2) A=3.0
DO 210 G=1,NG

```

```

      IF ((Y.NE.1).OR.(O.NE.OSTART)) POP(G)=PD(G)
200 ARF(G)=PAD(G,K)+A*(RAD(G,KK)-RAD(G,K))/4.0
      ANF(G)=CIR(G,K)+A*(CIP(G,KK)-CIP(G,K))/4.0
      PD(G)=PON(G,K)+A*(PON(G,KK)-PON(G,K))/4.0
      POPP(G,K,O)=PO(G)
      IF ((Y.EQ.1).AND.(O.EQ.OSTART)) POP(G)=PO(G)
      IF (KL.LT.1) GO TO 210
      AY(G)=(FCO(G,K)+A*(FCO(G,KK)-FCO(G,K))/4.0)/PO(G)
      AYP(G)=(FCO(G,KL)+A*(FCO(G,K)-FCO(G,KL))/4.0)/POPP(G,KL,O)
      RI=-ESS(G)*(AY(G)/AYP(G)-1.0)+1.0
      EP(G,IYV,1)=RI*EP(G,IYV,1)
      IF (EP(G,IYV,1)-1.0)*AP(G,IYV,NPP) 222,223,223
222 EP(G,IYV,1)=1.0*AP(G,IYV,NPP)
223 SP(G,IYV,1)=(EP(G,IYV,1)-AP(G,IYV,NPP))/AP(G,IYV,NPP)
210 CONTINUE
      CALL SUB (SP,NG,NV,1,9,9,1)
      IF (SW(19).EQ.1) WRITE (6,251) (GPP(G),SP(G,IYV,1),G=1,NG)
      RETURN
250 FORMAT ('SOCIAL. 'I4,'-'I1,'. INCOME STRESSES:'8(2X,A6,'F4.3)
1)
251 FORMAT (' INCOME STRESSES AFTER CHANGES: 'P(2X,A6,'F4.3)
END

SUBROUTINE PARTY (IR)
REAL*8 GPP,PAR,ARE,CON,RLK,VAL,TITLE
INTEGER G,P,V,Y,O,YE,OE,YSTART,OSTART,SW,YEAR
COMMON /L1/ GPP(9),PAR(5),VAL(9),ARE(6),CON(8),RLK(1),TITLE(13),
1 YEAR(12),YE(4),OE(4),Y,O
4 /M1/ AP(9,9,5),EP(9,9,1),SP(9,9,1),AG(5,9,1),EG(5,9,1),SG(5,9,1),
5 AM(5,9,1),FM(5,9,1),SM(5,9,1),AE(5,9,1),FE(5,9,1),SE(5,9,1),
6 SW(30),ARF(8),ANF(8),GEF(8),GEP(8),ESA(12),ESS(12),XAT(8),AUT(8),
7 COM(8),COH(8),EAD,EAD,FCM,XAU,XCM,XCH,XCT
8 /D1/ DEM(10),IACT(10),IVAL(10),IARE(10)
2 /I1/ NG,NP,NV,NI,NA,NGG,MPP,NVV,MII,NAA,IGP,IYV,IRV,INV,ITV
DIMENSION AGM(4),MG(4)
V=IVAL(IR)
G=IACT(IR)
DEM(IR)=SP(G,V,1)
WRITE (6,350) GPP(G),VAL(V),DEM(IR),EP(G,V,1),AP(G,V,NPP)
C RANK THE PARTIES BY ACCESS TO V.
DO 300 P=1,NP
  AGM(P)=0.0
300 CONTINUE
DO 301 P=1,NP
  I=0
302 I=I+1
  IF (AG(P,V,1).LE.AGM(I)) GO TO 302
  IF (I.EQ.NP) GO TO 303
  J=NP
304 J=J-1
  K=J+1
  AGM(K)=AGM(J)
  MG(K)=MG(J)
  IF (J.GT.1) GO TO 304
303 AGM(I)=AG(P,V,1)
  MG(I)=P
301 CONTINUE
C CONSIDER PARTY WITH (NEXT) MOST ACCESS TO V.
  I=0

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```

305 I=I+1
    IF (I.GT.NP) GO TO 340
    P=MG(I)
    CALL INSTIT (SP,AP,NGG,NVV,P,CM,AT,CH,9,9,5)
C CHECK THE ADAPTABILITY OF PARTY P.
    SAL=SG(P,V,1)/SG(P,NVV,1)
    WRITE (6,351) PAR(P),SAL,XAT(P)
    IF (SAL.GE.XAT(P)) GO TO 330
C CHECK FOR COHERENCE.
    WRITE (6,352) PAR(P),CH,XCH
    IF (CH.GT.XCH) GO TO 349
    GO TO 305
C ACCESS CHANGE.
330 RIA=ESA(G)*SP(G,V,1)+1.0
    RIM=1.0
    IF (AT.GT.XAU) RIM=FAH*(AT/XAU-1.0)+1.0
    IF (RIM.GT.RIA) RIM=RIA
    AP(G,V,P)=(1.0+RIA-RIM)*AP(G,V,P)
    CALL SUM (AP,NG,NV,NP,9,9,5)
    WRITE (6,353) AP(G,V,P),RIA,RIM,AT
C CHANGE P'S EXPECTATION.
    KIS=SG(P,V,1)*(RIA-RIM)+1.0
    EG(P,V,1)=RIS*(EG(P,V,1)-AG(P,V,1))+AG(P,V,1)
    SG(P,V,1)=(EG(P,V,1)-AG(P,V,1))/AG(P,V,1)
    CALL SUM (SG,NP,NV,1,5,9,1)
C SOCIALIZATION.
    RIM=1.0
    IF (CM.GT.XCM) RIM=-ECM*(CM/XCM-1.0)+1.0
    EP(G,V,1)=RIM*(EP(G,V,1)-AP(G,V,NPP))+AP(G,V,NPP)
    SP(G,V,1)=(EP(G,V,1)-AP(G,V,NPP))/AP(G,V,NPP)
    CALL SUM (SP,NG,NV,1,9,9,1)
    WRITE (6,355) GPP(G),SP(G,V,1),CM,PAR(P),SG(P,V,1)
C ADAPTABILITY.
    CMP=CM
    CALL INSTIT (SP,AP,NGG,NVV,P,CM,AT,CH,9,9,5)
    RIM=1.0
    IF (CM.GT.CMP) RIM=-EAD*(CM/CMP-1.0)+1.0
    XAT(P)=RIM*XAT(P)
    WRITE (6,356) XAT(P),RIM,CM,CMP
    GO TO 349
C EXIT FROM PARTY.
340 WRITE (6,357)
    CALL SUPPAT (IP)
349 RETURN
350 FORMAT ('0 PARTY. 'A6,' AND 'A6,'. STRESS='F4.3 PECT='F7
1.3,' ACCESS='F7.3)
351 FORMAT (' SALIENCE FOR 'A6,'='F4.3,'. XAT='F4.3)
353 FORMAT (' ACCESS INCREASES TO 'F7.3,'. RIA='F5.3,' AND RIM='
F5.3,'. AT='F4.3)
355 FORMAT (' STRESS OF 'A6,' DECREASES TO 'F4.3,'. CM='F4.3,'.
1 STRESS OF 'A6,' INCREASES TO 'F4.3)
356 FORMAT (' ADAPTABILITY='F4.3,'. RIM='F5.3,' CM='F4.3,' AND C
MP='F4.3)
357 FORMAT (' NO PARTY IS SUFFICIENTLY COHERENT')
358 FORMAT (' COHERENCE OF 'A6,'='F5.3,'. XCH='F4.3)
END

SUBROUTINE LEGIS (IR)
REAL*8 GPP,PAR,AK,CON,PLK,VAL,TITLE

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INTEGER G,P,V,Y,O,YE,OE,YSTART,OSTART,SW,YEAR
COMMON /L1/ GPP(9),PAR(5),VAL(9),ARE(6),CON(8),BLK(1),TITLE(13),
1 YEAR(12),YE(4),OE(4),Y,O
4 /M1/ AP(9,9,5),FP(9,9,1),SP(9,9,1),AG(5,9,1),FG(5,9,1),SG(5,9,1),
5 AM(5,9,1),FM(5,9,1),SM(5,9,1),AF(5,9,1),FE(5,9,1),SE(5,9,1),
6 SW(30),APE(8),ANE(8),GEF(8),GFP(8),ESA(12),ESS(12),XAT(8),AUT(8),
7 COM(P),CON(P),FAD,FAU,FCM,XAU,XCM,XCH,XCT
8 /D1/ DEM(10),IACT(10),IVAL(10),IAPE(10)
2 /I1/ NG,NP,NV,NI,NA,NOG,NPP,NVV,NII,NAI,IGP,IYV,IRV,INV,ITV
DIMENSION AGM(4),MG(4)
P=IACT(IR)
L=P+NG
V=IVAL(IR)
K=NP+2
DEM(IR)=SG(P,V,1)
WRITE (6,450) PAR(P),VAL(V),DEM(IR),EG(P,V,1),AG(P,V,1)
CALL INSTIT (SG,AG,NPP,NVV,1,CG,AT,CH,5,9,1)
C DOES P HAVE SUFFICIENT ACCESS TO FORCE AN INCREASE.
ACC=AG(P,V,1)/AG(NPP,V,1)
IF (ACC.GT.XCT) GO TO 430
C RANK THE PARTIES ACCORDING TO ACCESS TO V.
DO 400 IP=1,NP
AGM(IP)=0.0
400 CONTINUE
DO 401 IP=1,NP
I=0
402 I=I+1
IF (AG(IP,V,1).LE.AGM(I)) GO TO 402
IF (I.EQ.NP) GO TO 403
J=NP
404 J=J-1
K=J+1
AGM(K)=AGM(J)
MG(K)=MG(J)
IF (J.GT.1) GO TO 404
403 AGM(I)=AG(IP,V,1)
MG(I)=IP
401 CONTINUE
C CONSIDER EACH PARTY IN ORDER.
I=0
405 I=I+1
IP=MG(I)
IF (I.GT.NP) GO TO 440
IF (IP.EQ.P) GO TO 405
C IS THE COMBINED ACCESS OF P,AND IP SUFFICIENT TO CHANGE ACCESS.
ACC=(AG(P,V,1)+AG(IP,V,1))/AG(NPP,V,1)
IF (ACC.LE.XCT) GO TO 440
C SALIENCE.
SAL=SG(IP,V,1)/SG(IP,NVV,1)
WRITE (6,452) PAR(IP),SAL,XAT(K)
IF (SAL.GT.XAT(K)) GO TO 430
GO TO 405
C AUTONOMY.
430 PIA=ESA(L)*SG(P,V,1)+1.0
RIM=1.0
IF (AT.GT.XAU) RIM=FAUR(AT/XAU-1.0)+1.0
IF (RIM.GT.PIA) RIM=PIA
AG(P,V,1)=(1.0+PIA-RIM)*AG(P,V,1)
CALL SIM (AG,NP,NV,1,5,9,1)
WRITE (6,453) AG(P,V,1),PIA,RIM,AT,XAU

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C CHANGE OPPOSITIONS'S EXPECTATIONS.
  DO 431 I=1,NP
  IF (I.EQ.P) GO TO 431
  RIS=SG(I,V,1)*(RIA-RIM)+1.0
  EG(I,V,1)=RIS*(EG(I,V,1)-AG(I,V,1))+AG(I,V,1)
  SG(I,V,1)=(EG(I,V,1)-AG(I,V,1))/AG(I,V,1)
431 CONTINUE
C COMPLEXITY.
  RIM=1.0
  IF (CM.GT.XCM) RIM=-FCM*(CM/XCM-1.0) +1.0
  EG(P,V,1)=RIM*(EG(P,V,1)-AG(P,V,1))+AG(P,V,1)
  SG(P,V,1)=(EG(P,V,1)-AG(P,V,1))/AG(P,V,1)
  CALL SUM (SG,NP,NV,1,5,9,1)
  WRITE (6,454) CM,(PAR(1),SG(I,V,1),I=1,NP)
C ADAPTABILITY.
  CMP=CM
  CALL INSTIT (SG,AG,NPP,NVV,1,CM,AT,CH,5,9,1)
  RIM=1.0
  IF (CM.GT.CMP) RIM=-EAD*(CM/CMP-1.0)+1.0
  XAT(K)=RIM*XAT(K)
  WRITE (6,455) XAT(K),RIM,CM,CMP
  GO TO 449
C COHERENCE.
440 WRITE (6,454) CH,XCH
  IF (CH.GT.XCH) GO TO 449
  CALL SUPPRT (IR)
449 RETURN
450 FORMAT ('0 LEGIS. 'A6,' AND 'A6,'. STRESS='F4.3,' EXPECT='F7
1.3,' ACCESS='F7.3)
452 FORMAT (' SALIENCE FOR 'A6,'='F4.3,'. XAT='F4.3)
453 FORMAT (' ACCESS INCREASES TO 'F7.3,'. RIA='F5.3,' AND RIM=
1'F5.3,'. AT='F4.3,' AND XAU='F4.3)
454 FORMAT (' COMPLEXITY='F4.3,'. NEW STRESSES:'4(3X,A6,'='F7.3)
1)
455 FORMAT (' ADAPTABILITY='F4.3,'. RIM='F5.3,' CM='F4.3,' AND C
IMP='F4.3)
456 FORMAT (' COHERENCE='F5.3,'. THRESHOLD='F4.3)
  END

SUBROUTINE SUPPRT (IR)
  REAL*8 GPP,PAR,ARE,CON,RLK,VAL,TITLE
  INTEGER G,P,V,Y,Q,YE,QE,YSTART,OSTART,SW,YEAR
  COMMON /L1/ GPP(9),PAR(5),VAL(9),ARE(6),CON(8),RLK(1),TITLE(13),
1 YEAR(12),YE(4),QE(4),Y,Q
4 /M1/ AR(9,9,5),FR(9,9,1),SP(9,9,1),AG(5,9,1),EG(5,9,1),SG(5,9,1),
5 AM(5,9,1),EM(5,9,1),SM(5,9,1),AE(5,9,1),EE(5,9,1),SE(5,9,1),
6 SW(30),APF(8),ANF(8),GFP(8),GEP(8),ESA(12),ESS(12),XAT(8),AUT(8),
7 COM(8),COH(8),EAD,EAU,FCM,XAU,XCM,XCH,XCT
8 /D1/ DEF(10),IAC1(10),IVAL(10),IARE(10)
9 /S1/ AY(8),RA(8),CI(8),PD(8),AYF(8),POP(8),PAD(8,12),CIR(8,12),
1 ECP(8,12),PON(8,12),YSTART,OSTART
2 /I1/ NG,NP,NV,NI,NA,NGG,NPP,NVV,NII,NAA,IGP,IYV,IRV,INV,ITV
  IF (IARE(IR).EQ.2) GO TO 520
  IF (IARE(IR).EQ.3) GO TO 530
  IF (IARE(IR).EQ.6) GO TO 560
C GROUP G HAS ESCALATED A PROBLEM OUT OF THE PARTY SYSTEM.
  G=IACT(IR)
  V=IVAL(IR)
  CONR=0.0

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CONN=0.0
DO 513 P=1,NP
CONR=CONR+(AP(G,IRV,P)/AP(NGG,IRV,P))*(AG(P,IRV,1)/AG(NPP,IRV,1))
CONN=CONN+(AP(G,INV,P)/AP(NGG,INV,P))*(AG(P,INV,1)/AG(NPP,INV,1))
513 CONTINUE
CONN=FLOAT(NP)*FLOAT(NG)*CONN
CONR=FLOAT(NP)*FLOAT(NG)*CONR
IF (CONR.GT.1.0) CONR=1.0
IF (CONN.GT.1.0) CONN=1.0
WRITE (6,550) GPP(G),VAL(V),CONR,CONN
GO TO 52)
C PARTY P HAS ESCALATED THE ISSUE OUT OF THE LEGISLATIVE SYSTEM.
520 P=IAC1(IR)
V=IVAL(IR)
CONR=FLOAT(NP)*AG(P,IRV,1)/AG(NPP,IRV,1)
CONN=FLOAT(NP)*AG(P,INV,1)/AG(NPP,INV,1)
IF (CONR.GT.1.0) CONR=1.0
IF (CONN.GT.1.0) CONN=1.0
WRITE (6,550) PAR(P),VAL(V),CONR,CONN
521 CONTINUE
WRITE (6,551) (GPP(IG),SP(IG,V,1),IG=1,NG),(PAR(IP),SG(IP,V,1),IP=
11,NP)
DO 524 IG=1,NG
RIR=SP(IG,V,1)*CONR*ARF(IG)*DEM(IR)+1.0
RIN=SP(IG,V,1)*CONN*ANF(IG)*DEM(IR)+1.0
EP(IG,V,1)=(RIR*RIN)*(EP(IG,V,1)-AP(IG,V,NPP))+AP(IG,V,NPP)
SP(IG,V,1)=(EP(IG,V,1)-AP(IG,V,NPP))/AP(IG,V,NPP)
524 CONTINUE
DO 525 IP=1,NP
RIR=SG(IP,V,1)*CONR*DEM(IR)+1.0
RIN=SG(IP,V,1)*CONN*DEM(IR)+1.0
EG(IP,V,1)=(RIR*RIN)*(EG(IP,V,1)-AG(IP,V,1))+AG(IP,V,1)
SG(IP,V,1)=(EG(IP,V,1)-AG(IP,V,1))/AG(IP,V,1)
525 CONTINUE
WRITE (6,551) (GPP(IG),SP(IG,V,1),IG=1,NG),(PAR(IP),SG(IP,V,1),IP=
11,NP)
IF (IARE(IR).EQ.1) GO TO 540
C COHERENCE
CALL INSTIT (SE,AE,NPP,NGG,1,CM,AT,CH,5,9,1)
WRITE (6,552) CH,XCH
IF (CH.GT.XCH) GO TO 540
CALL MILIT (IR)
GO TO 540
C PARTY P HAS A SUPPORT PROBLEM.
530 P=IAC1(IR)
G=IVAL(IP)
WRITE (6,554) PAR(P),GPP(G),AE(P,G,1),DEM(IR)
VMS=0.0
DO 534 IV=1,NV
IF (SP(G,IV,1).LT.VMS) GO TO 534
VMS=SP(G,IV,1)
V=IV
534 CONTINUE
L=NG+P
RIA=ESA(L)*DEM(IP)+1.0
AP(G,V,P)=RIA*AP(G,V,P)
CALL SUM (AP,NG,NV,NP,9,9,5)
IF (EP(G,V,1)-1.01*AP(G,V,NPP)) 531,532,532
531 EP(G,V,1)=1.01*AP(G,V,NPP)
532 SP(G,V,1)=(EP(G,V,1)-AP(G,V,NPP))/AP(G,V,NPP)

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RIS=SG(P,V,1)*DEM(IR)+1.0
EG(P,V,1)=RIS*(EG(P,V,1)-AG(P,V,1))+AG(P,V,1)
SG(P,V,1)=(EG(P,V,1)-AG(P,V,1))/AG(P,V,1)
WRITE (6,556) VAL(V),AP(G,V,P),SP(G,V,1),PAR(P),SG(P,V,1),RIA,RIS
556 FORMAT ('          ACCESS TO 'A6,'='F7.3,' AND STRESS='F4.3.'. STRESS
1 OF 'A4,'='F4.3,.'. RIA='F5.3,' AND RIS='F5.3)
C COHERENCE
CALL INSTIT (SE,AE,NPP,NGG,1,CM,AT,CH,5,9,1)
WRITE (6,552) CH,XCH
IF (CH.GT.XCH) GO TO 540
IVAL(IR)=IRV
CALL MILIT (IP)
IVAL(IR)=INV
CALL MILIT (IP)
540 CALL SUM (SP,NG,NV,1,9,0,1)
CALL SUM (SG,MP,NV,1,5,0,1)
GO TO 549
C CUMULATE CHANGES IN SUPPORT.
560 DO 561 G=1,NG
GEP(G)=GEF(G)
GEF(G)=0.0
DO 562 V=1,NV
GEF(G)=GEF(G)+(EP(G,V,1)-AP(G,V,IGP))/AP(G,V,IGP)
562 CONTINUE
RIA=-ESA(G)*(GEF(G)/GEP(G)-1.0)+1.0
RIO=2.0-RIA
AE(IGP,G,1)=RIA*AE(IGP,G,1)
DELTA=(RIA-1.0)*AE(IGP,G,1)
DO 563 P=1,NP
IF (P.EQ.IGP) GO TO 563
AE(P,G,1)=RIO*AE(P,G,1)
DELTA=DELTA+(RIO-1.0)*AE(P,G,1)
563 CONTINUE
AE(NPP,G,1)=AE(NPP,G,1)+DELTA
DO 564 P=1,NP
PROP=AE(P,G,1)/AE(NPP,G,1)
AE(P,G,1)=PROP*PD(G)
EE(P,G,1)=EE(P,G,1)+PROP*(PD(G)-POP(G))
IF (EE(P,G,1)-1.0)*AE(P,G,1) 569,570,570
569 EE(P,G,1)=1.0*AE(P,G,1)
570 SE(P,G,1)=(EE(P,G,1)-AE(P,G,1))/AE(P,G,1)
564 CONTINUE
561 CONTINUE
CALL SUB (SE,MP,NG,1,5,9,1)
CALL SUB (AE,MP,NG,1,5,9,1)
IF (SP(20).EQ.1) CALL BUTPBT (AE,NPP,NGG,1,PAR,GPP,PLK,3,1,5,9,1)
549 RETURN
550 FORMAT ('          SUPPORT. 'A6,' AND 'A6,.'. CONR='F5.3,' AND CONN='
1F5.3)
551 FORMAT ('          STRESS:'R(2X,A6,'='F4.3))
552 FORMAT ('          COHERENCE='F5.3,.'. XCH='F4.3)
554 FORMAT ('0          SUPPORT. 'A6,' AND 'A6,.'. SUPPORT='F5.3,' AND STR
1FSS='F4.3)
END

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SUBROUTINE MILIT (IR)
REAL*8 GPP,PAR,ARE,CON,PLK,VAL,TITLE
INTEGER G,P,V,Y,0,YE,0E,YSTART,OSTART,SW,YEAR
COMMON /L1/ GPP(9),PAR(5),VAL(9),ARE(6),CON(8),BLK(1),TITLE(13),

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1 YEAR(12),YE(4),OE(4),Y,0
4 /M1/ AP(9,9,5),EP(9,9,1),SP(9,9,1),AG(5,9,1),EG(5,9,1),SG(5,9,1),
5 AM(5,9,1),EM(5,9,1),SM(5,9,1),AL(5,9,1),FF(5,9,1),SE(5,9,1),
6 SW(30),ARF(8),ANF(8),GEF(8),GEP(8),ESA(12),ESS(12),XAT(8),AUT(8),
7 COM(8),COH(8),EAD,FAU,FCM,XAU,XCM,XCH,XCT
8 /D1/ DEM(10),IACT(10),IVAL(10),IARF(10)
2 /I1/ NG,NP,NV,NI,NA,NGG,NPP,NVV,NII,NAA,IGP,IYV,IRV,INV,ITV
P=IACT(IR)
V=IVAL(IR)
IF (IARF(IR).NE.4) GO TO 600
C FROM MAIN.
WRITE (6,650) PAR(P),VAL(V),DEM(IR)
GO TO 649
C ESCALATION.
600 L=NG+P
RIS=ESS(1)*DEM(IR)+1.0
EM(P,V,1)=PIS*(EP(P,V,1)-AM(P,V,1))+AM(P,V,1)
SM(P,V,1)=(EM(P,V,1)-AM(P,V,1))/AM(P,V,1)
CALL SUB (SM,NP,NV,1,5,9,1)
WRITE (6,651) VAL(V),SM(P,V,1),RIS
649 RETURN
650 FORMAT ('0 MILIT. 'A6,' AND 'A6,'. STRESS='F7.3)
651 FORMAT (' MILIT. STRESS ON 'A6,' INCREASES TO 'F7.3,'. RIS=
1'F5.3)
END

SUBROUTINE INSTIT (S,A,III,JJJ,K,CM,AT,CH,L,M,N)
REAL MAXRHO
DIMENSION S(1,M,1),A(1,M,N),ALPHA(9,9),BETA(9,9),PHI(9,9),
1 SUM(9),SSQ(9),SDN(9),AVE(9)
II=III-1
JJ=JJJ-1
CASES=FLOAT(JJ)
C CREATE ALPHA
DO 10 I=1,III
SUM(I)=0.0
SSQ(I)=0.0
DO 11 J=1,JJ
ALPHA(I,J)=S(I,J,1)*(A(I,J,K)/A(III,J,K))
SSQ(I)=SSQ(I)+ALPHA(I,J)**2
SUM(I)=SUM(I)+ALPHA(I,J)
11 CONTINUE
TEMP=CASES*SSQ(I)-SUM(I)**2
IF (TEMP.LT.0.) TEMP=0.0
SDN(I)=SQRT(TEMP)/CASES
IF (SDN(I).LT.0.00001) SDN(I)=1.0
AVE(I)=SUM(I)/CASES
10 CONTINUE
SMAX=0.0
DO 12 J=1,JJ
IF (ALPHA(III,J).GT.SMAX) SMAX=ALPHA(III,J)
12 CONTINUE
C CONVERT ALPHA TO STANDARD SCORES.
DO 20 I=1,III
DO 21 J=1,JJ
ALPHA(I,J)=(ALPHA(I,J)-AVE(I))/SDN(I)
BETA(J,I)=ALPHA(I,J)
21 CONTINUE
20 CONTINUE

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C FIND RHO.
  RSUM=0.0
  RMAX2=-1.0
  DO 30 I=2,III
  DO 31 J=1,III
  IF (I.LE.J) GO TO 31
  RHO(I,J)=0.0
  DO 40 LL=1,JJ
  RHO(I,J)=RHO(I,J)+ALPHA(I,LL)*BETA(LL,J)
40 CONTINUE
  RHO(I,J)=RHO(I,J)/CASES
  IF (I.LT.III) RSUM=RSUM+RHO(I,J)
  IF ((I.EQ.III).AND.(RHO(I,J).GT.RMAX2)) RMAX2=RHO(I,J)
31 CONTINUE
30 CONTINUE
  CM=1.0-SMAX/SUM(III)
  AT=1.0-RMAX2**2
  PAVE=RSUM**2.0/(FLOAT(II)*(FLOAT(II)-1.0))
  IF (PAVE.GT.0.0) CH=PAVE**2
  IF (PAVE.LT.0.0) CH=-PAVE**2
  RETURN
  END

SUBROUTINE PANK (E,A,S,II,JJ,KK,MAT,L,M,N,NORANK)
  DIMENSION E(L,M,1),A(L,M,N),S(L,M,1)
  COMMON /D1/ DEM(10),IACT(10),IVAL(10),IARE(10)
  III=II+1
  JJJ=JJ+1
  KKK=KK+1
  IF (KK.EQ.1) KKK=1
  IF (NORANK.EQ.1) GO TO 200
C COMPUTE STRESSES ONLY.
  DO 101 I=1,II
  DO 102 J=1,JJ
  DENOM=0.0
  DO 103 K=1,KK
  DENOM=DENOM+A(I,J,K)
103 CONTINUE
  IF (E(I,J,1)-1.01*DENOM) 109,110,110
109 F(I,J,1)=1.01*DENOM
110 S(I,J,1)=(E(I,J,1)-DENOM)/DENOM
102 CONTINUE
101 CONTINUE
  GO TO 120
C SORT STRESSES ONLY.
200 DO 111 I=1,II
  DO 112 J=1,JJ
  IR=1
105 IR=IR-1
  IF (S(I,J,1).LT.DEM(IR)) GO TO 112
  IF (IR.EQ.10) GO TO 104
  IRR=IR+1
  DEM(IRP)=DEM(IR)
  IACT(IRP)=IACT(IR)
  IVAL(IRP)=IVAL(IR)
  IARE(IRP)=IARE(IR)
104 DEM(IR)=S(I,J,1)
  IACT(IR)=I
  IVAL(IR)=J

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